The Hidden Crisis in Graduate Education

Attrition From Ph.D. Programs

The source of graduate student attrition is not inadequate students but indifferent and wasteful programs.

By Barbara E. Lovitts and Cary Nelson

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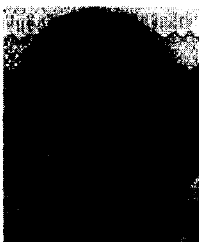
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IN CONVERSATIONS AROUND THE COUNTRY—AMONG faculty members and administrators, on campuses, and at conferences—people involved in higher education are beginning to wonder whether current generations of scholar-teachers will be able to reproduce themselves. An educational environment that seemed relatively stable for nearly half a century has begun to show the cumulative strain of slow but steady change—from downsizing and underfunding to increased corporatization and pervasive labor exploitation, including wholesale reliance on part-time labor and relative declines in graduate student and faculty compensation, the latter most notable in lower-tier institutions.

Interviews with faculty members and administrators at selected departments throughout the country suggest that applications to graduate school in several disciplines have begun to decline—not only because well-paid high-tech employment is luring potential students away, but also because the news about the long-term collapse of the academic job market has finally penetrated the undergraduate culture. Meanwhile, the increased use of part-time faculty means that new Ph.D.'s have less time to stay current in their disciplines, less time to devote

Faculty members and students meet in the English department lounge at the University of Illinois. In addition to a coffee machine, a photocopier, and a display of color photos of students and faculty, the lounge maintains subscriptions to several dozen scholarly journals and a small reference library.

to their students, and little or no time to do research. The existing tenured and tenure-track professoriate cannot reproduce itself in the form of harried part-time faculty. Neither our teaching nor our research missions are well served by the employment trends now dominating higher education.

Given these circumstances, we think it is time to give serious attention to one of the fundamental weaknesses of doctoral education—attrition. Historically, graduate programs have been astonishingly wasteful of their human capital. Although comprehensive national data do not exist on the consequences of graduate students' abandoning their degree programs, forty years of studies suggest the long-term attrition rate nationwide is about 50 percent. That rate may have increased somewhat in recent years, partly in response to the job market for new faculty; in any case, the news has certainly not improved. Moreover, the average national rate of attrition from Ph.D. programs disguises the reality in specific universities and departments.

Departments under pressure to downsize and economize are less and less likely to be held harmless (and more and more likely to be held accountable) for the costs of recruiting and training students who do not complete their degrees. And an attrition rate of 50 percent is even less tenable in smaller graduate programs and institutions.

We cannot blame this problem on anyone but ourselves. What's more, it is a problem we can fix. In addressing this issue, we bring together the very different kinds of research we have done. Cary Nelson has interviewed graduate students

Table 1. Graduate Student Attrition Rates by Department and University (Percentage)

University	Total	Math	Chemistry	Biology	Economics	Sociology	Psychology	History	English	Music
Rural University	33	32	19	39	22	28	41	30	34	44
Urban University	68	47	42	65	82	72	23	61	76	65

and faculty members on dozens of U.S. campuses over the past decade and has been active in two organizations devoted to higher education: the AAUP and the Modern Language Association. Barbara Lovitts has conducted a unique and intensive research project focused on two distinguished research universities, one a private institution in a large urban center, the other a public university in a rural setting.

To establish the short- and long-term effects of completing or not completing the Ph.D., she surveyed a cohort of 816 students (511 completers and 305 noncompleters) who entered degree programs at these two institutions from 1982 to 1984. The students came from nine departments in each of the major domains of knowledge (math, biology, and chemistry in the sciences; sociology, economics, and psychology in the social sciences; and English, history, and music in the humanities). Many of these departments have high national rankings; they should therefore represent the best that American higher education can offer. We agreed at the outset to keep the names of the schools confidential, partly because we wanted to focus on a widespread problem by way of these examples.

The overall difference in attrition rates for graduate students included in the study at these two institutions is, to say the least, striking: 33 percent at Rural University, 68 percent at Urban University. The disparity reflects major institutional differences in how graduate students are treated and regarded at these two schools. Yet the comparative attrition rates for the nine individual departments tell a still more intricate story (see table 1).

The departmental figures demonstrate that, for the most part, attrition is not discipline specific. Nor is the overall climate at a given university decisive. Even at an institution that treats most of its graduate students as thoroughly replaceable and disposable, an individual department can buck the tide, make itself hospitable, and successfully graduate most of those who enter its doctoral program.

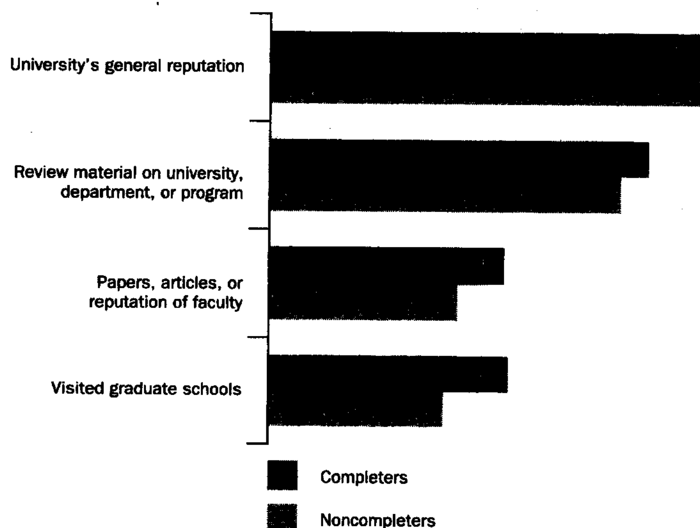
Lovitts supplemented the detailed questionnaire she used with hourlong telephone interviews with two noncompleters from each department. Taken together, the survey data and interview comments tell us for the first time why students leave at various points in their graduate careers without finishing their studies. The results of this study also suggest how we can reform graduate education so as to make it economically more efficient and personally more humane.

Climate and Fit

The problems start with the application process. Most students are drawn to a university's overall reputation rather than to the character of the actual department to which they are applying, let alone the achievements and intellectual commitments of the faculty members with whom they might work (see figure 1). Further, they often have no idea whether a given department's strengths and emphases match their own career interests. Relatively few students are well informed about the nature of graduate study or what will be expected of them. And the level of knowledge, notably, is lower for noncompleters than for completers.

Once a student arrives on campus, the character of the department often reveals itself instantly. Does the department have a lounge where people gather to talk? Are food and drink available there? Does the department display photographs of current students and faculty? Are the names of those who receive Ph.D.'s and their dissertation titles given public recognition? Is there a detailed orientation not only for teaching or research assistants but also for all others entering the program? Does an adviser talk over each student's interests with the student in detail? Are the program

Figure 1. Sources of Information Students Used in Selecting Graduate Schools



Note: The probability of finding a difference as large as the one observed for "Review material, etc.," if the results were due to chance is less than one in 20. For "Papers, articles, etc.," the probability is less than one in 100. For "Visited graduate schools," the probability is less than one in 1,000.

requirements and expectations made clear in brochures or Web sites and then reinforced in discussions with each student? Does the department have structures in place to help students plan their programs and choose their advisers instead of leaving them mostly to their own devices? Does the department have a collective intellectual life in the form of brown-bag lunches and colloquia? Are such events enthusiastically promoted? Are graduate students invited to serve on committees? Do mechanisms exist to ensure that new students are put in contact with their more experienced peers? Does the department have a collective social life, from parties to sports teams, and are new students integrated into these activities rapidly? Does the department culture seem to say "join our family" as opposed to "do your work and leave"? Is there a productive mixture of support and competition among graduate students? If the answers to all of these questions are positive, students are more likely to feel welcome, and they are more likely to stay in the program.

But imagine if all or most of these questions were answered in the negative. That is exactly the answer (and the characteristic environment) that applies to departments with high attrition rates.

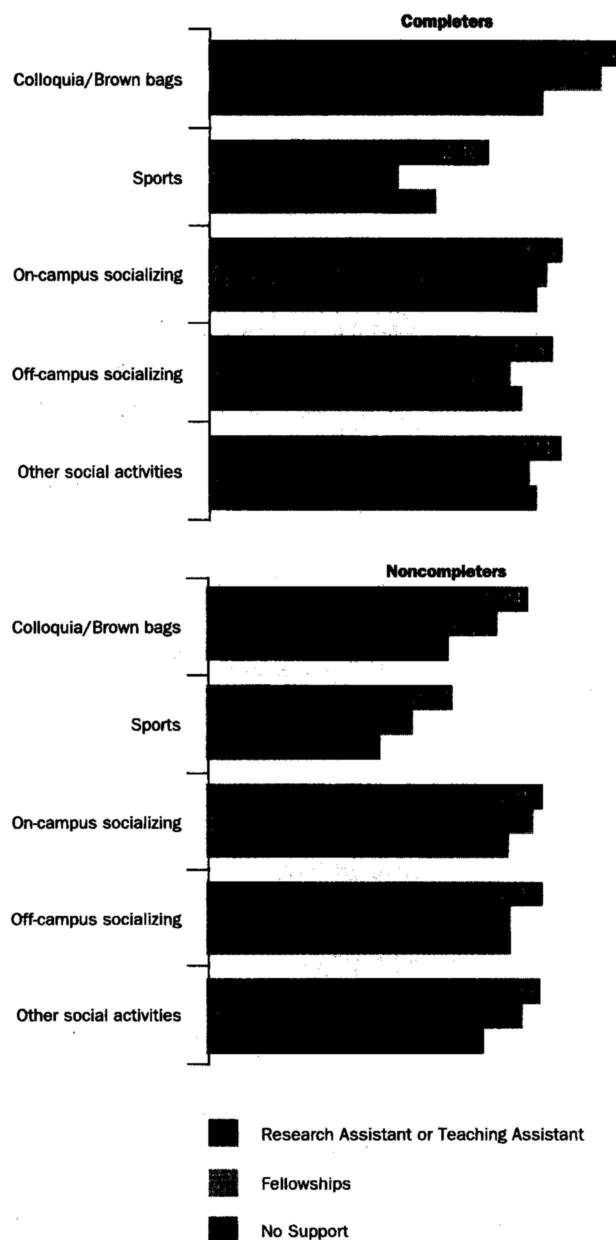
The survey results show a high correlation between integration into a department's social and professional life (becoming part of the community) and successful completion of the Ph.D. Consider just one telling statistic. Of those students who completed the degree, fully 85 percent shared an office with other graduate students, while only 46 percent of those who left the program shared an office. New students in a group office are far more likely to feel part of a community. Plus they have regular and guaranteed access to the informal knowledge that is part of any department's oral memory. This knowledge is often critical for getting through a Ph.D. program; the department's official public face has to be supplemented by the advice people will offer in person but not on paper. Students without office space are also less likely to participate in a department's social and academic events and therefore more likely to leave. Overcrowding in a gang office, we conclude, is better than isolation.

Type of Support

One somewhat surprising result of the survey is the evidence it offers about the relationship between the type of support students receive, their degree of participation in the department's intellectual and social life and in the profession, and their success at completing the Ph.D. (See table 2 and figures 2 and 3.) As one would expect, students who receive no financial support have the lowest level of participation and are the most at risk of withdrawing from the program. But the other group of students at comparatively great risk are those on full fellowships. They are less likely to be given an office and less likely to have daily contact with other graduate students. Despite strong financial support, they may feel isolated or abandoned.

The responsibilities that come with a teaching or research assistantship, on the other hand, draw one into a community and help build a professional identity and sense of commitment. Although no one likes to talk about it, the truth is that some fellowship recipients are so unconnected with academic culture that they violate university regulations and secretly take an outside job while receiving their fellowship checks. No wonder fellowship students are more likely than teaching assistants to leave graduate school.

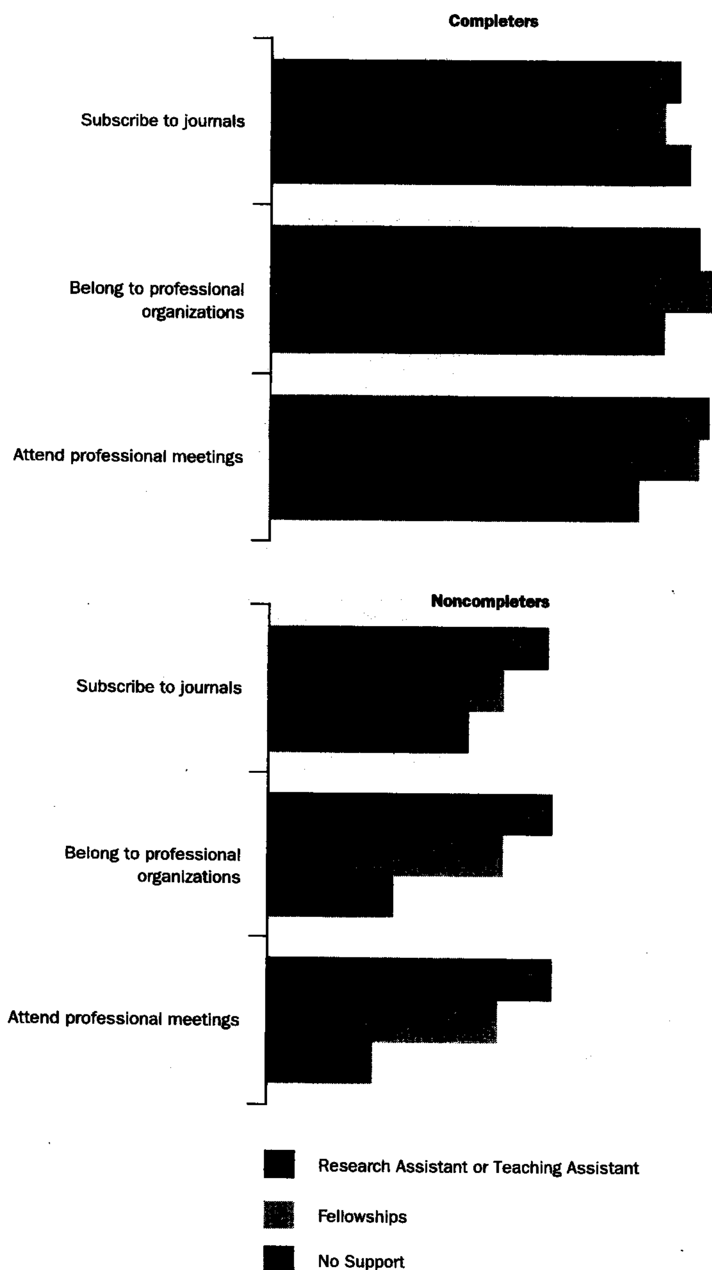
Figure 2. Frequency of Participation in Department Activities by Support Type



Note: A frequency of 1 equals "not at all"; 5 equals "often." For Completers, the probability of finding a difference as large as the one observed for "Sports" if the results were due to chance is less than one in 100. For Noncompleters, the probability of finding a difference as large as the one observed for "Colloquia" is less than one in 100. For "Sports," the probability is less than one in 100. For "Other social activities," the probability is less than one in 20.

This trend is of special concern for minority students, because they are more likely to receive full fellowship support. The number of minority students in the survey was small, but their rate of attrition was high. Although the survey results need to be supplemented by further study, they nonetheless sound a warning: giving minority students full fellowships is no guarantee that they will complete Ph.D.'s and substantially increase minority representation on the faculty (see tables 3A and 3B).

Figure 3. Percentage of Students Engaging in Professional Activities by Support Type



Note: For Noncompleters, the probability of finding a difference as large as the one observed for "Subscribe to journals" if the results were due to chance is less than one chance in 20. For "Belong to professional organizations," the probability is less than one chance in 100. For "Attend professional meetings," the probability is less than one chance in 100.

Table 2. Percentage of Students Who Shared Office Space, Controlling for Type of Support

Type of Support	Completers	Noncompleters
Teaching Assistantship	90	81
Research Assistantship	67	36
University Fellowship	15	8
Private Fellowship	14	9
No Support	3	3

Note: The probability of finding a difference as large as the one observed for teaching assistantships if the results were due to chance is less than one in 100. For research assistantships, the probability is less than one in 1,000. For university fellowships, the probability is less than one in 20.

Students on a full fellowship should be provided with an office; a special effort should be made to include them in departmental events and to appoint them to departmental committees. In addition, they might well be better off being required to teach one course a year. Not only would that contribute to their professional development, but it would also bring them on campus and permit increased interaction with the community.

Redistributing teaching loads to relieve the burden on graduate students doing too much teaching (more than one course a semester) and ensuring the benefits of teaching to those doing too little (no courses) is likely to decrease attrition rates and make a program more collegial and successful. Such a re-

Table 3A. Attrition Rate by Race/Ethnicity
(Percentage)

	White	Asian	Black	Hispanic
Attrition Rate	25	38	57	45

Table 3B. Type of Support by Race/Ethnicity
(Percentage)

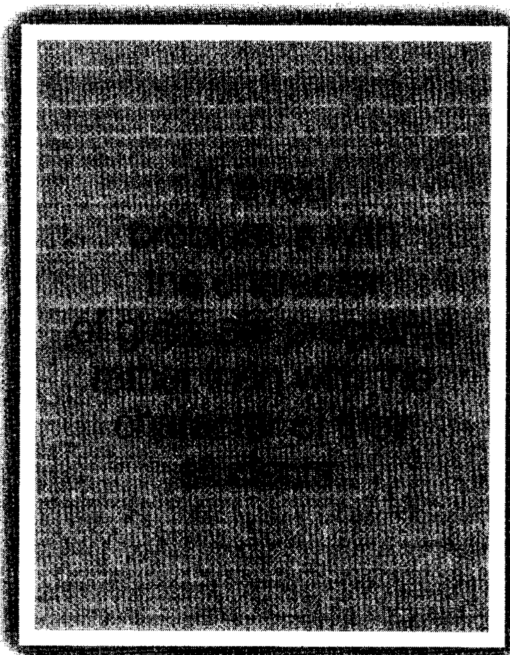
Type of Support	White	Asian	Black	Hispanic
Teaching Assistantship	71	66	43	55
Research Assistantship	48	49	21	36
University Fellowship	14	12	43	46
Private Fellowship	14	14	50	46
No Support	12	8	0	0

distribution would represent a major policy change for many departments. Nonetheless, we urge all departments to consider revising their programs accordingly.

Bad Programs, Not Bad Students

As we begin to think through the differences such practical programmatic changes can make, a more fundamental conclusion begins to take shape—that the real problem is with the character of graduate programs rather than with the character of their students. Yet most faculty assume that the best students finish their degrees and the less talented and qualified depart. Those who leave are often called "dropouts" to emphasize both volition and inevitability; the term suggests the problem is with the student, not with the program.

Everything about the way students depart reinforces this conviction. Most leave silently; they simply disappear, without communicating any reservations about the program to faculty or administrators. Exit interviews or follow-up contacts with departing students are rare. Moreover, students are effectively discouraged from voicing complaints while they are still actively enrolled. The "successful" student is "happy" and compliant; such a student is more likely to receive financial support, good teaching assignments, and strong letters of recommendation. A student who criticizes the program is a problem. Of course this reasoning is circular and self-fulfilling, since complaining students may well be turned into problem students by neglect or discrimination. Meanwhile, the accumulated silence of previous "dropouts" reinforces the view faculty prefer to hold: the problem is with the student, not the program.



Many faculty thus conclude that the way to improve student success is to admit better students. Yet our evidence and that from other studies suggest that students who persist and students who leave are equally well qualified. The Lovitts survey found no meaningful difference between the undergraduate grade point averages of the students who did complete the Ph.D. and those who did not. The only notable difference in grade point averages surfaces when the students are separated by gender: female—completer, 3.57; noncompleter, 3.62; male—completer, 3.52; noncompleter, 3.49. In other words, women who abandoned graduate study had a somewhat higher undergraduate grade point average than those who stayed. What's more, women leave in higher numbers, thus suggesting once again that attrition is due to something other than ability.

In reality, it is not possible for departments to restrict admission to markedly better students. Departments can, however, do a better job of informing prospective students about their institution's strengths, emphases, and weaknesses. Undergraduate advisers can encourage students applying to graduate school to look for the best match for their interests and skills, rather than to strive simply for the most prestige.

Students can also be better prepared for graduate school, although our results lead us to an unexpected conclusion as well: it doesn't seem to make much difference if undergraduates are better socialized to the academic profession. Some undergraduates are encouraged, for example, to attend conferences, but the effect of such experiences on attrition from graduate school is minimal. Indeed, some evidence suggests that increased professional involvement with undergraduate faculty can be counterproductive, especially if it leads students to expect graduate faculty to care about them in their critical first year, let alone thereafter. Students who go from an intimate and collegial undergraduate department to a graduate department with a weed-out orientation have a significant chance of becoming thoroughly alienated during their first year.

On the other hand, it may be helpful to acquaint undergraduates with the culture and expectations of graduate study. Hierarchization, competition, devotion to the profession, and other features of graduate study that may not characterize the undergraduate experience should probably be signaled in advance. Socialization to graduate school (learning the role of the graduate student), rather than socialization to the professoriate, is the more relevant preparation. Once students are in graduate school, however, socialization to the profession becomes critical; it partly compensates for the hierarchical world of graduate education by offering an alternative view of the profession based on intellectual pursuits among equals.

Broadly speaking, it is a lack of integration into the departmental community that contributes most heavily to the departure of graduate students. Constant for nearly half a century, the high rate of attrition is rooted in the organizational culture of graduate school and in the social structure and cultures of the larger process of graduate education. Notably, the lowest attrition rates among the three major domains of knowledge are in the sciences, where students often work in laboratory groups focused on collaborative research and where intellectual and social interaction is most intense. The highest attrition rates are in the humanities, where study and research are most fully individualized and isolated.

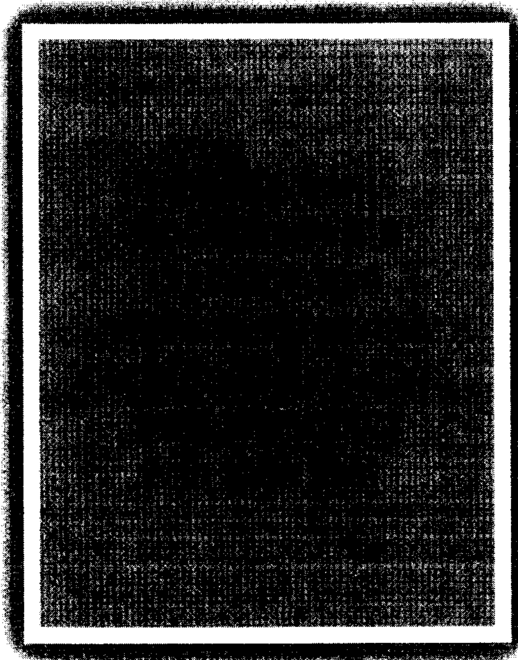
Lower attrition rates still (5 to 10 percent) are found in law and medical schools, no doubt partly because they lack the major challenge of the Ph.D. dissertation, but also because their requirements, expectations, performance feedback, and structures for integration are so much stronger. In any case, more than a third of those who exit doctoral programs do so during the first year, mostly because they have been decisively disillusioned. Academic failure accounts for but a small percentage of these or later departures, and even academic failure often flows from poor understanding of program

Table 4. Students' Degree of Satisfaction with Their Adviser (Percentage)		
Degree of Satisfaction	Completers	Noncompleters
Very satisfied	60	31
Somewhat satisfied	29	29
Not too satisfied	7	23
Not satisfied at all	4	18

requirements, lack of adequate advising, and a deep conviction that the department is indifferent to one's fate.

Faculty Role

As we noted earlier, faculty members typically attribute departure to student failure. And as our detailed interviews—which we each conducted separately with faculty at Urban and Rural Universities—show, faculty frequently see themselves as active agents when students complete their degrees and as passive onlookers when students depart. Failure to persist is often attributed to students' personal characteristics: lack of interest in the field, lack of academic ability, lack of drive, and so forth. The fact that most departing students trickle out silently makes it especially easy for faculty to sustain the illusion that they have no role in student attrition, that the "best" succeed and the "worst" fail. Faculty and administrators are reinforced for holding the institutional culture blameless.

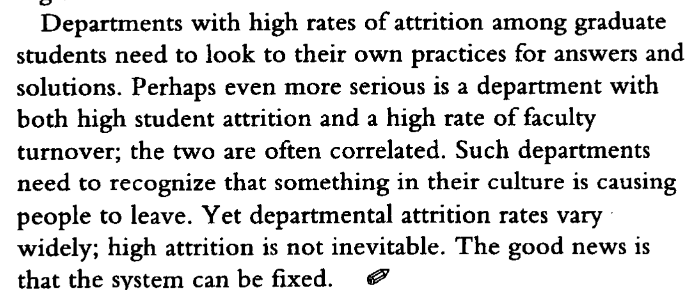


Of course, faculty play a role in both persistence *and* departure. The data suggest that the single most important factor in student decisions to continue or withdraw is the relationship with a faculty adviser. Students who complete their degrees are fully twice as likely to express satisfaction with their faculty advisers as are students who leave (see table 4). A concerned faculty adviser is the person best placed to assess an individual student's progress and to reinforce the student's sense of self-worth. Given that most departers are succeeding academically, some decisions to depart are probably calls for help from students suffering from self-doubt; these are decisions that could be reversed with more attentive and sympathetic advising. Overall, many students who depart are conducting a referendum on the departmental culture; they are voting with their feet.

There are real institutional costs in time and money each time a student leaves without completing the Ph.D. The immediate cost to departing students is still greater. Although few students depart primarily for financial reasons, steadily increasing debt levels for graduate students, especially in the arts and humanities, lead to severe economic and employment constraints for many of those who leave without completing the degree. Initial jobs are often well below a student's qualifications. Students who reported diminished self-esteem and self-confidence—who were "shaken up," "shell-shocked," "disappointed," or "depressed" when they left—commonly took jobs in the blue-collar sector of the labor market. That means that people with up to four years of graduate education took jobs as farmhands, sales clerks, and waitresses—and felt lucky to have those jobs.

Students who do not finish the degree often leave with a sense of personal failure; many cannot see how their departmental culture influenced their departure; consequently, they are as likely to blame themselves as the departmental environment. They have to abandon a deeply held professional image of themselves, an image constructed not only by expectations of receiving a Ph.D. but also by years of research and teaching. They have to construct new self-images and careers. And they have to do so when they are demoralized and often deeply in debt. Students who fail to obtain a satisfactory job *after* completing their Ph.D. can at least leave with a sense of intellectual accomplishment, with some feeling that a phase of their life has been completed in a coherent and admirable fashion. They can blame the labor market when things do not work out as they planned.

In sum, the evidence suggests that attrition is deeply embedded in the organizational culture of graduate school and the structure and process of graduate education. Students leave less because of what they bring with them to the university than because of what happens to them after they arrive. A student who enters a department whose culture and structure facilitate academic and personal integration is more likely to complete the Ph.D. than a student whose departmental culture is hostile or laissez-faire. A student invited into the department's academic and social community is more likely to succeed than a student left entirely to his or her own resources. The accounts we have gathered of daily life in the most wasteful of departments lead us to apply a familiar phrase from other cultural contexts: it is time to stop blaming the victim.



Departments with high rates of attrition among graduate students need to look to their own practices for answers and solutions. Perhaps even more serious is a department with both high student attrition and a high rate of faculty turnover; the two are often correlated. Such departments need to recognize that something in their culture is causing people to leave. Yet departmental attrition rates vary widely; high attrition is not inevitable. The good news is that the system can be fixed.