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Abstract

This paper presents the results of a study of the experiences of graduates and non-graduates of the Pace University Doctor of Professional Studies program. The paper identifies obstacles toward completing the degree and offers recommendations to students, faculty, and universities to reduce doctoral student attrition.

Introduction

A key goal of American universities is to develop teachers, researchers, and administrators through doctoral programs. The great relevance and high costs of this mission make it imperative that universities understand to what extent they are succeeding in fulfilling it. One measure of their success in achieving this goal is the percentage of students who manage to complete all of the requirements for a doctoral degree.

The importance of doctoral training has motivated a large number of studies aimed at better understanding the process of doctoral education and the difficulties that students encounter while completing their programs. Yet little is really understood about why students do or do not succeed in obtaining the degree. One area that has received considerable attention by investigators has been the level of student attrition. Despite the great interest, there are significant gaps in specific areas of knowledge and data about doctoral-level attrition (National Science Foundation 1998).

Prior Research

National rates of doctoral student attrition have proved to be extremely difficult to calculate (Lemp 1980). The attrition rates that have been reported have varied widely, but have tended to average about 40 percent, an appallingly high figure (Bowen & Rudenstine 1992). Of those who do drop out, at least 25 percent do so after completing their courses and before finishing their dissertations (Garcia, Malott, & Brethower 1988). Bowen and Rudenstine (1992) focused a good deal of attention on the dissertation phase of doctoral programs. They found that attrition rates at this stage had increased in the 20 years prior to the publication of their study. They identified this trend as a matter of serious concern (Bowen & Rudenstine 1992).

High attrition rates are costly for both students and universities. Students who drop out of doctoral programs gain significant knowledge, but must bear considerable costs. In addition to financial costs, they also may bear psychological costs (loss of self-esteem, feelings of failure) and opportunity costs (their efforts, if directed elsewhere, might have produced greater rewards).

At universities with high attrition rates from their doctoral programs, the human and other resources directed toward such programs, especially during the dissertation phase, might have been used more productively for other purposes. High attrition rates waste scarce resources such as individual faculty time and effort, departmental resources, and institutional resources (Golde 1994). In the case of universities receiving government support, state and federal resources may also be wasted (California Post-secondary Education Commission 1990; Smith 1985).

Numerous attempts have been made to determine the reasons for the high attrition rates of doctoral students. Some efforts have focused on demographic variables (Hanson 1992). An examination of attrition rates in different disciplinary areas has found that the

natural sciences have lower attrition rates than either the social sciences or the humanities, which have the highest rates of attrition (Golde 1994). The highest completion rates, exceeding 90 percent, have been reported in leading professional schools of business, law, and medicine (Bowen & Rudenstine 1992); however, there has been little published research to corroborate this data. Furthermore, this high completion rate may not apply to all professional schools, but only to leading professional schools.

Psychological Factors

Additional studies have attempted to identify psychological factors that might affect success in doctoral programs. One such variable is student procrastination. Procrastinators have been described as being pessimistic and perfectionist, lacking self-efficacy, needing to be in control, easily frustrated, lacking self-esteem, and fearful of failure (Green 1995). Research comparing doctoral graduates and ABDs ("All But Dissertation," those who have completed all degree requirements except for the dissertation) was conducted in a college of education, using a 43-item inventory that provided a measure of procrastination. ABDs were more likely to procrastinate in their work than the graduates (Green 1995).

Other research suggests that ABDs are likely to be less persistent than graduates (Golde 1994; Kluever, Green, & Katz 1997). Margaret Miller (1995) describes doctoral students who complete the dissertation as likely to persist strongly in their efforts, sometimes having to overcome external influences such as paid work demands and financial difficulties. Their motivation is essentially internal; although they may seek advice from a faculty advisor, these students believe that their success depends largely on their own efforts and abilities. The doctoral students from whom Miller drew her conclusions were similar to those in the present study, that is, older, part-time students with outside employment, mostly with families (Miller 1995).

Student attributes have also been studied in attempts to understand student attrition. One such attribute is lack of student commitment to completion of the degree (Golde 1994; Jacks, Chubin, Porter, & Connolly 1983; Madsen 1983; Tucker, Gottlieb, & Pease 1964). Another impediment is attitude problems, such as taking one's work too lightly (Long, Convey, & Chwalek 1985).

Structural Factors

The lack of structure in the dissertation phase has also been a problem for many students (Kluever, Green & Katz 1997). The dissertation stage is quite different from other parts of a doctoral program; it is no longer a matter of passing courses and comprehensive examinations. In the dissertation phase there are no class meetings or assignments. Rather, the students are expected to work alone to create new knowledge. Although faculty advisors may provide some direction and support, they usually expect doctoral students to independently develop and execute a significant research project by exercising initiative and managing time. In some instances, the students themselves may acquire more knowledge about the narrow subject of their dissertation than the faculty

advisors possess. Thus, peers who previously may have worked collaboratively in courses and examinations can no longer help in the same way. At most they may provide emotional support, but the students are essentially on their own. Lack of peer support has also impeded students in their efforts to complete the doctoral degree. Writing a dissertation has been described as a lonely process. Unlike other phases of the doctoral program, students in the dissertation stage typically work alone, rather than in collaborative relationships with other students. Absence of peer support contributes to a sense of isolation and deprives students of potentially valuable input (Bowen & Rudenstine 1992; Jacks, Chubin, Porter, & Connolly 1983; Katz 1995; Kluever 1995; Lenz 1995).

The degree of structure emerged as a factor in doctoral program completion in Sigafus' study of 25 doctoral candidates at the University of Kentucky. The subjects resembled those whom Miller (1995) studied: older students with families and full-time, outside employment. Interviews with the students revealed that the absence of structure in the program after the qualifying examinations left them uncertain and confused as they began their dissertations. Faculty expected the students to create their own structure in order to exercise control over their research (Sigafus 1998).

External Factors

Other efforts have been directed at identifying barriers that may impede a student's progress toward completing a dissertation and degree, along with reasons for dropping out of a doctoral program. One barrier that has been cited for decades by many writers as perhaps the most serious obstacle is lack of financial support for doctoral students (Bowen & Rudenstine 1992; California Postsecondary Education Commission 1990; Germeroth 1991; Jacks, Chubin, Porter, & Connolly 1983; Miller 1995; Tucker, Gottlieb, & Pease 1964; Wilson 1965).

Financial pressures sometimes require students to take on part-time or full-time employment. The demands of these jobs tend to interfere with work on the dissertation, thereby discouraging timely completion of the degree and causing students to drop out of doctoral programs altogether (Bowen & Rudenstine 1992; Germeroth 1991; Jacks, Chubin, Porter, & Connolly 1983; Kluever 1995). Absence from the campus has contributed to lengthier completion times for the dissertation and increased attrition (Kluever 1995; Lenz 1995; Madsen 1983; Wilson 1965).

Family obligations have also been mentioned frequently as reasons for failure to complete the program and/or lengthening the time to completion of the dissertation (Jacks, Chubin, Porter, & Connolly 1983; Lenz 1995; Tucker, Gottlieb, & Pease 1964; Wilson 1965).

Institutional Factors

In addition to outside influences, institutional factors have been cited as barriers. Doctoral students have indicated that a major problem has been too little attention from faculty advisors and not enough supervision and guidance on the dissertation (Tucker, Gottlieb, & Pease 1964). Students have complained of lack of support and encouragement from the dissertation supervisor and/or committee (California Postsecondary Education Commission 1990; Golde 1994). Other students have complained that they had to work with advisors with whom they had poor working relationships or personality conflicts (Jacks, Chubin, Porter, & Connolly 1983; Kluever, Green & Katz 1997; Tucker, Gottlieb, & Pease 1964).

Closely related to lack of faculty support is the limited availability of faculty. Students report faculty as being too busy to take on doctoral students or being uninterested in student topics or problems (Green & Kluever 1997). Some students have indicated that faculty provided too little positive reinforcement about the students' work or did not offer feedback that students could deal with in a prompt and straight forward manner (Green & Kluever 1997; Long, Convey, & Chwalek 1985).

Another institutional barrier mentioned by students is that universities have not provided enough training (or, in some cases, any training at all) on how to conduct research or write a dissertation. The process of dissertation writing is an unfamiliar one and students have complained about the lack of guidelines and guidance in how to go about writing a proposal, conducting a literature search, etc. (Jacks, Chubin, Porter & Connolly 1983; Kluever, Green & Katz 1997; Tucker, Gottlieb & Pease 1964).

Capability Factors

Three student ability shortcomings have also been cited as obstacles: lack of focus in choosing a dissertation topic (Bowen & Rudenstine 1992; Germeroth 1991; Isaac, Quinlan, & Walker 1992; Madsen 1983), lack of skills to carry out the necessary research (Katz, 1995; Long, Convey, & Chwalek 1985), and poor time management (Green & Kluever 1997).

Research Objectives

The present study was initiated with several objectives in mind. The first was to determine if the barriers to completion of the doctoral degree discussed in the literature cited above also served as impediments to students in the Doctor of Professional Studies (DPS) program of the Lubin School of Business at Pace University. The second objective was to learn if obstacles other than those cited in the literature affected students in the DPS program. The third objective was to elicit from former students advice and guidance that could help current students complete the program.

The Doctor of Professional Studies Program

The subjects for this study were former students of the Doctor of Professional Studies (DPS) program of the Pace University Lubin School of Business. The DPS program provides advanced education to enhance the careers of already successful business managers and professionals. This program focuses on educational preparation geared more towards managerial and consulting careers than academic careers. This doctoral program, like most others, requires students to complete an approved set of courses, to pass written and oral examinations, and to prepare and defend a dissertation. Unlike most doctoral programs that require students to concentrate all of their coursework on one or two areas, the DPS degree requires students to complete fewer courses in two concentrations and also to take several courses that integrate the disciplines of business. DPS students develop research skills that are appropriate for conducting applied, rather than academic, research and develop dissertation topics that utilize their extensive managerial experience.

The program only admits applicants who previously earned a Master of Business Administration or a similar master's degree and completed at least ten years of successful managerial or professional business experience. The average age of DPS students is about 45 years. Over 95 percent of students in the program continue advancing their careers as full-time employees while pursuing the DPS degree. As a result, the modal time to complete the degree requirements is seven years. During this period, students must balance the demands of education with those of career and family. In this respect, DPS students are similar to many students pursuing doctorates in education while continuing their teaching or administrative careers.

Method

Subjects

The subjects for this study were students in the DPS program during the 20-year period from 1978 to 1998. It included both graduates of the program and non-graduates (students who enrolled but who left without completing all the requirements for the degree). The 20-year period was selected in order to obtain a sufficiently large number of subjects for analysis. This period covered all but three graduates of the program since its inception in 1972. Seven of the graduates were excluded because they were deceased or unreachable; 97 graduates and 146 non-graduates participated in this study.

Instruments

Two questionnaires were developed, one for graduates and one for non-graduates. The contents of both instruments were identical except for minor wording differences customizing the survey to each group. The questionnaires consisted of 42 closed-response questions, five open-ended ones, and three inventories measuring a respondent's locus of control, tolerance of ambiguity, and self-efficacy. The questions covered the following areas: education prior to entering the program, work experience during the

program, conditions that hindered a respondent's efforts to complete course work, comprehensive examinations, or a dissertation, availability and support of faculty, sources of financial support, suggestions for helping students to complete the dissertation and the program, and demographic questions on marital status, dependents, age, gender, and ethnicity. The three inventories will not be discussed in this paper; analyses of the subjects' responses to them are presented elsewhere.

Administration

The surveys were pilot tested on a convenience sample of 10 graduates and current DPS students to identify possible ambiguities and weaknesses in the questions. The surveys were subsequently revised based on the comments and suggestions of these respondents. The revised questionnaires were then administered to the 97 graduates and 146 non-graduates.

The questionnaires were accompanied by an explanatory letter from the director of the doctoral program and a self-addressed, postage-paid envelope for replies. The letter assured the confidentiality of the individual survey results. Code numbers were assigned to the surveys to guarantee anonymity while permitting follow-up on non-respondents. All surveys were returned to the doctoral program office. After three mailings of the questionnaires, 112 usable replies were received, for an overall response rate of 46 percent. Sixty-nine replies were received from the graduates (71 percent response rate) and 43 from the non-graduates (29 percent response rate). The difference in response rates was not surprising, since graduates were more likely to feel supportive of the program. The non-graduates may not have had the interest or the motivation to respond.

A comparison of the profiles of all graduates and non-graduates indicated that responding graduates and non-graduates were representative of their respective groups, being similar in characteristics such as age, years of experience, gender, and grade point average in the program.

Results

A large majority of the respondents (80 percent) indicated that they had worked in the private sector before entering the DPS program and equal numbers (6 percent each) had worked either for government or not-for-profit organizations. The remainder did not specify their prior work experience. The preponderance of students from the private sector was not unexpected, since a school of business offered the program. Most respondents had worked for larger organizations before starting the program, with 62 percent working for employers with over 500 people and 20 percent for employers with 500 or fewer. Five percent indicated they were self-employed. The remainder failed to respond.

The survey participants were overwhelmingly male (89 percent), white (87 percent), married (87 percent), and with dependent spouses, children, and/or parents

during the time they were doctoral students. The small number of females and minorities precluded any meaningful statistical analysis by gender and ethnicity.

External Factors

A substantial majority of the respondents continued their careers full-time while enrolled in the program. Because their work was mostly managerial or professional in nature, many worked longer than the customary 40-hour week. 43 percent worked more than 50 hours a week, 48 percent worked between 31 and 50 hours, and only 9 percent worked 30 or fewer hours a week.

In one question, respondents were asked to what extent career demands interfered with their efforts to complete doctoral course work or examinations. Responses were provided along a 5-point Likert-type scale ranging from "no interference" (1) to "great interference" (5). The mean score of 3.00 was higher than for any other interference in the questionnaire, suggesting a moderate degree of interference from career demands. Respondents were also asked to what extent career demands interfered with their efforts to complete their dissertations. The mean score of 2.81 indicated slightly less interference during the dissertation stage of the program.

A high percentage (87 percent) of the respondents were married and on average, respondents had responsibility for 5.6 dependents, ranging from pre-school children to parents. Therefore, in addition to substantial career responsibility, most doctoral students also had significant family responsibility.

Using the same Likert-type scale, respondents were asked about the extent to which family responsibilities interfered with the student's efforts to complete course work or examinations. Concerning efforts to complete course work or examinations, the mean score for family responsibilities was 2.46, indicating a moderate degree of interference. Respondents were also asked to what extent family responsibilities interfered with their efforts to complete their dissertations. The mean response was 2.20, suggesting somewhat less interference during this stage of the program.

Respondents did not appear to have difficulty paying tuition and other expenses. Some (22 percent) were fully reimbursed by their employer for these expenses, 48 percent shared the costs with their employer, and 30 percent paid all of their expenses themselves. Evidently there was no need for them to discontinue or delay their studies for financial reasons or to seek financial aid from the university.

This was confirmed by responses to a question that asked to what extent financial pressures interfered with their efforts to complete doctoral course work or examinations. Using the same Likert-type scale, the mean score was 1.35, indicating that financial pressures provided little interference. Respondents were also asked if such pressures impeded their efforts to complete their dissertations. The degree of interference by financial pressures (1.36) was virtually the same at this stage of the program. Financial

difficulties apparently did not appreciably hinder the students in their pursuit of the degree.

Faculty Availability and Support

Former students' perceptions of faculty availability and support were also considered. The first question, which was partially open-ended, asked whether students were able to select faculty who were qualified to guide and evaluate their work as they began research on their dissertations. When asked if they were able to select qualified faculty, 79 percent percent responded that they could and 21 percent responded that they could not. Those who stated they were able to select faculty expressed great satisfaction with the expertise of the faculty. Examples of their responses were, "Professor _____ was my mentor and he was excellent" and "Their expertise and interest in helping me was exemplary. I will always be grateful to each of them." Those who had difficulty in selecting faculty mentioned the lack of expertise of the faculty in the highly specialized area the candidate worked in or wished to research, and limited choice of faculty. Some of the comments included, "Faculty was not familiar with the industry I wanted to write my dissertation in" and "could not have supervisor of choice; most were too busy to accept me."

The participants were also asked how available the dissertation supervisor and each of the two other faculty committee members were as the students were working on their dissertations. Responses were provided on a 5-point Likert-type scale ranging from "always available" (5) to "seldom available" (1). The supervisor, the first faculty member, was rated as "always available" by 50 percent of the respondents and only 8 percent rated the supervisor as "seldom available." Thirty-two percent of the participants rated the second member of the committee as "always available" and this member was deemed "seldom available" by 10 percent. The third member was seen as even less available. Only 23 percent rated this individual as "always available" while 15 percent considered this member "seldom available." Therefore, the committee supervisor was perceived as most available, the second member as considerably less available, and the third member as the least available.

In addition to faculty availability, respondents were asked how supportive the supervisor and each of the other two committee members were during the dissertation process. Again, respondents were asked to rate the three faculty members on a 5-point Likert-type scale ranging from "always supportive" (5) to "seldom supportive" (1). The results were similar to those for availability of faculty. The supervisor was considered "always supportive" by 59 percent and "seldom supportive" by 15 percent. The second faculty member was seen as "always supportive" by 43 percent and "seldom supportive" by 11 percent, and the third member was deemed "always supportive" by 33 percent and "seldom supportive" by 16 percent. Taken together, the responses to both questions seem to underscore the critical role of the supervisor in the dissertation process.

Two additional open-ended questions asked about types of faculty support. The first question asked respondents to describe the most valuable type of faculty support

they received while working on their dissertations. The type cited most frequently (by 55 percent of the respondents) was faculty advice and guidance in the beginning phases of the dissertation, e.g., structuring research, helping to focus the work, theoretical development, research methodology, etc. Examples of respondents' statements were, "The dissertation supervisor always provided clear guidance," "helped on theoretical development," "advised on sources and concepts," "provided focus guidance," "gave guidance in methodology," and "helped in hypotheses formulation."

Mentioned less frequently was prompt and helpful feedback by faculty and encouragement (18 percent each). Examples of statements included, "Received timely reading of all proposals and other work together with valuable comments," "immediate evaluation of my work," "feedback on progress," "critiques on progress," "Dr. _____ was always encouraging," "encouragement of supervisor," and "encouragement to keep going in the face of major changes made in my proposal." Other types of faculty support mentioned far less frequently (9 percent) involved technical aspects such as "helped with statistical techniques" and "gave advice on the use of computers."

The second open-ended question on type of faculty support asked for the most important type of support the respondents needed but did not receive while they were working on their dissertations. Interestingly, most of the comments made in this question resembled those in the preceding question asking about types of faculty support received. Some respondents felt that there was inadequate faculty guidance and advice about getting started on the dissertation (20 percent). For example, they wanted "more precise communication of what was required," "better direction for topic," and "guidance on theoretical foundations." Other students complained that faculty was unavailable, not supportive, or uninterested (18 percent). They stated that they needed "interested support from other committee members" and "…easy accessibility. It was difficult to get an appointment with my supervisor." Another group (13 percent) expressed dissatisfaction with faculty feedback. For example, they expressed need for "faster feedback on dissertation drafts," "timely review of my work," and "it was sometimes tough getting feedback from committee members." An additional 13 percent felt they hadn't been given help on research methodology. Examples of their comments included "guidance on research method was needed" and "needed assistance in understanding research methodology." Others (16 percent) sought help but did not receive it in statistics and computers. Examples of the type of help they required were "data analysis," "statistical techniques," "statistical (regression) analysis," "computer support," and "computer access."

Only 4 percent mentioned lack of faculty expertise in the student's area of interest. Examples included "lack of expertise in the area of exotic metals field" and "lacked expertise in my topic area." Surprisingly, although the question asked for faculty support that was not received, 16 percent of the respondents volunteered that they had gotten all the support they needed.

Student Advice

The last two questions in the survey, both of which were open-ended, asked respondents for suggestions and advice to help current students. The first question was, "Looking back on your experience in the DPS program, what suggestions do you have for helping students complete their dissertations?" Interestingly, 81 percent made the effort to write out responses, evidently feeling it important for them to offer assistance to others.

Advice related to the dissertation supervisor and committee was offered by 27 percent of the respondents. Some sample statements were, "Try to locate a supervisor who is supportive and with whom you are comfortable," "Work closely with the supervisor and committee members," "Meet regularly with the supervisor," "Get feedback from all committee members," "Determine what the committee requires, preferably through a meeting with the entire committee to get a group agreement on what is required, and then go ahead and do it," and "Locate a professor with a serious interest in your project."

A suggestion made by 19 percent of the respondents was to start work on the dissertation early in the program, not waiting until the courses and written and oral examinations were out of the way. Examples of the comments were, "Choose a dissertation topic early while completing course work," "Select a topic as soon as possible and begin collecting sources of information required. Many courses can provide an opportunity to develop material that can be included in the dissertation at a later time," "start early, especially the literature review," and "identify possible supervisors early in the program and discuss possible topics with them."

Another 20 percent advised establishing goals and a schedule and then working regularly on the dissertation. Some examples from this group were: "Set a fairly firm completion date (year) and then focus energies on achieving this goal," "A formal work plan (with schedules) should be created as a road map. It is too easy to let time just pass by," "Set aside time to work on it every day," and "Don't work on dissertation in clumps of time with long breaks; do a little work each day; then you're not required to refresh yourself each time you work on it."

Another group of suggestions (19 percent) advised students to tie the dissertation to their outside work or their interests. This suggestion was likely a reflection of the fact that almost all of the DPS students held outside jobs and were therefore atypical of many students in other doctoral programs. Comments included "Base your topic on real world experience," "Tie dissertation to job (existing project)," "Select a topic in your field of expertise," "Pick a topic you are familiar with, don't use the dissertation to learn a new subject," and "Choose a subject in which you are really interested, about which you can maintain enthusiasm."

A somewhat smaller number (12 percent) urged students to persevere in their efforts. Some suggestions were, "Continue to persist," "Do not give up," "Keep going

even when you feel that you will not be able to finish," "Keep at it," and "Stay with it with tenacity."

A small number (8 percent) provided what might be termed tactical advice on getting through the doctoral dissertation stage. The comments included, "Go at it fast and decisively or you'll never finish," "Identify a manageable project," "Pick a topic that is narrow in scope and that can be completed quickly," "Pick a topic that is doable," "Just do it," and "Find out the process your committee wants you to follow and do it."

Lastly, 15 percent of the suggestions were directed at what the university could do to help students. Some of them were aimed at the faculty, including, "Make sure dissertation advisors know how to guide and direct students," "Assign a supervisor with the expertise and interest in the dissertation topic," "better faculty attitudes and cooperation," "Encouragement by dissertation supervisor," "Dissertation preparation and guidance should be improved," "There seems to be an attitude by faculty of 'I had it rough so why shouldn't you,'" "Require a course on doctoral dissertation preparation early in the program," "Give students greater academic preparation in research methodology," "Help students to focus their topic," and "Allow students to build on research being conducted by faculty." Other comments concerning university administration included, "The attrition rate might be lowered if student performance was monitored and encouragement provided," "Provide more/different incentives for faculty to serve on a committee and work towards completion of a dissertation," and "Introduce activities that build peer support-luncheons that include useful presentations might help."

The last open-ended question was, "What advice would you give to guide a current doctoral candidate through the program?" Advice was offered by 72 percent of the respondents, which is somewhat less than the 81 percent who answered the preceding question. The types of suggestions were similar to the ones offered in the preceding question but the emphasis was different. For example, the most frequently offered suggestion, urging perseverance, was given by 34 percent of the respondents. Only 12 percent of respondents offered this same advice in the preceding question. Examples included, "Stay with your efforts; it will pay in the end," "Don't get discouraged," "Keep going," "Don't give up-it is a test of endurance," "Expect it to take longer than your worst case guess," "Don't get tired-it is worth it," "Keep on pushing," "Stick with the program despite work pressure," "Patience," and "Keep at it rather than taking a vacation."

The second most frequently mentioned suggestion was to set goals, establish a schedule, and then work consistently. This was given by 25 percent of the respondents. In the previous question, 20 percent of participants had offered this suggestion. Some examples of the responses were, "Know what you want and why you want it," "Define clear objectives for your studies and research," "Think about your goal from the very beginning. What is your field of interest - not a broad field, but a specific one," "Develop a good plan with scheduled completion dates, check it frequently, and get back on course if you deviate," "Set a tight schedule but don't overburden yourself at school, work, or home. Remain flexible and learn to adjust to the new circumstances," "Prioritize family,

job, and graduate studies and organize accordingly," "Make progress daily," and "Do a little each day."

Next in order of frequency of response (24 percent) was advice on selecting and working with the dissertation supervisor and committee. This was only slightly less than the 27 percent who offered this type of advice in the first open-ended question. The comments here included, "Select the 'right' committee chair and members," "Find a faculty member willing to provide guidance," "Get an interested faculty advisor," "Work with a mentor who has expertise in the subject and has an interest in the results," "Find an advisor who is interested in the area you wish to develop. If he/she is interested, the rest is just hard work," "Find a supervisor who is supportive and non-destructive," "Get early buy-in and collaboration from supervisor and committee," "Develop and maintain a friendly mentor from the faculty," "Don't rely solely on one committee member; give drafts of work to all members," and "Get in touch with your supervisor every week. Insist on a meeting with the full committee once a month (even if only for 10 minutes). Give committee a one-page monthly report on your progress and insist on a response/evaluation from them."

As in the preceding question, some respondents (11 percent) urged students to get an early start on the dissertation. This was less than the 19 percent advising an early start in the preceding question directed specifically toward the dissertation. The suggestions were similar to those offered in the preceding question, such as, "Choose a dissertation topic early and prepare a thorough proposal," "Focus your dissertation early in the program," "Identify your topic as soon as possible and make progress daily," and "Select topic early and focus most papers, research, and courses on the topic selected."

A few miscellaneous additional suggestions were similar to the tactical advice given in the preceding question, including, "Be flexible; learn to adjust," "Be prepared to rework your material," "It is important to finish as quickly as possible," and "The objective is to make a contribution and get the degree. Keep it simple."

Finally, two respondents offered some rather heartfelt remarks that could apply to doctoral students everywhere. The first respondent commented, "I caution those who would take this path to education. You must be willing to devote an extraordinary amount of time and effort to the program. It means budgeting your leisure time and giving up a lot of your social life. It should also be noted that the most difficult time comes at the end of the program with the written and oral examinations and the dissertation." The second person volunteered "Gaining a doctorate is one of the hardest things you will attempt to do in your life. Lack of success is not failure."

Discussion

The results of the survey were in part consistent and in part at variance with previous research on doctoral programs and doctoral students. Many of the respondents' remarks mirrored comments made in other studies.

Perhaps the most important difference from other studies was the lack of financial pressures experienced by DPS students. Previous studies have repeatedly reported financial pressures as a major obstacle to completion of doctoral programs; students have had to abandon or delay their studies because of these pressures. The DPS students did not cite this as a major factor, possibly because almost all of them held full-time jobs that presumably were well paid. Almost one-third of participants drew entirely on their own resources to pay for their education. More than two thirds were able to pursue their studies funded either partially or entirely by their employers. Further evidence of the lack of financial pressures was provided by the respondents who indicated they experienced little interference from financial pressures in their efforts to complete course work, examinations, or dissertations.

The results also revealed that, unlike some students in other doctoral programs who were forced by financial pressures to take on part-time or full-time jobs, thereby lengthening time to degree completion or even causing students to drop out entirely, the DPS students held full-time managerial or professional jobs when they first enrolled. Consequently, they tended to work a full workweek or longer on their jobs. This was notably different from other students in other doctoral programs. Only doctoral students from schools of education resembled the DPS students in their tendency to hold full-time outside jobs (Green & Kluever 1997; Katz 1995; Madsen 1992). Yet the DPS students did not perceive outside job demands to be great obstacles in their studies. When asked to what extent career demands interfered with completion of course work and qualifying examinations, respondents indicated a moderate degree of interference and a slightly lesser degree of interference in completing the dissertation. Also, even though almost all pursued the DPS part-time, modal completion time to a degree was seven years, not appreciably different from other doctoral programs, and less than the average time taken in the humanities and in education (Bowen & Ruderstine 1992). This leads us to conjecture that the DPS students were highly motivated to complete their studies as quickly as possible. The desire to finish quickly is articulated in the advice given to current students in the last two open-ended questions.

Family obligations were deemed to be a moderate interference in completing course and qualifying examinations and, as in the case of career demands, somewhat less of an interference at the dissertation stage. It may be that respondents were better able to adjust their schedules at the unstructured dissertation phase so as to deal more effectively with career demands and family responsibilities than during the more structured earlier stages of the program. It could also be that families become more tolerant and supportive at the dissertation stage because they see "the light at the end of the tunnel" and they are motivated by the rewards that will come from their sacrifices. The finding that family responsibilities interfere with doctoral studies is consistent with the results of other studies, which have reported that these obligations have led to longer completion times and greater attrition. Still, family responsibilities were not perceived as formidable obstacles by DPS students and neither of the two open-ended questions soliciting respondents' suggestions made any reference to job or family demands as being problematic.

Turning next to institutional barriers, a large majority of respondents (79 percent) reported that they were able to select faculty who had the qualifications to guide and evaluate their dissertations and that they were satisfied with the expertise of the faculty. With respect to availability of faculty, respondents generally seemed satisfied with the availability of the dissertation supervisor but the other two committee members were deemed considerably less available.

Respondents expressed general satisfaction with the support the dissertation supervisor provided. As in the case of availability of faculty, the other two committee members were seen as decidedly less supportive than the supervisor. The most valuable type of faculty support the respondents reported receiving was guidance in the beginning stages of the dissertation, such as designing the research, focusing the work, and delineating specific research methodology. Support in the form of prompt and helpful feedback by faculty was also valued by the respondents, as was encouragement to continue working on the dissertation. On the other hand, some respondents complained that they needed but did not receive faculty guidance, that faculty were unavailable or uninterested, did not offer feedback, or did not give help in research methodology, statistics, or computers. It appeared that the support received or not received depended on individual faculty members.

The lack of support reported by DPS students resembles barriers discussed in the literature, including too little attention from advisors, not enough guidance, lack of encouragement, and inadequate feedback. However, it may be difficult, if not impossible, to determine if faculty support is inadequate for the student or if inadequate student capability and motivation lead to weak faculty support. Both depend on faculty and student expectations. This makes generalizations about faculty support and availability problematic.

The suggestions offered by respondents in the last two open-ended questions were consistent with and were reinforced by statements made in response to other questions in the survey. A frequently mentioned type of advice concerned the dissertation supervisor and committee. Students were advised to locate a supervisor who was supportive and interested, and with whom the student was comfortable, to work closely and meet regularly with the supervisor and committee, and to find out exactly what the committee required.

Students were also urged to set goals for themselves, establish a schedule, and work consistently toward the goals, including the dissertation. However, too tight a schedule might be counterproductive; flexibility was advised to permit adjustment to new demands. Regular, even daily, work on the dissertation was advised. It was also suggested that students prioritize the demands of family, outside work, and graduate studies to ensure that the appropriate amount of attention would be given to each. Another piece of advice was to start work on the dissertation early in the program, not waiting until all the courses and examinations were completed. By selecting the topic early, students could then focus course papers and research on the topic to develop

material for the dissertation. Students were advised to prepare a thorough proposal early and to get it approved by the committee.

Respondents also offered advice on the dissertation topic itself, suggesting that it should be in an area in which the student is really interested so as to sustain enthusiasm in the topic over an extended period. It was also suggested that the student should have some experience with or have some knowledge about the chosen topical area.

Students were strongly advised to persevere in their studies and not to become tired, discouraged, or give up. They were warned that the doctoral program is a test of endurance, a difficult process that probably takes longer than originally anticipated. However, persistence would be worth the effort; it would pay off in the long run.

An additional group of suggestions for getting through the dissertation were pragmatic or practical in nature, such as keeping in mind that the objective is to make a contribution and get the degree, picking a topic that is narrow in scope and is doable, finding out what the committee requires, being flexible enough to make changes and adjustments that satisfy the committee, and moving as quickly as possible toward completion.

Finally, a set of suggestions dealt with what the university (including the faculty) could do to help doctoral students. These included assigning to dissertation committees faculty with the expertise in the student's area of interest, developing faculty skills for providing guidance and for giving appropriate, prompt feedback to students on their dissertations, improving faculty attitudes toward students, offering courses in research methodology and dissertation preparation, offering incentives to faculty to serve on dissertation committees and to help move dissertations toward completion, and initiating activities to build peer support such as presentations at seminars and luncheons.

Recommendations

The results of the study lead us to propose the following recommendations in hopes of reducing doctoral program attrition. The recommendations are addressed to the university, faculty, and doctoral students.

University

The university administration (working with the faculty) can take the following actions to help students complete their dissertation:

1. Ensure that the university is offering instruction that provides students with the necessary skills to carry out dissertation research, including the dissertation process itself. The training could take the form of courses or workshops. Students could also be given training in sharpening the focus of the research, proposal writing, research methodology, use of computers in research, statistical techniques, and dissertation writing.

2. Orient students to the research requirements as they enter of the program in order to prepare them for what lies ahead. This is important since new students often do not know what kinds of questions to ask about the program and its requirements.
3. Encourage students to begin thinking about a research topic early in the program and advise them to build on their dissertation research materials in the reports and presentations they prepare in their courses.
4. Match faculty and students when assigning dissertation advisors and committees in an effort to achieve compatibility of personalities and interests. Allow students who experience poor relationships or conflict with dissertation advisors to change them.
5. Schedule formal seminars or colloquia at which students would be invited to describe to peers and faculty the progress and problems they are experiencing in their dissertations.
6. Foster regular, informal peer support groups to end the sense of isolation that students feel when working on their dissertations. These might take the form of informal luncheons or workshops at which students can discuss their work, exchange experiences, and offer emotional support to each other.
7. Offer monetary and other incentives to faculty to serve on dissertation committees and to help speed up the dissertation process.
8. Invite DPS graduates to seminars or luncheons to describe their experiences and to offer advice and encouragement. Their very presence offers live evidence that the degree can be achieved.

When implementing these recommendations it would be advisable to involve both the faculty and the students in order to obtain their differing perspectives.

Faculty

Faculty can help students get through the dissertation stage by doing the following:

1. Guide them in selecting a topic that is doable.
2. Help them to sharpen the focus of the research.
3. Assist them with the research methodology, including the literature review, design, data collection, etc.
4. Provide prompt feedback on student progress.
5. Give positive reinforcement on good work.
6. Provide emotional support and encouragement throughout the dissertation stage.

Students

Students can help themselves while completing coursework and preparing for examinations if they:

1. Establish goals for completing the program and/or the dissertation with timetables for achieving them. Students may need faculty advice and university support to establish realistic goals for program completion.
2. Establish regular work schedules and adhere to them.
3. Learn to use well-established time management techniques to make most effective use of time.
4. Establish priorities among school, family, social, and work demands; seek to achieve a balance among the conflicting demands.
5. Develop and maintain friendships with other doctoral students to build a support group.
6. Select a faculty mentor who can guide and advise throughout the program.
7. Aim to finish as quickly as possible. The longer the process is drawn out, the more difficult it becomes. Put aside all interferences that get in the way of completion.
8. Persevere even when obstacles arise; do not give up or become discouraged; completing the program will be worth it in the long run.

In addition, students can help themselves complete their dissertations if they:

1. Begin to think about research interests and possible topics for dissertation early in the program.
2. Begin to identify possible dissertation supervisors and committee members and to discuss research interests with them early in the program.
3. Seek to select as supervisor and committee members supportive faculty with whom the student feels comfortable and who are compatible with each other.
4. Select a dissertation topic in which the student is really interested in order to maintain commitment and enthusiasm throughout the process.
5. Use course projects and reports to build on the dissertation.
6. Learn through coursework or on own, research methodology, statistical techniques, and computer applications early in the program.
7. Do not view the dissertation as requiring a major breakthrough on the frontiers of knowledge. What is required is a contribution to knowledge and a demonstration of the ability to carry out research in a scientific manner.
8. Follow closely the advice of the dissertation committee, find out what its members require, work toward meeting those requirements, and deliver what is promised to the committee.
9. Keep in close touch with the dissertation supervisor and committee and solicit regular feedback on work submitted.
10. At the dissertation stage, work on the dissertation every day if possible. Do not let other things get in the way.

Study Limitations

Some limitations of this study should be noted. First, the study was based on a unique doctoral program. The DPS program is not quite the same as a typical Ph.D. or Ed.D. program even though the requirements are similar. Second, DPS students may not

be typical of students in other doctoral programs. The subjects of this study were all experienced, successful managers. While students in other doctoral programs may have had some work experience, it is unlikely that the typical candidate in other programs is a successful manager. However, the DPS students may bear some resemblance to doctoral students in other doctoral programs, especially schools of education, who are older students with families, working full-time outside of the university. Third, the sample was relatively small. Fourth, participation in the study was voluntary, thereby creating self-selection limitations. Fifth, while the study examined factors that might affect doctoral students that were suggested by the literature, other variables, such as psychological and sociological ones, might be relevant. Sixth, the study was retrospective; students were asked to recall events and reactions of 5 or 10 or more years in the past. Their recollections may have been affected by the passage of time. However, we believe that the process of studying for the doctorate is etched in students' minds, and that while recollections may grow dim, the experience is unlikely to be erased from students' memories.

Suggestions for Future Research

It might be useful to investigate how applicable the findings of this study are to doctoral programs in disciplines other than business (e.g., humanities, social sciences, natural sciences), and to populations of doctoral students other than successful managers. Furthermore, the study could be replicated in doctoral programs enrolling significant numbers of minorities and women. The DPS program had only a small number of minorities and women. Also, to produce the data for this study, we relied on a questionnaire consisting of both closed- and open-ended questions. However, other methods for obtaining data, such as an interview, could be used to provide additional insights into the doctoral process.

Furthermore, recommendations made here might be implemented and studied to see if they do indeed make a difference in attrition. For example, a university might introduce courses or workshops to increase student skills in proposal or dissertation writing, carefully match students and advisors according to interests and personalities, or institute workshops or luncheons to overcome feelings of isolation. These initiatives could then be evaluated through student reactions and/or changes in attrition rates.

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