

Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States

Susan K. Gardner

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Abstract Sixty doctoral students and 34 faculty members were interviewed in departments identified as having high and low doctoral student completion rates at one institution in the United States in order to examine the cultural contexts and structures that facilitate or hinder doctoral student completion. This paper outlines the differences in understandings of doctoral student attrition by role and by department using attribution theory. Implications for policy, practice, and further research are included.

Keywords Doctoral students · Attrition · Attribution theory

Introduction

Doctoral student attrition rates in the US have been measured at 57% across disciplines (Council of Graduate Schools 2008). Disciplinary attrition rates, however, range greatly with a low of 24% in the biomedical and behavioral sciences (Pion 2001) to a high of nearly 67% in the humanities and social sciences (Bowen and Rudenstine 1992). Recent studies, such as those conducted by Golde (2005), Lovitts (2001), and Nettles and Millett (2006), also report widely varying rates of attrition or departure, ranging from 11 to 68% across disciplines. These high attrition rates translate into high costs for institutions that sponsor these students, for the faculty who work with them, and of course, for the students themselves. Widespread concern over high rates of doctoral student attrition has translated into multiple studies (e.g., Bowen and Rudenstine 1992; Golde and Dore 2001; Lovitts 2001; Nettles and Millett 2006) and initiatives (e.g., Carnegie Foundation for the Advancement of Teaching 2003; National Science Foundation 2004; Walker et al. 2008) that seek to better understand the causes and consequences of doctoral student attrition.

These studies, initiatives, and programs have found, however, that there is no one reason why doctoral students leave; indeed, collectively these efforts point to the multifaceted nature of the attrition problem (Baird 1993; Cook and Swanson 1978; Girves and

S. K. Gardner (✉)

Higher Education, University of Maine, 5749 Merrill Hall, Orono, ME 04469-5749, USA
e-mail: susan.k.gardner@maine.edu

Wemmerus 1988; Golde 2005; Golde and Dore 2001; Lovitts 2001; Nerad and Miller 1996; Nettles and Millett 2006). And while doctoral student attrition has been studied from myriad perspectives in the US, none of the existing studies have explored the influence of both disciplinary and institutional cultures upon doctoral student attrition and how these cultures work together to form collective understandings of attrition. This study details the analysis of attrition attribution within doctoral education among six disciplines at one institution. Specifically, 60 doctoral students and 34 faculty members were interviewed in departments that were documented with the highest and lowest doctoral student attrition rates at one institution. The paper begins with an overview of the literature pertaining to doctoral student attrition, a synopsis of the theoretical framework of attribution theory, followed by the methods and findings. The implications for policy, practice, and future research are also then discussed.

Doctoral student attrition in the US: a brief overview

As one of the most discussed and contentious issues involved in doctoral education today, doctoral student attrition has been called a “scandal” and “the central issue in doctoral education in the United States today” (Smallwood 2004, p. A11). Indeed, the number of doctoral students who leave their programs is alarming, with estimated projections regarding doctoral attrition ranging from 40 to 70% (Bowen and Rudenstine 1992; Noble 1994; Tinto 1993). Many have commented, however, that these rates are not alarming when compared to undergraduate attrition rates or even drop-out rates of high school students in the US, but as Berelson commented in 1960 about doctoral student attrition, “The matter is perhaps more serious for the graduate school because its selection is supposed to be better; its type of education is more expensive, and...its drop-outs stay around longer than the undergraduate drop-outs, half of whom leave in the first year” (p. 169). Particularly in financial costs, doctoral student attrition is extremely expensive for institutions. In its study of doctoral student attrition, the University of Notre Dame found that it would save \$1-million a year in stipends alone if attrition went down by 10% (Smallwood 2004). In costs to the individual who leaves, the expense can be immeasurable: “The most important reason to be concerned about graduate student attrition is that it can ruin individuals’ lives” (Lovitts 2001, p. 6).

Nevertheless, many question this “scandal” in doctoral education in the US, asking, “Is all attrition bad?” Golde (2005), Lovitts (2001), the Council of Graduate Schools (2004), and others have forwarded that not all attrition is “bad” attrition, and as the Council of Graduate Schools stated, “some attrition is unavoidable” (p. 4). The people at CGS continued, “Unlike undergraduate and professional education, there is a degree of uncertainty associated with Ph.D. education that inevitably results in some attrition” (p. 4). Many have posited that attrition that occurs earlier (i.e., during the first 2 or 3 years) is preferred to attrition that occurs later (Bowen and Rudenstine 1992; Golde 1998; Lott and Gardner 2008). Certainly, if a student finds that he or she has not made the correct choice for a career path or for a particular institution early in the program, leaving the degree program may indeed be a positive decision for both the student and the degree program. However, many students do choose to depart the degree program even at the end of the degree program, and this type of attrition is indeed unacceptable.

The existing literature that examines the causes and consequences of doctoral student attrition falls into several main categories, including the relationships between attrition and funding (e.g., Bowen and Rudenstine 1992; Ethington and Pisani 1993; Nettles and

Millett 2006), attrition and advisor relationship (e.g., Clark and Corcoran 1986; Lovitts 2001; Nettles and Millett 2006), attrition and gender (e.g., Berg and Ferber 1983; Herzig 2004b; Maher et al. 2004), attrition and race (e.g., Ellis 2001; Herzig 2004a; Margolis and Romero 1998), attrition within particular disciplines (e.g., Bowen and Rudenstine 1992; Golde 2005; Nettles and Millett 2006), attrition and quantitative measures such as test scores and GPA (e.g., House and Johnson 1993; Nettles and Millett 2006), as well as attrition and socialization experiences (e.g., Gardner 2007; Golde 1998; Gonzalez 2006). Taken together, these scholars have found that attrition rates are higher among students who: (a) are in the humanities and social sciences versus the natural and physical sciences (Bowen and Rudenstine 1992; Council of Graduate Schools 2008; Golde 2005; Nerad and Miller 1997; Nettles and Millett 2006; Zwick 1991), (b) are women (Bowen and Rudenstine 1992; Nerad and Miller 1997; Zwick 1991), (c) are students of color (Nettles and Millett 2006; Zwick 1991), (d) have less funding (Attiyeh 1999), and (e) are less integrated with their peers and faculty members (Lovitts 2001).

Attribution of doctoral student attrition

It is perhaps Barbara Lovitts' (2001) groundbreaking study, more than any other, that made educators and administrators alike see the personal face of doctoral student attrition. Through surveys and interviews with departed students, faculty members, and graduate advisors, Lovitts was able to illustrate the multi-dimensional nature of doctoral student attrition in the US. One piece of this investigation, in particular, focused upon faculty advisors' perspectives regarding to what they attributed doctoral student attrition. Cited most often by these advisors (two thirds of the responses) was that the students themselves were responsible for their attrition while the remaining third focused upon situational causes. However, only three of the 33 faculty interviewed discussed academic inability as a reason for student departure at the doctoral level; rather, they often discussed that these students' were unprepared through earlier socialization to meet the rigor and expectations of graduate school and conducting research.

When Lovitts (2001) spoke with actual departed students, however, she found an altogether different picture. When choosing among options of academic, financial, or personal reasons for attrition, 70% of the departed students surveyed cited personal reasons, 42% cited academic reasons, and 29% spoke to financial reasons as their impetus to leave their programs. When prompted with open-ended follow up questions, 49% of the students' responses were categorized as academic reasons being their most important reasons for leaving, followed by 23% responding with personal reasons, and 19% due to financial reasons.

Interestingly, Bernard Berelson (1960), in his seminal study of graduate education, also spoke to faculty and administrators about their impressions of student attrition in graduate education. The large majority of those with whom he spoke attributed student attrition to student problems, including the student's lack of ability to do the work, the student's lack of proper motivation, and a lack of financial resources (p. 169). Berelson also spoke to an unknown number of recent doctoral recipients about their impressions of this attrition. While different from the faculty's responses, the majority of the students with whom he spoke still attributed attrition to the student's lack of intellectual ability to the work (52%), followed by an understanding that the student found that he or she did not need the degree for a specific professional route (49%). With Berelson's study, however, it appears that he

surveyed all of these individuals and gave them six specific options from which to choose from, none of which had anything to do with issues related to the program or institution.

In both Lovitts' (2001) and Berelson's (1960) studies, then, faculty and administrators' attributions for doctoral student departure fell entirely on the shoulders of the students who left, rather than attributing any responsibility to the program or institution. In other words, while a lack of financial resources was high on the list of reasons for student departure in Berelson's study, it was not that the institution was responsible for securing more funding on behalf of students but rather that funding simply did not exist. While Lovitts also spoke with departed students and learned of their actual reasons for departure, neither study spoke with currently enrolled students to determine their attributions of student departure within their programs. Moreover, both of these studies were conducted with individuals recalling past events in relation to attrition, with Berelson's study conducted in the late 1950s and Lovitts' study conducted with individuals who had been in a 1982–1984 cohort. The perspective of current students and their beliefs about student departure within their specific departments may lead to a better understanding of why doctoral student attrition occurs, particularly as current students are those who may be considering attrition within the present context. Furthermore, as both studies were conducted with students who were in graduate school more than two decades ago, information gleaned from these studies may not be as relevant today. Therefore, combining current students' impressions of doctoral student attrition along with faculty members' impressions on this topic, a more holistic picture of student attrition in doctoral programs may begin to form.

Conceptual framework: attribution theory

Attribution theory is the logical lens through which to examine student and faculty beliefs and understandings about doctoral student attrition. Borrowed from the field of social psychology, attribution theory “deals with how the social perceiver uses information to arrive at casual explanations for events. It examines what information is gathered and how it is combined to form a casual judgment” (Fiske and Taylor 1991, p. 23). Fiske and Taylor discussed the reasons why individuals will make these casual attributions, including the need to predict the future and to control events. Specifically, they remarked, “Understanding what factors give rise to a certain outcome enables one to control the likelihood of that outcome, or at least to predict when it will happen” (p. 23). In essence, attribution theorists inquire as to why human beings perceive a particular event occurs and then study the consequences of these perceptions (Weiner 1995).

It is perhaps Weiner's (1986) theory of motivation that is most well known in this context. Weiner looked specifically at the role of the self in motivation and attribution and how individuals are able to explain their own successes and failures in life. Broken down into three main elements, attribution theory concerns itself with locus, stability, and controllability. For example, the individual may attribute a particular event to something that occurs internal or external to his control (locus), whether the event simply occurred due to chance or that it often occurs (stability), and whether the individual will be able to control the event's occurrence (controllability). Recently, Weiner's understandings of attribution have also been applied to organizational theory (Weiner 1995), allowing for a better understanding of why particular events occur such as turnover in organizations.

Within the context of doctoral student attrition, therefore, attributions made by others, particularly students, will allow them to understand what might cause attrition. If people believe they are removed from that attributed set of behaviors or conditions they then

believe that the outcome (i.e., attrition) will not happen to them. Lovitts (1996, 2001) also utilized attribution theory in her study of doctoral student attrition and found a great degree of pluralistic ignorance about the causes of attrition from the students interviewed. She explained, “When graduate students who are struggling see other graduate students putatively thriving, they come to believe that they are the only ones having problems and attribute their difficulties to their own inadequacies and not to the structure of the situation” (Lovitts 1996, p. 9). In her analysis, Lovitts found that these types of erroneous attributions influenced high and persistent rates of attrition. It is this framework and understanding that I incorporated into the design and analysis of this study.

Methods

Funded by the Alfred P. Sloan Foundation, this study sought to understand the cultures and contexts that influence doctoral student attrition and completion at one research-intensive institution in the US. To address the research question, a total of 60 doctoral students and 34 faculty members from six disciplines were interviewed. The chosen disciplines were purposefully selected for several reasons. First, it was important to examine doctoral education from multiple disciplinary perspectives as the discipline is the locus of the doctoral student experience (Golde 2005). The disciplines chosen included English, communication, psychology, mathematics, oceanography, and electrical and computer engineering, thereby representing diversity among the disciplinary spectrum (Biglan 1973). Second, it was determined from a previously conducted study that these disciplines represented both the highest and lowest completion rates over a 20-year period at the institution studied. Therefore, not only were disciplinary context and culture important to understanding the experiences of the students but also the specific context of completion and attrition in which these departments were situated. Participants in the study by department and completion rate are further described in Table 1.

The institution studied is classified as a research-intensive (McCormick 2001) institution or a research university with very high research productivity (The Carnegie Foundation 2005), located in the US. Like other doctoral-producing institutions in the US, this institution’s model of doctoral training is one that is built around departments and disciplines. Within each of these departments, faculty members guide doctoral students through one to several years of advanced study primarily through formal coursework, followed by an intense examination that serves as a gateway to the research-oriented portion of the program. The dissertation research serves as the culminating aspect of the doctoral program, demonstrating the student’s ability to produce original research on a discipline-related topic. To accomplish these three main areas of study generally requires

Table 1 Participants by discipline and completion rate

	Communication	Oceanography	Psychology	English	Mathematics	Engineering
Number of students interviewed	10	10	10	10	10	10
Number of faculty interviewed	7	4	5	6	7	6
Completion rate (%)	76.5	72.7	70.2	56.4	37.6	17.6

four to seven or more years of full-time study, depending on the discipline (Council of Graduate Schools 2005).

The institution in this study annually enrolls over 30,000 students, including over 4,000 graduate and professional students. In relation to its peers, this institution is ranked as a third-tier institution among national universities (U.S. News and World Report 2007), although many of its individual programs and colleges are rated in the very top (U.S. News and World Report 2007). This ranking removes it from the top 100 most prestigious research institutions in the US, something focused upon greatly at this university. One of its central foci in the past 10 years has been to rise to the top 50 of the *U.S. News and World Report* ranking, particularly important when viewed through the lens of doctoral education as graduate programs greatly add to an institution's prestige in the US (Brewer et al. 2001). Therefore, doctoral student completion, or the lack thereof, is also of great importance to this institution. From a previous study conducted, it was determined that this institution has an overall doctoral student completion rate of 52.3%, on par with averages cited by the Council of Graduate Schools (2004, 2008).

Interviews with the 60 doctoral students and 34 faculty members included in the study were conducted in the winter and spring of 2007. Access to these individuals was initially made through contact with each department's chairperson to gain entrée to these departments and their constituents. After this permission was granted, I met with the department chairperson and director of graduate studies in each department to identify the students' year of admission to the program, demographic information including international student status and race, as well as full-time or part-time status. From this information, I conducted criterion-based selection (Maxwell 1996) in order to obtain a representative participant base inclusive of student demographics within the larger department. For example, in the departments of engineering and mathematics almost 50% of all doctoral students were categorized as international or foreign students. In my selection of participants, therefore, I aimed for at least 50% of the participants to also represent this status. From these groups, I randomly contacted students via e-mail to solicit their participation in the study. In most departments, several attempts were needed to obtain a total of ten students. In regard to faculty, I asked department chairs to identify those faculty who had worked extensively with doctoral students, chairing many dissertations and teaching many doctoral-level courses. While an initial ten faculty participants were desired per department, many of these departments did not have this number of faculty working directly with doctoral students.

After agreeing to participate, face-to-face interviews were conducted utilizing a loosely-structured protocol. This protocol allowed participants to diverge from the main topics and to further explore concepts and ideas. For students, questions focused around their experiences throughout their programs, including time of admission through the dissertation experience, according to the students' progress in their program at the time of the interview. This sampling subsequently allowed for a better understanding of the specific issues and concerns relevant to the student at the particular time of graduate study rather than solely a retrospective understanding (i.e., asking departed students to recall specific times in their experiences) used by other researchers (Golde 2005; Lovitts 2001). Faculty were asked about their impressions related to doctoral student success and attrition in their programs. For the specific data utilized for this paper, participants were asked if they knew of any students who had left their program and if so, what their knowledge was about why this occurred. Interviews lasted for approximately 45–90 min and were audio-taped and later transcribed verbatim.

Analysis of the data was conducted through the use of the constant comparative method, “a research design for multi-data sources, which is like analytic induction in that the formal analysis begins early in the study and is nearly completed by the end of data collection” (Bogdan and Biklen 2003, p. 66). The steps of the constant comparative method, according to Glaser (1978) include: (1) begin collecting data; (2) find key issues, events, or activities in the data that become main categories for focus; (3) collect data that provide many incidents of the categories of focus; (4) write about the categories explored, keeping in mind past incidents while searching for new; (5) work with the data and emerging model to discover relationships; and (6) sample, code, and write with the core categories in mind. The steps of the constant comparative method occur simultaneously during data collection until categories are saturated and writing begins. I utilized Glaser’s steps in data analysis, which allowed for emergent themes to develop from the data and provided a means by which large amounts of data were compressed into meaningful units for analysis. As stated earlier, I also utilized concepts of attribution theory (Fiske and Taylor 1991) to better understand the dimensions along which responses varied.

Trustworthiness of the data collected and its subsequent analysis was obtained through peer debriefing (Maxwell 1996), wherein another colleague was given access to transcripts for their analysis and verification of themes, member checking, wherein at least one student and faculty member from each department was sent a synopsis of the interview for verification of themes.

Findings

The doctoral students and faculty members interviewed in this study provided details that translated into several larger themes to which they attributed doctoral student attrition in their departments. As presented in Table 2, a categorization of responses resulted in three main themes for both faculty and students. While faculty and students shared one theme, that of personal problems, the dimensions along which these themes were described varied greatly. Each of these themes, discussed first by faculty and then by student responses, will be presented below.

Attributions by faculty

The 34 faculty members interviewed in this study discussed three main themes related to doctoral student departure in their departments: (a) student lacking, (b) student should not have come in the first place, and (c) personal problems. Compared by completion rate, very little difference was found between those faculty from high completion departments and those from low completion departments. Presented here are these three themes, discussed by variation among departments and completion rates when applicable.

Table 2 Attrition attributions by faculty and doctoral students, coded into themes

Faculty	Students
Student lacking (53%)	Personal problems (34%)
Student should not have come (21%)	Departmental issues (30%)
Personal problems (15%)	Wrong fit (21%)

Student lacking

That the student was lacking in ability, drive, focus, motivation, or initiative was cited most often by the faculty in this study as the reason for doctoral student departure in their departments, and accounted for about half of the total reasons given by faculty. There did not seem to be, however, any variation by the faculty who gave this response, with even those faculty in the Psychology Department (the second highest completion rate in the study) citing it most often, followed by faculty in mathematics and electrical and computer engineering. Indeed, every single department in the study discussed this as a main reason, unlike the other three themes that emerged among the faculty. When compared to Lovitts' (2001) study, then, this is a disparate finding as very few of the faculty interviewed in her study cited poor academic ability or performance in their attributions of attrition.

In this study, a lack of ability factored greatly into the faculty members' attributions of student departure. One engineering faculty member remarked, "Not everybody who starts their Ph.D. is going to finish it and some are just not up to the job." A psychology faculty member attributed students leaving to a lack of rigorous undergraduate training: "They come in with a weaker background or record. They are not able to keep up with their coursework." Interestingly, the psychology faculty member points out in this quote that attrition is occurring within the coursework phase rather than at any other time.

The second dimension along which students lack, in these faculty members' opinions, was in motivation or initiative. A communication studies faculty member told me, "These are the students who were never able to find the project they wanted to focus on or were looking for someone to hand it to them as if we have a drawer full of dissertation topics." While a mathematics faculty member shared, "Some of them are not willing to work hard enough...I think it's probably a lack of focus. I don't think you should get a degree just because you enroll in the program." An English faculty member talked about this as a systematic problem:

This is someone who has wound up as a graduate student in English because he or she liked undergraduate English courses and sees going to graduate school as simply an extension of that, you know, reading books and thinking about them a bit but does not have the initiative, the energy, the interest, the ambition to really participate in the profession. This student, who might have a chance of limping through a series of courses, probably more B's than A's, is never going to write a successful dissertation.

Related, several other faculty members talked about the students' lack of ability to conduct dissertation-level research as their main area of deficiency. In oceanography, a faculty member related, "I think that anyone who comes into our department is probably academically qualified to graduate. We don't lose many students in coursework, we lose students in research. They're not really trained in it yet and there's a mismatch, either not creative enough or [not] knowing when to ask for help." In these faculty members' minds, then, it is during the latest phase of the academic program in which their students leave rather than in coursework or through failing exams, as discussed by faculty members in engineering and mathematics.

Student should not have come in the first place

The second theme discussed by faculty members related to the student who, they believed, should not have come to graduate school in the first place. About one fifth of the

attributions given by faculty fell into this category and were discussed by faculty members in all departments except oceanography and engineering. Much of this attribution surrounded the idea that many of these students just “drift” into graduate school and are therefore improperly suited or motivated, very much related to the first theme. One English faculty member said, “There’s always going to be some students who really shouldn’t be in graduate school to begin with. They’re smart, they did well on the GREs and so they come to graduate school and they’re just not as motivated as they should be.” A psychology professor equally shared:

They don’t really want to be here but they just can’t sort of graciously bow out. They don’t hear that they’re not doing well but they keep persisting. They say, “I don’t like graduate school but I can’t think of what else to do so I’ll just hang around here even though I’m not liking it and clearly I’m not putting out the effort that it needs.”

For some of the faculty members, the idea that these students should never have come in the first place was related to the idea that these students often will change their mind upon entering, pointing to what one psychology member called “a screening error.” A mathematics faculty member stated, “A number just discover in a year or two that this is not how they want to spend their lives,” while the psychology faculty member forwarded, “They shouldn’t have been here in the first place and it was a screening error.”

Personal problems

The final attribution discussed by the faculty members was one that was shared by both students and faculty members interviewed, that of personal problems. This theme was shared amongst four of the six departments in the study (with the exceptions of English and oceanography), but discussed most often by those in mathematics. However, the types of personal problems that were discussed were very vague and were just cited as “personal reasons” or “personal problems.” Only one faculty member attributed attrition to a specific personal reason: “I think the others we lost were female. They got pregnant.”

The bulk of the personal problems discussed by faculty members related to what was termed “mental health issues.” A communications faculty member shared, “For one student it was emotional. I mean, it was mental health problems. In fact, we’ve had several students not get nearly as far as my student; she got as far as her dissertation before she couldn’t go any further.” While a mathematics faculty member said, “We have had one or two doctoral students who did not finish. In those cases there was a strong suspicion of some kind of emotional problem attached to it.”

Attributions by students

The 60 doctoral students interviewed discussed three main themes related to student departure in their programs: (a) personal problems, (b) departmental issues, and (c) wrong fit for the program or institution. Among all of these themes, student responses were almost always even distributed among the departments, with the exception of oceanography. It was interesting to note that both oceanography and engineering students had many students respond that they did not know anyone who had left the program. While not surprising that oceanography, with its 72.7% completion rate, might not have had many students aware of others who had departed the program, the 17.6% completion rate in engineering would lead one to believe otherwise.

Personal problems

About one third of the students discussed personal problems as their main attribution for student departure. Unlike their faculty counterparts who also attributed this cause to attrition, the students' explanations of what these personal problems entailed were much more descriptive and much more precise. Indeed, the majority of the personal problems that the students discussed as a reason for student departure related to marriage, children, or family responsibilities.

Marriage, in particular, was discussed most often as a reason for student departure in all departments with the exception of engineering, where it was never mentioned. Many of the students talked about knowing students personally who had decided to leave because they got married. A student in communications told me, "The only person I've heard about leaving the program before she was finished was a person who left to get married. I don't think she was unhappy with the program, I think she just had other things to do with her life." Other students, however, talked about graduate school negatively influencing others' already existing relationships, like a psychology student who talked about a classmate: "She was married and I think it was just a big stress on their relationship."

Not surprisingly, then, babies and children also greatly factored into the students' understandings of why others had left the program. A mathematics student related, "I do have one classmate who has decided to do just their master's because she's pregnant and her husband is moving. You know, family comes first." For those with families, in particular, the students related the great strain this placed on those responsibilities, such as this English student shared, "There's another student who's a single parent and it was just really hard for her. She said she had a number of incompletes and she just couldn't get it done. She had too much to worry about."

Like the faculty members interviewed, however, students did share their understandings of student departure in their departments related to mental health issues but also to general physical health issues as well. In relation to mental health, a communications student told me, "Another student just kind of cracked and it didn't take long for him to crack. I think he kind of panicked and he was gone—just swish!" Within this theme, however, were more comments from students related to people they had "heard about" rather than specific individuals they knew. One English student's comment illustrated this: "I never met him but somebody told me about a guy who kind of went crazy. It was his second semester and apparently he started like not showering and not coming to school anymore and then he just left." Medical problems related to physical health were also discussed by many students in math: "There are people who are sick. They got sick so much that it put them way too far back and they had to go home and take care of their illness."

Departmental issues

Unlike any of the faculty members interviewed, students shared departmental issues as their second highest explanation for student departure in their departments, contributing to about one third of all attributions given. Again, with the exception of oceanography, students in all departments equally discussed this rationale. Specifically, students pointed to several main programmatic issues related to students' decision to leave, including bad advising, lack of financial support, faculty attrition, and departmental politics.

Bad advising was discussed most often as a departmental reason for students' departure within their departments. Many of the students who discussed bad advising, however, were those in psychology. One student remarked, "I know one who left because she wasn't

getting the supervision she believed she needed,” while another stated, “It’s an advisor problem; it’s not like she’s going somewhere else to continue in the same field.” Related was the issue of high faculty turnover in their departments, often resulting in students losing advisors or committee members. A communications student shared, “Actually, the first year we had a student here but the following spring she transferred because she was so unhappy. She had come to study with a specific professor who left and she was really upset about that.” Whereas in mathematics, a department that requires that students find an advisor by the end of their first year, students ran into this problem: “I remember talking to one student after the first year and they said, ‘I am leaving because no one is going to take me.’”

A lack of financial support from the department was also discussed by the students. It was here that the engineering students talked the most in relation to hearing about why many students left. One told me about a student leaving and reasoned, “We also need more money for assistantships. I mean, you cannot put a family to live on \$12,000 a year forever. I mean, it’s impossible.”

The last main area discussed by the students in relation to departmental issues concerned what they felt were departmental politics that negatively influenced the students who left. In particular, students in English and psychology discussed this theme: “She hated the politics of everything. She really hated it and just said, ‘I need to leave.’” While a psychology student remarked, “The faculty being unhappy filtered down to us. They had the power to make us unhappy.”

Wrong fit

The final attribution made by students in relation to student attrition in their programs related to what they perceived as the wrong fit for the student. Many of these comments specifically had to do with what they considered a lack of motivation to continue. This lack of motivation, however, was strikingly different from the faculty members’ idea of a lack of motivation. For the students interviewed, it was not that the students perceived that their peers were not able to do the work but that they felt, most often, “that graduate school was not for them.” For example, one psychology student remarked, “Some people just didn’t want psychology. They were kind of floating all over the place and figured it wasn’t for them,” while another told me, “Normally it’s students who thought they wanted to go to graduate school who found out that it wasn’t a good match with what they wanted to do in the future.” A math student said, “I think it’s more like, ‘What makes me happy?’” In this way, the students did not feel, as the faculty did, that the students “should not have come in the first place” but rather that this experience helped them to find out what it was that they really did want to do, like one student who realized “he wanted to become a chef in Oregon so he just left” or a student who found that she’d rather teach than become a faculty member, therefore not needing a Ph.D. She shared, “She realized that where she wanted to teach she didn’t need a Ph.D. That was sort of an easy one for her.”

Some of the students also shared stories of students who left because they also did not feel the institution or the region of the country was a good fit for them personally. Like a psychology student who remarked, “She didn’t like it when she got here,” and a communications student who told me, “She said this school was not what she was looking for. She was very smart. It didn’t have anything to do with her.”

Discussion and implications

From the interviews with the faculty and doctoral students in this study, it was evident that multiple conceptualizations of doctoral student attrition exist within each department, by constituency group, and within the institution overall. Comparing the responses by the faculty and the doctoral students interviewed several interesting points emerged. First, almost universally, the faculty interviewed discussed the issue of attrition or what many of them deemed “unsuccessful students” in the abstract with only a few faculty members explicitly mentioning individual situations or people, a finding confirmed by Lovitts (2001). The students, on the other hand, almost universally spoke to specific individuals or specific contexts in which they knew of individuals leaving with very rare generalizations. It may be that the peer relationship is a much stronger bond than the faculty–student relationship, leading to more specific understandings of the attrition that occurs. It may also be, however, that the faculty feel removed from the issue of attrition in their programs. Much like Lovitts’ (2001) and Berelson’s (1960) findings, the faculty members in this study do not place blame on the program or the institution for the student’s departure but rather place the onus for the departure on the student. Indeed, only one faculty member in this study mentioned anything external to the student when she said, “These students don’t mesh well with their advisor.” Even though this explanation places the responsibility for students’ departure upon advising issues, it is rather that the *student* does not get along with the advisor. In other words, the onus for the attrition still falls upon the shoulders of the student leaving. Students, on the other hand, were quick to point to programmatic, departmental, and even institutional issues related to student departure.

Second, when comparing the responses of faculty to students, it was also evident that while they shared one common theme, that of personal problems, the dimensions along which the faculty and student responses varied greatly. It was noteworthy that so many students knew women who had left for personal reasons relating to marriage and family, particularly in light of what many have considered to be an awakening to women’s roles in US society. Moreover, recent studies have actually discussed that married students tend to complete at higher rates than single students (Lott and Gardner 2008; Price 2006). However, many of the students talked about men they knew who had left for child-rearing responsibilities as well. Further, faculty members, when discussing what they deemed as personal problems were deemed only that, with no additional understanding given of what specifically may have occurred with these students. Again, this removal from the problem demonstrates a distance between these faculty members and the students with whom they work.

The only other shared theme related to the departed students’ presence in the programs. While faculty felt that many of these students should not have entered the graduate program in the first place, the students looked at this issue rather as one where these students could only discover the lack of fit between themselves and graduate school by experiencing it. It was almost as if the students interviewed felt this was a natural part of the process of realizing one’s life aspirations.

Finally, it is necessary to note the responses that were not present in this analysis. While the faculty most often cited student deficiencies for attrition, only a few students mentioned student shortcomings as a reason for departure. Many of them, however, spoke to this issue in light of poor advising or poor preparation for graduate school expectations. In this light, it was not that the student was incapable but that prior faculty members or prior academic experiences had failed them.

In addition, it was surprising to note how many students remarked that they did not know why students had left (8% of students interviewed) and the 13% of the students who remarked that they did not know anyone who left. While not surprising that so many of the oceanography students did not know of anyone who left their program with their high completion rate, it was startling to hear so many of the engineering students echo this. It may be that the laboratory-based research setting experienced by these students isolates them from only a handful of their peers. When combined with the few courses needed to complete the Ph.D. in this engineering department, it appears that very little interaction occurs among students; a particularly problematic aspect of the culture when peer support is often cited as a main system of support for those who persist (Gardner 2007; Lovitts 2001).

Related, it was evident that the role of departmental culture played into the types of responses given. For example, the culture of the Psychology Department at this institution was one that had very high standards for its students, which resulted in an almost impassioned explanation of student departure, attributing it often to “screening error.” Psychology students were also those who mentioned poor advising and the negative effect of politics more often than any of the other students in the study. Both students and faculty from mathematics, however, discussed a lack of academic ability as owing to student attrition, with many students discussing those who had not been able to pass their comprehensive examinations. Moreover, the institutional culture evidenced in this study may be related to high faculty turnover, low pay for graduate assistants, and the faculty’s perceptions of poorly prepared students, altogether playing a significant role of the attributions given by these constituencies.

When viewed through the lens of attribution theory, several findings emerge. Primarily, while all of the students in the study were currently enrolled in their programs at various points of completion, some of these students mentioned in their interviews that they themselves were considering departing their programs. In many of these departments, the students and faculty shared distinct understandings of why attrition occurs, forming what I posit as a type of cultural narrative. This narrative or attribution may often indicate to students what possible causes of attrition may exist. Attribution theory explains not only understandings of others’ behavior but in turn encourages or discourages one’s own behavior through these understandings (Fiske and Taylor 1991). If these students, therefore, do not feel that they fit into these existing attributions of attrition, they may feel that they will not have any problems and consequently will not leave their programs. Or, the reverse: students may choose to leave a program based upon their understandings of what others in similar situations have done.

For example, many students in this study talked about marriage and children as a reason for much student departure. If a student understands this attribution through the existing cultural narrative in their program, it may encourage another student to leave when he or she gets married or has a baby. Moreover, these cultural narratives may be confusing to a student when trying to understand his or her faculty members’ attributions of attrition. If a student is to understand that those who left were “not well prepared,” “didn’t have what it takes,” or “weren’t mature enough” in the eyes of the faculty, what does that look like and how would a student know this? Without precise understandings of why attrition occurs, faculty may inadvertently pass along misunderstandings not only among themselves but also to their students. These vague cultural narratives and attributions may consequently contribute to higher student departure when viewed through the lens of attribution theory (Fiske and Taylor 1991; Weiner 1995).

Several implications from this study exist for policy and practice. First, it is evident that the faculty in this study were unaware of specific reasons for student departure in their programs and most determinedly did not attribute any reasons for departure resting on their or the department's shoulders. On the other hand, students more often placed the onus of responsibility on the faculty, the department, and the institution. These mismatched understandings of attrition may continue to contribute to the attrition experienced in these departments and at this institution. Research must be conducted by these departments and this institution to determine the actual causes of student departure in these graduate programs and then disseminated to faculty members and administrators who work closely with, teach, and advise doctoral students. This research should be conducted through the use of exit interviews with departing students and should be conducted annually if not each semester.

Further, conversations among faculty members and students about expectations should also occur. If faculty members are indeed expecting particular levels of achievement or effort output and these expectations are not shared with students, it is perhaps not surprising that these faculty members are unaware of the reasons their students leave. Through the identification of the reasons for student departure that are endemic to the program or the institution, remedies can be offered or revisions made to these existing programs to ensure high levels of student success. For those reasons external to the program or institution, such as family or personal responsibilities, more support could be offered through campus offices like childcare centers, counseling services, and peer support groups that may support students through these life changes. While not all attrition is avoidable and certainly not all attrition can be deemed "bad" (Council of Graduate Schools 2004; Golde 1998), some of the reasons discussed by the students in this study certainly could have been prevented if given the appropriate attention.

Much more research must be conducted on this issue, however. This study was limited by the number of students and faculty interviewed as well as by the number of departments examined within only one institutional context. Further research should examine other institutions and other departments in light of completion and attrition rates, particularly higher ranked institutions in order to determine how these cultures and contexts influence attrition. In countries where this ranking does not exist, investigating the cultural and national influences upon attrition is also warranted. In addition, more research with departed students should be conducted at multiple institutions and within multiple disciplines. Similarly, more research with underrepresented groups such as women and students of color should be examined in light of attribution for attrition as well as how these populations experience differences within particular disciplines. Taken together, an improved understanding of the issue of doctoral student attrition will lead to improved structures, programs, advising, as well as student experiences in these programs.

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