

Distance Education Doctoral Students: Delineating Persistence Variables Through a Comprehensive Literature Review

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Graduate student persistence in a program of study is seldom the result from the influence of one factor. The following review of selected studies in the field highlights findings most influential in doctoral students' decisions to complete or drop out from a program of studies. The review is organized according to persistence in doctoral programs, distance education student profile, persistence in distance education, and student persistence in distance education doctoral programs. While emphasizing advanced graduate study, the information is relevant for students beginning their graduate work as well as for undergraduates.

Persistence in Doctoral Programs

Academic and Social Integration

Nerad and Miller (1996) studied doctoral student cohorts who had been enrolled at the University of California – Berkeley for over three decades. They found doctoral student attrition seldom was the result of academic failure. Instead, it usually was a result of several factors, including student frustration with academic policies and procedures, student disappointment with program offerings and faculty advising, and student experiences with an inhospitable departmental culture.

Other researchers (Bair & Haworth, 1999; Bowen & Rudenstine, 1992; Lovitts, 2001; Ferrer de Valero, 2001) reported causes of attrition in doctoral education were not due to a deficit of academic skills, but a result of a lack of integration into a department. Ferrer de Valero's study (2001) identified departmental factors positively or negatively affecting time to doctoral degree and completion rates at a major mid-Atlantic region research university. These factors included departmental orientation, amount of advising, relationship between course work and research skills, relationships with academic advisor and committee members, attitudes towards students, student participation, and peer support.

In her study of doctoral students' experiences, Golde (1996) argued some reasons to leave a doctoral program were rooted in departmental and disciplinary characteristics. She conducted case studies of four departments at a major research university. Interviews with 58 doctoral students who dropped from the programs were the primary

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data source. The analysis of each case described the problematic features of each department, which contributed to the attrition decision. Based on her examination of departmental contextual factors, Golde concluded “departmental context is a central contributor to attrition” (p. 156-157).

Other studies by Golde (1998; 2000) confirmed integration into the academic systems of a department played a critical role in doctoral student persistence. Even seemingly integrated students may lose their commitment to complete the degree because other opportunities surfaced, encroached on time and interest, and subsequently took precedence.

Positive relations between a student and academic advisor were found to be important for doctoral student persistence (Ferrer de Valero, 2001; Gell, 1995; Golde, 1994; Lovitts, 2001; Manis, Frazier-Kouassi, Hollenshead, & Burkam, 1993; Presley, 1995/1996). In studies of doctoral student attrition, students’ departure was reported to be due, in part, to inadequate or inaccurate advising, lack of interest or attention on the part of an advisor, unavailability of an advisor and/or faculty, or a negative relationship or even conflict between a student and the major advisor or significant faculty (Campbell, 1992; Golde, 1994, 2000; Huguley, 1988; Lovitts, 2001).

The style of advising can impede a doctoral student’s progress. Bowen and Rudenstine (1992), for example, pointed out the most common type of advisors were those who allowed students to work at their own pace, without establishing any work schedule or timetable. Students too often become lost at different stages in their research, which created negative psychological states, inducing students to drop out of a program. At the same time, many students have reported that they were satisfied with their advisors, and that they admitted positive mentoring relationships, including the quality and quantity of time spent together (Golde & Dore, 2001; NAGPS Survey Team, 2001).

Lack of persistence in traditional doctoral programs often has been attributed to lack of support and encouragement (Cesari, 1990; Tinto, 1987), while commitment to group and commitment to degree were found to be highly interdependent aspects of membership in a doctoral cohort (Dorn & Papalewis, 1995). The interest in and support of doctoral students for each other was reported to be an important factor in many studies (Brien, 1992; Ferrer de Valero, 2001; Hagedorn, 1993), although not as prominent as student/faculty relationships and student involvement in academic life (Lovitts, 2001).

Stages in Doctoral Education and Student Persistence

The first year in a doctoral program is reported to be crucial to the intention to stay and persist (Golde, 1998). Golde interviewed 58 students who had started and left one of four Ph.D. programs offered by four different departments. First-year attrition accounted for about one-third of the overall attrition in three of the four departments. Common reasons for leaving were the difficulties adjusting to the lifestyle of a graduate student, a young and inexperienced faculty, wrong department, job market, and advisor mismatch.

As noted by Bowen and Rudenstine (1992), attrition during the first year of graduate school accounts for nearly a third of all doctoral student attrition. Another third drop out

before getting candidacy and a final third post candidacy, however, this data varies considerably by department and discipline. In their study of Ph.D. students at six major research universities (Berkeley, Chicago, Cornell, Princeton, Stanford, and the University of North Carolina), Bowen and Rudenstine identified three stages in doctoral education: (1) before the second year, (2) from the start of the second year until the completion of all the requirements besides the dissertation, and (3) after completion of all requirements but the dissertation (ABD). They found “more than twice as many students left these Ph.D. programs prior to achieving ABD status as left after achieving ABD status” (p. 111).

In the appendix to his work on undergraduate student attrition, *Leaving College*, entitled “Toward a theory of doctoral persistence” Tinto (1993) identified three stages of doctoral persistence: (1) the first year of study, which he called the transitional stage, (2) the period leading to candidacy, and (3) the completion of the dissertation. During the first stage, a student sought establishing membership in the academic and social communities of the university. During the second stage, interactions within the classroom and department or program pertaining to issues of academic competence played the central role in students’ persistence. In both the first and second stages, student’s experience appeared to be dependent on interactions with a wide range of faculty members. In the third stage, however, the focus shifted to the relationship with the advisor and the dissertation committee members. At this stage, persistence might be contingent upon the behavior of a specific faculty member, especially if there is not a trusting relationship with the advisor.

Dissertation Progress

A number of studies focused on the factors related to dissertation progress. Failure to complete a dissertation accounted for about 20% of the overall attrition from doctoral programs in education (Bowen & Rudenstine, 1992). The study conducted by Faghihi, Rakow, and Ethington (1999) examined relationships among doctoral candidates’ background characteristics, research preparation, environment and involvement, student-advisor relationship, research self-efficacy, and dissertation progress.

Faghihi et al surveyed 97 students from three departments within a College of Education at an urban Southern research university who had completed their course work and passed comprehensive examinations during 1987-1997, but had not competed their degrees by December 1997. The study focused on differences in research self-efficacy and dissertation progress among the ABDs. Faghihi et al found both students’ research self-efficacy and their relationships with advisors and committee members significantly contributed to dissertation progress. At the same time, none of the student background characteristics had a significant effect on dissertation progress.

The qualitative study by Kluever (1997) explored personal and program experiences presumably affecting dissertation completion. Thirteen graduates and nine ABD interviewed students believed there was more structure and direction associated with courses than with the independent activity required to complete a dissertation. They

described the need for self-motivation and self-direction as important attributes for successful completion of their programs.

The lack of structure in the dissertation stage was found to be an obstacle to completion to 50% of All-But-Dissertation (ABD) students (Hugeley, 1988). Jacks, Chubin, Porter, and Connolly (1983) studied the doctoral candidates from 18 departments at 15 universities who never complete their dissertations (ABDs). Through the interviews conducted with 25 ABD individuals from such fields as psychology, sociology, zoology, physics, electrical engineering, and biochemistry, they identified nine reasons why students failed to complete a dissertation. Listed in priority order, based on the percent of significance for interviewed ABDs, these included: financial difficulties, poor working relationship with advisor and/or committee, substantive problems with the dissertation research, personal or emotional problems, receipt of an attractive job offer, interference of paid work with dissertation work, family demands, lack of peer support, and loss of interest in earning a Ph.D.

In her multiple regression study of psychology doctoral students and graduates, Muszynski (1988) identified seven factors aiding in dissertation completion: (1) supportive, interested, competent, and secure advisor; (2) accessible, manageable, and interesting topic; (3) internal strength, including independence, high motivation, ability to endure frustration; (4) self-imposed deadline or goal; (5) limited or no employment; (6) delaying internship until completion of dissertation; and (7) externally imposed incentives, like future employment. She also reported depression, as well as stressful life events may hinder dissertation completion. Too often students either do not seek appropriate support for such difficulties, or fail to recognize their gravity.

Such particular aspects of the dissertation process as topic selection and time available to work on dissertation were found to be important for successful degree completion (Allen, 1996; Grissom, 1985; Hugeley, 1988; Lenz, 1994; Mah, 1986; McCabe-Martinez, 1993; Pinson, 1997). In a dissertation study on time to completion of doctorate (Allen, 1996), a majority of graduates reported longer completion had been problematic to them. The reasons cited most for discrepancies between expected and realized completion times were the need to work and alleviate financial concerns.

Based on a study of 192 graduates of the Department of Leadership and Policy Studies at Virginia Tech College of Education, Pinson (1997) identified factors impeding rapid completion of the dissertation. Results of the regression analysis showed four significant predictors of time to complete the dissertation: (1) how dissertation writing time was scheduled; (2) computer skills at the beginning of the dissertation; (3) perceived difficulties caused by job demands; and (4) changes in advisor or committee membership.

Motivation and Personal Goals

Doctoral student motivation is well explored in the literature on doctoral student attrition and persistence (Bauer, 1997; Brien, 1992; Butler, 1995; Ferrer de Valero, 2001; Lees, 1996; Lovitts, 2001; McCabe-Martinez, 1993; Reamer, 1990; Skudlarek, 1992).

Motivation and goal setting were reported to be strongly related to doctoral degree completion. Students who had a “never give up” attitude were more likely to complete the doctorate than others (Brien, 1992; Reamer, 1990).

Based on the survey of 297 adult learners in two professional doctoral programs, Reamer (1990) reported a determination to succeed against all odds might be a personal quality to help students persist. Although most participants admitted they contemplated and even wanted to leave the programs, unwillingness to experience failure kept them in school. According to Brien (1992), the belief in what the doctorate degree could offer for a student’s career aspirations often were strong enough to encourage many students to diligently continue in a program.

In her dissertation, Bauer (1997) looked, in particular, at goal setting for Ph.D. candidates in the College of Letters and Science at the University of California, Los Angeles, and whether doctoral candidates who set goals and a reasonable timeline were more likely to finish their dissertations within a normative period. The findings of the study were presented as claiming goal setting was related to timely completion of the dissertation. The advising practice, which impacted most on timely dissertation completion, was for advisors to encourage students to goal setting with a time schedule, as a strategy to help advisees structure the dissertation process.

The significance of student self-concept and self-efficacy to doctoral students’ persistence has not been well-studied. Presley (1995), in her study of first-year African-American doctoral students, however, found students’ positive views of themselves may relate to the successful completion of the doctorate, while students’ negative views of themselves may relate to withdrawal. No significant difference was reported between completers and non-completers with respect to self-concept.

External Factors

Golde (1998) argued among the many reasons for leaving a doctoral program some were personal or external to the program. In a qualitative study grounded on the experiences of 139 doctoral graduates, Dinham and Scott (1999) identified factors presumably inhibiting and/or facilitating students’ success in doctoral programs. Factors identified as hindering doctorate completion included financial difficulties, family lifestyle problems, cultural difficulties and isolation. According to the preliminary results of the AHA Survey of Doctoral Programs in History (American Historical Association, 2002), financial problems and personal and family reasons were identified as the most important factors causing history major student drop out from doctoral programs.

Employment and financial factors were reported to be an obstacle for some doctoral students who failed to complete their programs. In the mixed-design study of Hispanic school personnel (McCabe-Martinez, 1993), employment and related job responsibilities were identified as the most significant factors affecting degree progress and program completion.

Financial problems also were found to be an impediment to persist (Bowen & Rudenstine, 1992; Dolph, 1983; Lenz, 1994; Lovitts, 2001; Murrell, 1987; Tinto, 1993).

The financial support offered to doctoral students by colleges and universities was related to attrition and persistence. Students who held research assistantships, teaching assistantships, fellowships, or graduate assistantship were more likely to complete their degrees than students who relied on other sources of funding. Bowen and Rudenstine (1992) studied minimum completion rates at five universities to determine whether the financial support for the students came from “institutional” or from “own support” sources. They found minimum completion rates for one of the institutions were as low as 14.2% for students relying on their own support. This contrasted sharply to 41.8% for students receiving institutional support (p. 179). The same pattern was found at the other four institutions, which led the authors to conclude “students forced to rely primarily on their own resources have had markedly higher attrition rates and longer TTD (time to degree – N.I.) than comparable students who received financial aid” (p. 178).

In her case studies of six women, three “completers” and three ABDs, Lenz (1994) found time and money constrained ABDs. In Murrell’s (1987) study of 489 graduates and non-graduates from the College of Education at Texas A & M University, graduates were more affected by financial problems than non-graduates. However in some studies financial factors were reported to be of smaller significance (Campbell, 1992; Girves & Wemmerus, 1988).

Giles (1983) conducted an ethnographic study to determine the effects of the graduate education experience on intra- and inter-family relationships, and how doctoral students balanced their dual student/spouse roles. Four principal themes affecting doctoral students’ persistence were identified: (1) support from spouse and parents (financial, emotional/psychological, and basic needs); (2) factors affecting marital stability (financial problems, time pressures, children, communication, sexual concerns, role conflict, physical and emotional separation); (3) social relationships and interaction (status change, absence of married peers, fears associated with terminating relationships after graduation, special needs of the non-student); and (4) status (living arrangements, student-spouse role conflicts, locus of control, and financial conditions). Giles found relationships, which generally developed while in the degree program, did not serve as important support roles. Enrollment in a program of doctoral studies altered a student’s perceived or actual status positively or negatively, and the significant factors tended to be external to the community of a program of study. The so-called community support system created by proximity to other students was not as important as factors directly impacting a student.

At the same time, the findings of Dolph (1983), Frasier (1993), Girves and Wemmerus (1988) and Wagner (1986) indicated marital status was not related to either persistence or attrition. The number of children or dependents of doctoral students was found not to be a significant predictor of persistence (Dolph, 1983; Frasier, 1993).

The reported findings related to student attrition in doctoral programs were interpreted to mean there were meaningful relationships between certain individual, institutional and external factors and doctoral student persistence. In different combinations, unique to each student, they provided either a supportive and positive or impeding and negative context for a student’s progress in the doctoral program.

Distance Education Student Profile

Distance education students have become a major focus of study in distance education research within the last two decades (Thompson, 1998). A distance learner is perceived as a “dynamic individual” whose characteristics often change in response to both educational and life experiences (Gibson, 1992).

Holmberg (1995) pointed out there was no evidence to indicate distance students should be regarded as a homogeneous group. However, many distance students “do share broad demographic and situational similarities that have often provided the basis for profiles of the typical distance learner in higher education” (Thompson, 1998, p. 12). Characteristics included in such a profile are varied, but generally reflected some combination of demographic and situational variables, such as gender, age, ethnic background, disability, location, and life roles (Thompson, 1998).

The large majority of distant students were reported to be adults above 25 years of age, most of them employed and with family obligations (Schutze, 1986; Feasley, 1983). Holmberg (1995), citing studies from three decades, wrote “the 25-35 age group seems to be the largest in most organizations” (p.12).

Most studies of distance learners in North American higher education report more women than men are enrolled in courses delivered at a distance (Thompson, 1998). For example, in telecourses provided by four universities, 61% of the students were women (Hezel & Dirr, 1991).

In many institutions a typical distance learner no longer is place-bound (Thompson, 1998). Increasingly, students in close geographical proximity to traditional educational institutions are choosing distance study not because it is the only alternative, but rather because it is the preferred alternative. For example, Robinson (1992) reported more than 67% of the distance students in his study lived within 50 miles of the Open College.

With regard to the pursued goals, Schutze (1986) singled out four categories of distance learners: (1) those who enter or re-enter higher education to pursue mainstream studies leading to a full first degree or diploma; (2) those who re-enter to update their professional knowledge, or seek to acquire additional qualifications; (3) those without previous experience in higher education, who enroll for professional purposes, especially in courses of short duration; (4) those with or without previous experiences in higher education, who enroll for courses with the explicit purpose of personal fulfillment.

Since the majority of distance learners are time-bound adults with multiple roles and responsibilities, most have educational goals that are instrumental rather than developmental. Robinson (1992) reported most students at the Open College had instrumental goals, such as increased knowledge of a specific content area or performing more effectively in some aspects of their lives. Only three of the twenty students studied by Eastmond (1995) had goals considered personal or academic.

At the same time, Jegede (as cited in Buchanan, 1999) found distance learners characterized by autonomy, persistence, independence, self-direction and flexibility. Such qualities as maturity, self-discipline, and assertiveness have been recognized as qualities inherent to a successful distance education student (Buchanan, 1999).

Motivation is one major difference between distance learners and traditional classroom learners (Office of Technology Assessment, 1989). In the majority of studies, distance learners were found to be highly motivated (Simonson, Smaldino, Albright, & Zvacek, 2000). Motivated, highly intelligent students will learn under the most adverse circumstances, provided they have access to satisfactory and appropriate learning materials (Rumble, 1992).

Thus, the profile of a distance education (DE) learner includes the following characteristics: older than a typical undergraduate, probably female, likely to be employed full time, married, self-motivated and self-disciplined, often with instrumental rather than developmental educational goals. The convenience and flexibility offered by programs free from the constraints of place and often time, represent major benefits to learners attempting to “juggle multiple adult roles and responsibilities” (Thompson, 1998, p. 15).

Persistence in Distance Education

Selected demographic characteristics of DE students, as well as pursued educational goals, might have some relation to their academic success and hence, completion of the course or program of studies. Several studies reported a positive relationship between success and student age (Cooper, 1990; Dille & Mezack, 1991; Fjortoft, 1996; Souder, 1994).

For example, in Fjortoft’s (1996) study of adult persistence in DE post-baccalaureate professional program in pharmacy, based on the sample of 395 persisting and non persisting students, it was identified that older students were more likely to persist than were younger students. Gibson and Graff (1992) claimed higher levels of success for older students were explained on the basis of the increased maturity, self-discipline, life experience, and financial responsibility for their educations. In addition, older students were more likely to have higher levels of education at the time of enrollment, so the process of being responsible for their own learning was familiar and welcomed.

A number of studies (Ross & Powell, 1990; Powell, Conway, & Ross, 1990; Robinson, 1992) revealed higher success rates among female than male distant students. Women’s persistence was attributed to the lower proportion of women working fulltime outside the home, the higher rates at which women accessed institutional support structures, and the appeal of the distance format to women who had to integrate education into lives characterized by multiple roles. Research has also noted that women have potentially higher levels of motivation because they more often worked in occupational sectors in which career advancement was closely tied to academic upgrading. Martin (1990) offered evidence DE for many women was a “liberating and confidence building experience” (p.8)

The number of DE courses previously completed was reported as significantly related to future success in distance learning environment. This hypothesis was supported in several studies, which found first time students often lacked the necessary independence and time management skills needed for persistence in DE (Eisenberg &

Dowsett, 1990; Ehrman, 1990), and assuming responsibility for their own learning often was a foreign concept.

Though demographic characteristics and prior experience with distance learning might be important for completion of a distance education course or a program, numerous studies indicated dropout was a multi-causal phenomenon influenced by a number of factors. Moore and Kearsley (1996) argued dropout usually was a result of no one cause, but of an accumulation and mixture of causes. The situation was further confounded by the heterogeneity of students. Therefore, there was no single reason for student dropout, or no single measure, which will “dramatically reduce drop-out at a stroke” (Kember, 1990, p. 11).

Woodley and Parlett (1983) found sex, age, previous educational qualifications, occupation, and region of residence all were related to persistence for UK Open University students. The Open University example was interpreted as an almost linear relationship between DE students’ dropout and their previous educational level (Simpson, 2000). Students with higher previous educational qualifications tended to do better than those with poorer qualifications. Those who found it difficult to reconcile the conflicting demands of their jobs, family, and studies tended to do less well than do those who found it difficult to direct their own learning. Rekkedal (1972) related age, previous education, years of school experience, and even month of enrollment with persistence. Kember (1981) found a significant relationship between persistence and age, number of children, housing conditions, sex, sponsorship, and region of residence.

In an ethnographic study of barriers to persistence in five introductory academic courses in the natural resource sciences offered via DE by the University of British Columbia, Garland (1993) singled out four barrier categories: situational, institutional, dispositional, and epistemological. Thirty persisting students were compared to 17 students who had withdrawn from a program. The latter encountered barriers to persistence in all four categories. Situational barriers included lack of time and poor learning environment, such as lack of support from family and peers, resource availability and course load. Institutional barriers included institutional procedures, cost and course scheduling/pacing. The largest number of barriers to persistence in DE related to the psychological and social nature of DE students: uncertainty of an educational goal, stress of multiple roles, time management, learning style differences, overachievement, and fear of failure.

A number of researchers developed formal models for predicting student completion specifically related to DE. Billings (1989) found students who made the most progress had the intention of completing a course in three months, submitted the first lesson within 40 days, had higher entrance examination scores and high GPAs, had completed other corresponding courses, had a supportive family, had high goals for completing the program, lived closer to the instructor, and had good college-level preparation. The single most important variable was a student’s intention to complete.

Kennedy and Powell (1976) proposed a “descriptive model” which related the dropout process to characteristics and circumstances. Characteristics slow to change included such factors as educational background, motivation, and personality.

Circumstances, which changed faster included items such as health, finance, occupational changes, and family relationships. Characteristics and circumstances were brought together in a two-dimensional model. The pressure of adverse circumstances was seen as more likely to lead to at-risk situations or drop-out for students with weak characteristics than it was for those with strong characteristics.

Thompson (1984) discussed dropout from external courses in terms of the cognitive style of field-dependence. She postulated field-independent people would be better suited to correspondence study because of their greater levels of independence and autonomy. For field-dependent people to be more successful in DE, she proposed greater interaction with an instructor by methods such as systematic telephone tutoring. The advent of computer mediated distance learning certainly can benefit from Thompson's work.

Fjortoft (1995) developed a model of persistence in DE based on the literature of adult education. The variables studied included age, gender, GPA, satisfaction with college experience, intrinsic job satisfaction, ease of learning on one's own, intrinsic benefits of degree completion, and extrinsic benefits of degree completion. Based on a survey of 395 students, the results were interpreted to mean a positive relationship existed between perceived intrinsic benefits and persistence, whereas a negative relationship was found between both age and ease of learning on one's own and continued enrollment.

Kember's (1989; 1990; 1995) in his longitudinal-process model of dropout from distance education tried to integrate all available models developed for conventional higher education (Bean, 1980; 1985; 1990; Tinto, 1975; 1987; 1993). The model integrated findings on DE students' academic success and attrition, as well as left room for variations and individual differences within each constituent category.

Student Persistence in Distance Education Doctoral Programs

Most research on graduate student persistence in DE has been conducted on single courses (Woodley & Parlett, 1983; Morgan & Tam, 1999). Research on student persistence in doctoral programs delivered via DE is limited. For the most part, these have been dissertation studies, examining various issues related to doctoral student experiences in the distance learning environment and how such experiences affected their persistence in a program.

Using a phenomenology approach, Sigafus (1996) studied experiences of adult students pursuing a distance learning telecast program in Educational Administration at the University of Kentucky. The analysis of the interview transcripts with 25 participants yielded four themes permeating the students' doctoral experiences: structure, pressure, support, and authority. Structure meant personal life role adjustments made to respond to increased demands on time, energy and the program structure itself. Pressure was associated with feelings of stress and strain in situations of increased demands on time and personal energy. The source of support students found most helpful came from peers in the program cohort, faculty members, families, friends, and employers. The theme of authority had two variations: authority or control from faculty members, employers, and

significant others over specific aspects of life, and personal authority, maintained through structural and individual self-growth.

In a study of doctoral student persistence in an interactive compressed video distance learning environment, Huston (1997) found significant factors of success were spousal and financial support, intrinsic motivation, and positive interaction with the teachers and institution. The distance learning format did not affect the persistence of these graduate students. The findings also revealed the importance of group support provided by a cohort, the importance of an actively involved site coordinator, and the importance of access to e-mail.

Huston's (1997) findings were consistent with the results of Riedling's (1996) study of DE doctoral students in the field of educational policy studies and evaluation at the University of Kentucky. Student perceptions of the actual impact of social factors on distance learning were analyzed based on individual interviews with distance doctoral students, on-site observations of their classes, and supporting documentation. The students pointed out collegiality and community as major motivators in their choice of DE. The students did not perceive themselves as alone, and said the intensity of good dynamics was remarkable. Students reported the joy of learning as being of equal importance. Notably, the attitude and skill of site coordinators were perceived as key variables for helping ensure the learning experiences were successful.

Summary

The literature review allowed for identifying seven broad factors most likely to impact persistence of doctoral students in their programs of study; four internal and three external. Internal factors were: self-motivation and personal goals; finances and employment; family support and encouragement; prior experience with postsecondary learning and access to requisite materials and/or technology. External factors included: academic advisor; program policies, offerings, practices and culture; sense of academic and social community.

Despite variability in how students responded to the internal factors, the most prominent appeared to be self-motivation and personal goals. Mature students, especially those with experience in postsecondary and/or higher education, were better able to accommodate to financial and family-related stresses. Furthermore, those students apparently were able to adjust to unsupportive external factors of department program policies, offerings, practices and culture. This was most pronounced with the students engaged in distance learning.

Interestingly, the external factor of academic and social community reportedly did not have much influence on persistence, especially with the doctoral students. Distance learners pointed out they were able to cultivate a sense of academic and social community with peers, despite a lack of geographical proximity.

Probably the most influential of all factors was the role of advisor. For graduate students it seemed pivotal. Both the style (directive, non-directive, supportive) and type (quantity, access, and responsiveness) were important for students to persist.

Extrapolating to undergraduates, it seems reasonable to say academic advisors who appear knowledgeable, accessible, and willing to display being interested in students beyond scheduled appointments would be important for their persistence.

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