Transitioning into, through, and out of Graduate School: A Theoretical Model

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Abstract

In recent years, graduate education has received increasing attention, but while extensive research has been conducted on the experiences of graduate students, scant literature has addressed the transitional pathways of those making the decision to attend graduate school, or those preparing either to leave or to graduate. The process by which students make the decision to apply for, enrol in and attend graduate school has not been well researched. A central aim of this paper, then, is to contribute to the sparse literature on graduate education transitions, giving consideration to and identifying influential factors thought to play a role in a student's decisions to enrol and persist in graduate school. A theoretical model of graduate student transitions will be presented, developed through a synthesis of research on the persistence and attrition of undergraduate and graduate students. While it is acknowledged that the factors identified are in no way exhaustive of the many concerns and issues graduate students face in gaining entry, persisting and departing from their studies, it is hoped that this model will stimulate further discussion and prompt exploration into the most influential factors that help to shape their experiences and decisions; and the implications of these on career trajectories.

As a more educated workforce becomes a priority to an increasingly complex, fast-paced and technological society, the number of people opting to continue on or return to studies at the graduate level continues to rise. Between 1999 and 2008, enrolments in Master's degree programs in Canada rose by 40%, while enrolments at the Doctoral level rose by over 60% (Canadian Association for Graduate Studies, 2011). In recent years, graduate education has garnered much attention, but while extensive research has been conducted on the experiences of students enrolled in graduate programs, scant literature has addressed the transitional pathways of those making the decision to attend graduate school, or those preparing either to leave or to graduate. Furthermore, much of the existing literature almost exclusively addresses doctoral education and tends to exclude masters and professional degree programs.

The process by which students make the decision to apply for, enrol in and attend graduate school has not been well researched, and while numerous factors have been identified as influential to this decision-making process, no model has yet been developed, to the author's knowledge, to outline the transitions into, through, and out of graduate school. A central aim of this paper, then, is to contribute to the sparse literature on graduate education transitions, giving consideration to and identifying key factors thought to be most influential in a student's decisions to enrol and persist in graduate school.

A tentative model of graduate student transitions is presented here, developed through a synthesis of research on the persistence and attrition of undergraduate and graduate students, and may be seen as containing elements of pre-existing models. The factors included therein have been identified through thematic analysis of the extant literature as essential components of post-secondary education pathways. It is important to note that enrolment in graduate school exemplifies persistence in and of itself, as students who progress to this level of higher education have persisted through undergraduate education, and thus it is difficult - and not entirely necessary, it may be argued, to separate those factors influential in the decisions to enrol from those influential in the decision to either persist or to depart.

Student Transitions

Much has changed in graduate education in recent years; students enter graduate programs at very different stages of their lives and careers. In spite of these individual differences, however, it has been noted that all adult learners experience educational transitions as a process over time. A transition is defined as an event or a non-event that alters one's roles, relationships, routines, and assumptions; a theory of transition has been developed for adults, characterized by three stages: "moving in", "moving through", and "moving on." (Schlossberg, Lynch, & Chickering (1989). These phrases have been referred to previously in discussions of doctoral student persistence (Cockrell & Shelley, 2011; Gansemer-Topf, Ross, & Johnson, 2006; Polson, 2003) and are considered in the development of the graduate student transition model presented here.

At all levels of the graduate student transitions process, it is essential that research on and theoretical models of undergraduate student transitions be considered, for a number of reasons. First, the lack of information on graduate student transitional pathways makes this unavoidable. Second, many factors that influence a student's decision to attend and persist in post-secondary may also influence these same decisions at the graduate level. Thus, the existing literature on undergraduate transitions proves a fertile ground for exploring the educational pathways of the graduate student.

Breen and Jonsson (2000) note that sociological analyses of educational pathways have long been studied as sequential transitions between grades or levels of education; Mare (1980) popularized this type of model. They do note a limitation of this model, however, in that it assumes that students progress through the educational system in a uni-linear sequential path, while in fact,

many school systems have "parallel branches of study" (Breen & Jonsson, 2000, p.754). Indeed, education can be viewed as a complex, non-linear process. Breen and Jonsson's (2000) research extends on Mare's model, finding that the pathway a student takes through the school system influences the probability of making subsequent educational transitions. Hence, the model presented here assumes a non-linear trajectory of many choices and opportunities as the student transitions from undergraduate to graduate student, and from school to the workplace.

Shifting Demographics- the Graduate Student as Non-traditional Student

Individuals enter graduate programs with pre-existing attributes and experiences that ultimately shape their entrance into and passage through the post-secondary education system. In setting out to identify key factors that characterize graduate student transitions, it is necessary to consider the changing demographics of the graduate student population. Existing literature on traditional and non-traditional students provide some insight into envisioning a profile of the contemporary graduate student.

The early traditional doctoral student could be described as a twenty-something affluent, single white male, studying full time (Gardner, 2009; Offerman, 2011). Offerman (2011) writes that the contemporary doctoral student is more likely to meet the criteria of a non-traditional as opposed to the traditional student; in fact he makes the argument that perhaps this term may no longer be appropriate. While no standard definition of non-traditional students exists; several can be found in the existing literature on the subject (Bean & Metzner, 1985; Gilardi & Guglielmettim, 2011; Rendon, Jalomo & Nora, 2000). Characteristics of the non-traditional student include being older, a commuter, engaged in family and/or work life, financially independent, studies part time, and may come from a lower socio-economic and/or is a member of an ethnic minority.

If we consider the demographics of today's graduate student, most would be said to fit the above criteria of a non-

traditional student except for being in receipt of further educational credentials. The median age of doctoral students in the United States in 2004 was 33.3 years; nearly 2 out of 3 was married or in a common-law type relationship, and almost a third were first generation students (Gardner, 2009). Gender is also an important characteristic to consider when describing the contemporary graduate student, as the majority of graduate students today in both Canada and the United States are now female (Canadian Association of University Teachers, 2010; Wendler et al. 2010).

Offerman (2011) notes that while the literature addressing the challenges faced by non-traditional undergraduate students is quite extensive, very little research has explored the issues facing non-traditional students at the graduate level. Furthermore, Gilardi and Guglielmetti (2011) argue that the current university system does not seem to be equipped to meet the needs of this group, continuing to maintain a system designed for the traditional type of student.

Research has shown that non-traditional students have a higher rate of attrition than traditional students (Bean & Metzner, 1985; Gilardi & Guglielmetti, 2011). These students face the challenge of finding a balance between their academic and external commitments that

allows for them to sustain a sufficient level of engagement; it has been found that the most important variables in the retention of non-traditional students are an increased use of learning support services and higher levels of perceived social integration (Gilardi & Guglielmetti, 2011). These and other factors, and their influence on persistence, will be examined more fully below.

Consideration was given to increased enrolments in graduate programs and the changing demographics of the graduate student body in the development of the theoretical model of graduate student transitions presented below (see Figure 1). This model was inspired by the current literature and pre-existing models of student persistence and attrition and may be seen as an amalgamation of the current research on undergraduate and graduate student transitional pathways. The remainder of this paper will entail a discussion of the factors contained within the model that have been identified from an extensive review of the literature as influential for graduate student transitions into, through, and out of the graduate education system.

Going to Graduate School

Individuals enter graduate school at different stages of their lives and under varying circumstances. Research has
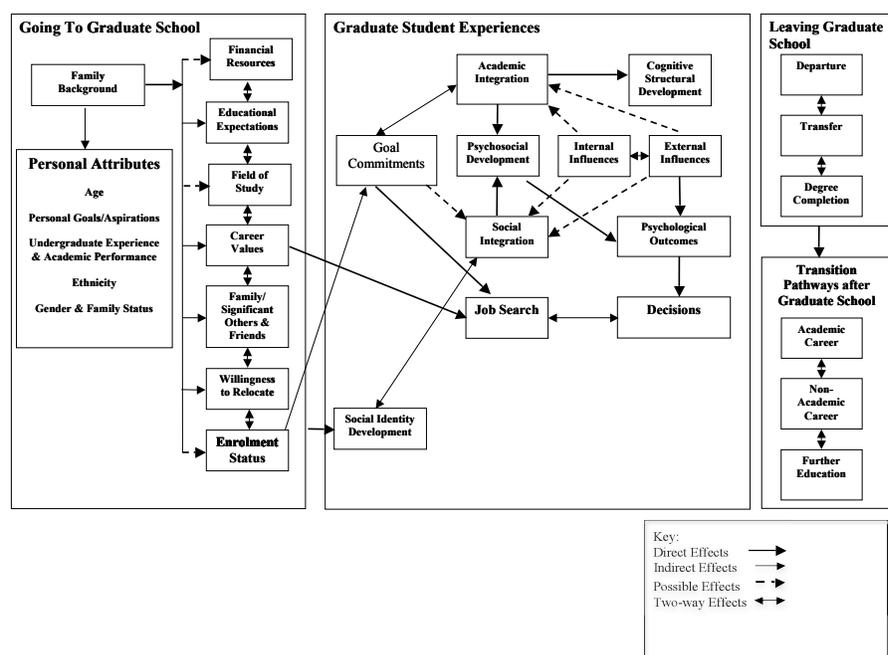

Figure 1. Graduate Student Transitions Model

examined the role of background factors in the decision-making process of enrolling and persisting in graduate school. Tinto (1993) posits that personal attributes, along with educational experiences prior to entering graduate school, help to shape individual goals and commitments upon entry. The impact of these attributes may be indirect but important from a longitudinal standpoint. Several background factors are included in the model here, having been addressed in the literature as being highly influential to educational enrolment and persistence. The inter-connectedness of personal attributes and background characteristics on graduate student enrolment and persistence is made evident.

Family background.

Research on the influence of family background on graduate school enrolment and persistence presents mixed findings. Mare (1980) and Stolzenberg (1994) found that social background has little if any direct effect on the transition from undergraduate to graduate education. Ethington and Smart (1986) also found little direct effect on this transition. Only parental educational level had a direct influence on the decision to attend graduate school, but variables associated with the undergraduate experience were found to have a stronger direct influence. Findings from this research indicate that social origins also have an indirect effect through undergraduate academic performance. Conversely, Mullen, Goyette and Soares (2003) found that parent's education has an indirect effect on the transition from undergraduate to graduate study, working mainly through the characteristics of a student's undergraduate institution, academic performance, educational expectations, and career values, factors examined in more detail below. Mastekaasa (2006) also found considerable effects of social origins on the transition from the masters to the Ph.D. level. DiMaggio and Mohr (1985) found a slight correlation between cultural capital and graduate school attendance. Parental educational attainment is closely linked with, and even included as a measure of, a student's cultural and social capital (see Perna, 2004). A more recent quantitative analysis of cultural capital and graduate student achievement (Moss, 2005) found that neither parental socioeconomic status nor cultural capital had a statistically significant relationship with graduate academic achievement. At best, family background appears to have an indirect influence through a number of other variables, and is included in the model here as a factor in graduate student transitions.

Personal attributes.

Age. Mullen, Goyette, and Soares (2003) included this variable in their analysis of graduate school enrolment as family background is believed to influence the age at which students complete their undergraduate degrees. To return to the earlier discussion of graduate students as being classified as 'non-traditional', age is certainly a factor to consider in an examination of the choice to enrol in graduate level education, particularly as it exerts an influence on a students' goals, whether they be at the personal, educational, or career level. These factors will be discussed in more detail below.

Personal goals/aspirations. While this variable may be linked with educational expectations and/or career values, it may also drive one's decision to enrol in a graduate program as an independent variable. As has been noted, some students return to study at the graduate level despite having or having had a fulfilling career. Attaining an advanced degree may be a goal in and of itself. Aspirations may also be linked to family background (see Hayden, 2008 for a discussion of this connection).

Undergraduate experience and academic performance. Research has found grade performance to be the most important factor in predicting persistence in college (Tinto, 1975). Mullen Goyette and Soares (2003) found that college performance was also found to have a strong effect on the decision to attend graduate school. Ethington and Smart (1986) found that the extent of a student's involvement within the undergraduate institution impacts strongly on later educational decisions. They concluded that the successful integration of a student within the social and academic systems of the undergraduate institution directly and indirectly enhances the likelihood that the student will persist to degree completion and continuing on to graduate education. These findings emphasize the importance of academic and social integration, discussed in more detail below.

Ethnicity. Bean and Metzner (1985) report that studies examining the relationship between undergraduate student's ethnicity and persistence is mixed; it is hypothesized that ethnicity may have an indirect effect on persistence through a negative influence on GPA as a result of the comparatively poorer education provided for minority students at the secondary level. There is a lack of literature addressing the experiences of international students, particularly at the doctoral level (see Le and Gardner, 2007). More recent research could provide further information of the possible effects of ethnic origins on graduate enrolment and persistence.

Gender and family status. Women now account for the majority of both enrolments and degrees awarded in Canada at the Bachelor's and Master's program levels, and just under half at the Ph.D. level (Canadian Association of University Teachers, 2010). While women outnumber males in terms of graduate enrolment and degree completion, Offerman (2011) acknowledges that women may struggle more in achieving a balance between study and personal time constraints and responsibilities; degree completion may be delayed due to such factors. Bean and Metzner (1985) anticipates that gender is likely to have indirect effects on attrition through family responsibilities and opportunity to transfer. Ehrenberg, Zuckerman, Groen, and Brucker (2010) found that there were no gender differences in attrition and completion among students who were single upon entry into doctoral studies; interestingly, marriage and motherhood were not found to be detrimental to women. Gender is included in the model presented here as a background variable as it is believed to have an impact on persistence, both in terms of gaining entry at the graduate level, as well as degree completion.

Financial resources.

Ethington and Smart (1985) found that, along with degree completion, receipt of financial aid has the greatest impact on enrolment in graduate school. Tinto (1993) notes that a lack of financial resources in the first two stages of doctoral persistence may result in a lengthened time to candidacy, as students may attend school part-time or work while enrolled in school to help pay expenses. Thus, it was concluded that the impact of financial resources on persistence is indirect- the longer the degree takes, the less likely students are to finish. At the later stage of persistence, however, the primary effect of limited financial support on persistence may be mostly direct, in that one's ability to devote the necessary time to the completion of the research may be reduced.

Educational expectations.

Mullen Goyette and Soares (2003) found that family background continues to influence student's educational attainment through their expectations. Bean and Metzner (1985) discuss educational goals as a background variable in their model of non-traditional student attrition; numerous studies have demonstrated a connection between pre-enrolment educational goals and persistence. Tinto (1975) includes a discussion of educational expectations in a factor he termed an individual's educational 'goal commitment' in his model of college dropout, and noted that the extent to which one is committed to an educational goal is directly related to persistence. Assuming that students continue to be influenced by these goals as they continue on to educational pursuits at the graduate level, it is included here as a background factor.

Field of study.

Tinto (1993) writes that doctoral persistence is more likely to be a reflection of the normative and structural character of the field of study "and the judgments that describe acceptable performance than a reflection of the broader university" (p.232). Tinto also notes that doctoral persistence is more likely to be reflective of, and framed by, the particular types of student and faculty communities that reside in the local department, program, or school. Tinto proposes that "Doctoral students, in seeking entry to a profession or field of work, are likely to orient themselves toward the norms that they perceive as determining success in that field of work" (p.233). It is speculated that this is the case for Master's students as well. A graduate students' choice of field of study is also likened to be influenced by one's family background (Goyette & Mullen, 2002).

Career values.

Career values may arise from personal attributes or goals. Non-traditional graduate students may have very different career aspirations than traditional students (Weidman, Twale & Stein, 2001); many are already established in a career at the time they enrol in graduate studies, and for the majority, an advanced degree, and the additional credential and ascribed status that accompanies it, is seen as a necessary stepping stone in career advancement. Indeed, for some, further education is seen as a means of transitioning into a new career (Offerman, 2011). Rising graduate enrolments, particular at the Master's level, may in fact reflect a high degree of career commitment on the part of individuals returning to upgrade their credentials. Many of these students have no desire to persist beyond the level of education deemed necessary for their desired career or advancement within one's current occupation. Other graduate students are following the traditional pathway to the professoriate; their persistence is reflective of high goal commitment as it pertains to their academic career aspirations. Stolzenberg (1994) found that the choice of entering a graduate school program is influenced by one's attitudes and values about work. Such values may be influenced by a student's family background.

Family/significant others and friends.

Research emphasizes the influence of peers in explaining differences between institutions in student persistence (Astin, 1993; Berger & Milem, 2000; Titus, 2004; Weidman, 1989). Peers may have an indirect influence on persistence through measures of integration; this assumption is supported by the findings of a study conducted by Thomas (2000). This may very well be an important factor to consider at the graduate level, as smaller cohorts typically interact routinely through the completion of coursework and other program requirements. Sweitzer (2009) looks at the role of doctoral students' personal communities or what she refers to as 'developmental networks' and their influence on professional identity development. A more recent study explores the experiences of female graduate students and the effects of a lack of marital/social support (Williams-Tolliver, 2010). The influence of others is included in the model here as a indirect factor due to the belief that the decisions of graduate students are impacted to a large extent by external influences, a fact that is explored in more detail below.

Willingness to relocate.

Willingness to relocate is included here as an indirect influence under the assumption that location of a program is likely to have a larger impact on students at the graduate level than at the undergraduate level, as it is probable that these students have outside responsibilities that extend beyond their academic pursuits and may conflict with their studies (Sweitzer, 2009). These responsibilities may make moving an undesirable option, if an option at all. Consideration need also be given to the impact of technology and the role of distance learning. The increasing number of graduate programs being offered by correspondence and/or online warrants such a discussion; the flexibility of such programs is certainly an incentive for potential students who are less willing or able to relocate due to family, career or other external commitments. The graduate student experience in distance education has been a relatively unexplored area as of yet (see Hildebrandt, 2011; Park, Perry, & Edwards, 2011) and further research is needed.

Enrolment status.

Tinto (1975) notes the difference between part time and full time stu-

dents, and the extent to which one is able to be involved in the academic and social life of student and faculty communities. Bean and Metzner (1985) include this variable in their model of non-traditional student attrition to refer to the number of academic credits for which a student is enrolled; used to define a student as having part-time or full-time status. It is considered here as a possible factor in graduate student persistence as it is speculated to have an indirect effect through goal commitments on the extent to which students are able to integrate, both socially and academically, within the program and/or the institution.

Graduate Student Experiences

College attrition research has historically been framed within one of two theoretical models (Titus, 2004). Tinto (1975) hypothesizes that a lack of social interaction with others and 'insufficient congruency' with the values of the college will lead students to have a low commitment to the social system and thus increase the chance of dropout. Tinto (1993) later extended his theory of undergraduate persistence to include doctoral persistence. His model implies that successful socialization results in persistence. Bean (1980) presents a causal model of student attrition at the undergraduate level. While the findings suggest that men and women drop out of university for different reasons, institutional commitment- a variable that will be explored below, was the most influential in explaining dropout for both sexes. Research indicates that that both theories "are correct in presuming that college persistence is the product of a complex set of interactions among personal and institutional factors as well as in presuming that Intent to Persist is the outcome of the successful match between the student and the institution" (Cabrera, Castaneda, Nora, and Hengstler, 1992, p.158).

Goal commitments.

Several models of student attrition have included goal commitments as a variable (Bean, 1980; Cabrera et al., 1992; Cabrera et al., 1993). In these models, goal commitments have referred to the completion of an academic program and the attainment of a degree. In the model presented here, it is acknowledged that graduate students have other goal commitments that are tied to personal, institutional, and career values, and may or may not be in congruence with educational goals or expectations, though their connection to other variables is acknowledged.

Job search.

This variable is included in the model presented here as being directly linked with career values and goal commitments, and is seen as an essential component of the transition pathway through graduate school. As has been noted above, graduate students may re-enter the system after many years of working and may already have established a career. In this case, the choice to return to school may be for the purpose of career advancement, a career change, or indicate a desire to meet a personal goal. Other graduate students may be aiming to complete an advanced degree that will make them more competitive in the job market. Ultimately, it is assumed that graduate school is linked in some way, to employment. The job search may be ongoing throughout graduate education or be initiated near the end of the program, in the "moving on" phase, as the student prepares to transition out of graduate school and into a career (Polson, 2003).

Psychosocial development.

Psychosocial theories of development look at "the important issues people face as their lives progress, such as how to define themselves, their relationships with others, and what to do with their lives." (Evans, Forney, & Guido-DiBrito, 1998, p.32). It is noted that environmental conditions such as an institution's size and type, articulation and adherence to mission, and teaching styles are also factors in psychosocial development (Chickering & Reisser, 1993; Dunn & Forney, 2004). Gardner (2009) acknowledges that psychosocial development is at work throughout all phases of the doctoral student experience, as the student gains competence in the subject matter and establishes a professional identity. The same may be said of Master's degree students.

Social identity development.

Social identity development looks at "*what* students think about their specific social identity and *how* they think about it", and includes notions of identity related to gender, race/ethnicity, sexual orientation, social class, ability and disability, and religion, as well as how these identities intersect (McEwen, 2005, p.13). The direct link between social identity development and background factors, including personal attributes, can thus be seen, and is indicated in the model presented here.

Cognitive structural development.

According to models of cognitive structural development, student success consists of the acquisition of advanced capacities, including critical thinking, decision-making, and conceptual understanding (Strange, 2010). Gardner (2009) notes that graduate students experience cognitive development as they complete their coursework and gain research experience. A direct link is drawn in the model presented here between cognitive structural development and academic integration.

Internal influences.

Astin (1984) notes that increased rates of undergraduate program completion may be attributed to increased levels of student involvement. Gardner and Barnes (2007) examine the role of graduate student involvement in socialization and as preparation for a professional career. They refer to Tinto's (1993) model of doctoral persistence, and his focus on academic and social integration. These factors have been discussed by numerous researchers in the context of student attrition and persistence at the graduate level (see Ethington & Smart, 1986; Mullen, Goyette, & Soares, 2003) and are included as essential factors to be considered in the development of a transition model of graduate students.

Academic integration. Mullen, Goyette, and Soares (2003) define academic integration as a student's academic involvement in his or her institution. This involvement may be formal or informal, and includes activities such as courses and seminars, con-

ferences and presentations, and scholarly writing. At the doctoral stage, the student may be most academically involved with his or her supervisor and doctoral committee members, and less with one's peers and colleagues. The advisor or mentor role has been linked in previous research to student satisfaction, success, and persistence (Golde, 2005; Zhao, Golde & McCormick, 2005).

Social integration. Social integration refers to the extent of a student's involvement in relationships with peers and college faculty (Mullen, Goyette, and Soares, 2003). It may include activities such as orientation, 'socials' and informal writing or thesis support groups. Tinto (1993) acknowledges that at the graduate level, social integration is closely linked with academic integration. Interestingly, there is no evidence to suggest that social integration affects the institutional commitment of older students at the undergraduate level (Braxton & Hirschy, 2004; Gilardi & Guglielmetti, 2011). Further research should reveal whether this holds for graduate students as well.

External influences.

Tinto (1993) acknowledges that students also belong to other "external communities", such as family and work; these external influences can also affect integration and may also play a role in a student's decision to either stay in college or dropout. Demands of external communities may result in limited involvement in communities of the department. With reference to Bean (1983; 1990), Titus (2004) refers to these external influences as environmental pull variables, such as a lack of financial resources, relationships, opportunities for transfer, employment and family responsibilities, and acknowledges that these may affect a student's decision to leave a college. These variables may have a particular influence at the graduate level, as an increasingly number of students may be described as non-traditional, and as Bean and Metzner (1985) discovered, these students seem to be more affected by the external environment than by a lack of social integration, which is known to affect

traditional student attrition.

Conversely, external factors may have a positive influence on graduate student persistence. Sweitzer (2009) examined the positive effects of relationships established outside of the academy on professional identity development. Cabrera, Nora, and Castaneda (1993) find support for Bean's suggestion that environmental factors (such as support from significant others) be considered in studies of persistence; hence it is included in the model presented here.

Psychological outcomes.

In their conceptual model of nontraditional student attrition, Bean and Metzner (1985) include psychological outcomes (utility, satisfaction, goal commitment, and stress) as being most directly influenced by academic and environmental (described here as external) variables, as well as by background and defining variables. They draw a possible link to social integration. In the model presented here, a direct link is drawn between psychosocial development (itself arising as a result of both academic and social integration and support) and psychological outcomes. These factors play an important role in students' decision-making process of whether to stay or to go.

Decisions.

While an extensive body of literature has attempted to explain the stages in students' post-secondary decision-making (Hossler & Gallagher, 1987; Perna, 2006; Ross, 2010), these student choice models focus exclusively on undergraduate students and limit their analysis to entry into the post-secondary system and not departure from it. Further research in this area is needed, at both the undergraduate and graduate levels.

Leaving Graduate School

Departure from a graduate program may arise under a myriad of conditions, as we have seen, but we must be careful not to assume that all departures are a failure- of the student, the department, institution, or the system. Certainly, any number of outcomes may accompany the transition out of graduate school.

We consider below three of the most likely outcomes.

Degree completion.

Graduation is recognized as an important transition, often described with ritualistic connotations. Retention rates at the graduate level, however, are disappointingly low in the United States and Canada. In the United States, only about half of all doctoral students entering their programs will complete the degree (Council of Graduate Schools, 2008; Gardner, 2009). It is important to note, however, that not all institutions compile information on attrition rates, and due to a lack of a universal graduate student tracking system, it cannot easily be determined how many of these 'non-completers' are actually incorrectly labelled as such, such as those who transferred to another program or institution or interrupted their studies, such as through an extended leave of absence, only to return at a later date (see Golde, 2005 for a discussion of such attriters). The number of graduate students who actually complete their degree may thus be higher than statistics indicate.

Transfer.

The tracking of graduate student persistence and attrition at either the departmental or institutional level has not been well documented in Canada or the United States, and it is difficult to speculate the number of graduate students whose educational careers are characterized by path diversions and alternative pathways, such as program, department, and institutional transfers. There is an emerging literature on undergraduate transfer (see Junor & Usher, 2008), and as Ehrenberg, Zuckerman, Groen, and Brucker (2010) acknowledge, it has long been known that many students who initially enrol as undergraduates transfer and complete degrees at other institutions. Critics of high PhD attrition rates note that this may also be the case for doctoral students. This emphasizes the importance of institutional commitment and integration in persistence, as well as the importance of considering academic transfers when studying graduate student attrition.

Departure.

About half of those students who enter a graduate program in the United States will not finish (Council of Graduate Schools, 2008). Chances are only slightly better for those students enrolled at a Canadian university. Prompted to explore the issue as a result of her own experiences and departure from two doctoral programs, Lovitts (2001) brought to the forefront the myriad of factors that influence the decision to drop out, many of which have been addressed here in this discussion.

Transition Pathways After Graduate School

Several models have been developed detailing various stages through which doctoral students pass en route to academic and professional careers (Gardner, 2009; Sweitzer 2009; Tinto, 1993), but Master's students remain absent from much of this literature. Considered below are three pathways available to those who depart from graduate students, regardless of outcome.

Academic career transitions.

Traditionally, the pathway of the doctoral student typically culminated with an academic appointment as a university professor or researcher. As a result of a recent economic downturn, and an arguable over-supply of new Ph.D. graduates, the chances of these graduates actually securing a tenure-track faculty position are not as promising as they once were; in some disciplines, particularly humanities, the situation is rather bleak (Benton, 2009; 2010; Conn, 2010; Leach, 2011). Nonetheless, the road to an academic career continues to be the chosen path of many graduates, and is encouraged by faculty. While a doctorate is typically required for most tenure track positions, an increasing number of ABD's (those doctoral students who have completed all program requirements except for the dissertation) seek and find employment as college and university lecturers and administrators.

Non-academic career transitions.

The transition to a non-academic career is a likely outcome for those ending their educational journey with a Master's degree, and increasingly the case for those exiting with a Doctorate in hand (Association of Universities and Colleges of Canada, 2002, as cited in Elgar, 2003). It has been argued that more support is needed for those headed for this career path (Lehker & Furlong, 2006; Polson, 2003). Those who aspire to, and are encouraged to seek an academic position may be being led astray, and many graduate students and faculty have an unrealistic view of the job market (Golde, 2005).

Further education.

For some, the transition out of graduate school may be delayed, or followed by re-entry into the post-secondary system, as a result of the desire or need (dependent on career goals and expectations) to acquire further credentials. The educational pathway may thus be longer for some than others. Those who complete or leave a Master's or professional degree program may opt to continue on to a Doctoral program or enrol in continuing education or professional development courses to attain certifications that may complement the graduate degree and provide a practical component to their training.

Summary

A theoretical model of graduate student transitions has been presented here, based on an extensive review of the literature and an adaptation of models developed to explain undergraduate student experiences of access, persistence, and attrition. The model proposed in this paper aims to contribute to the discussion of graduate student transitions, with the hope that as further research continues, a better understanding of the various educational pathways student take will be reached.

The model depicted here includes factors believed to be most influential in the decision to enrol in graduate school, outlines the transitions and components of socialization that characterize the phases of graduate study, including factors that may effect decisions of whether or not to persist, and concludes with a brief discussion of the possible outcomes that may result as students transition out of graduate school and on with their lives. While it is acknowledged that the factors identified here are in no way exhaustive of the many concerns and issues graduate students face in gaining entry, persisting and departing from their studies at the highest levels of post-secondary education, it is hoped that this model will stimulate further discussion and prompt examination of the most influential factors that help to shape their experiences and decisions.

This paper, and the model accompanying it, may be seen as a preliminary exploration of the graduate student experience, and as such, is limited in scope to the findings of previous research, much of it based on undergraduate students. Further research is thus needed to explore whether the factors identified here are indeed influential in enrolment and persistence in graduate education, and to determine whether these factors differ by level of program and/or discipline. Contextual differences between countries with regards to graduate education must also be considered and acknowledged. As undergraduate and graduate program enrolments continue to rise, more information is needed on student demographics, as well as the factors that work both together and separately to steer students onto and through the various educational pathways that come to shape their future career decisions and ultimately, their lives.

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