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The Graduate Retention Relationship Cycle : the Role of Performance, Engagement, Satisfaction, and Alienation

Paula Cornell Lichiello

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The Graduate Retention Relationship Cycle: The Role of Performance, Engagement,
Satisfaction, and Alienation

A Dissertation

Presented to

The Faculty of Lynchburg College

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education (Ed.D.)

in Leadership Studies

by

Paula Cornell Lichiello, BS, M.Ed.

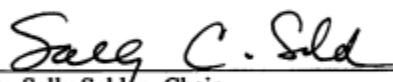
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May 2014

Lynchburg College
Lynchburg, Virginia

APPROVAL OF THE DISSERTATION

This dissertation, "The Graduate Retention Relationship Cycle: The Role of Performance, Engagement, Satisfaction, and Alienation," has been approved by the Ed.D. Faculty of Lynchburg College in partial fulfillment of the requirements for the Ed.D. degree.



Dr. Sally Selden, Chair



Dr. Deanna Cash, Committee Member



Dr. John C. Walker, Committee Member

04/28/14 Date

Dedication

This dissertation is dedicated to the family members and friends who provided support during my dissertation journey. First, I extend thanks to my parents, Annagrace and Paul Cornell, who have always encouraged me to pursue my goals. Second, I thank my husband, Steve, for his never ending support, willingness to listen, and patience. Third, I thank my children – Stephanie, Annamarie, Tony, and daughter-in-law Anna – for being continuous cheerleaders throughout the process. Finally, I also thank the many friends and colleagues who boosted my spirits and motivation during my dissertation progress.

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A special acknowledgement is given to Dr. Ed Polloway for his assistance and to this college for allowing me to conduct this research study. In addition, I am grateful for the support received from the following colleagues: Kevin Arrington, Owen Grubbs, and Carol Hardin.

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Abstract

Dr. John Walker, Advisor

Utilizing official college records and a self-reported student survey, this study identified factors related to engagement, satisfaction, and retention outcomes for graduate students in MBA and M.Ed. programs at one private Virginia college who matriculated in 2005, 2006, and 2007. Building on research and an adapted conceptual model by Girves and Wemmerus (1988), multiple regression analyses resulted in four significant student outcome models which accounted for 22% to 31% of the variance associated with the student outcomes of GPA, engagement, satisfaction, and alienation. Relationships with faculty was the strongest student attribute variable and a predictor in all four models while engagement was the strongest student outcome variable. In addition, the multiple regression model for the retention outcome of willingness to return accounted for 32% of the variance, and GPA and satisfaction had significant, positive impacts with willingness to return while gender had a moderate, positive relationship with willingness to return.

Undergraduate alumni presented unanticipated results as they were less satisfied with their graduate experience than non-alumni at this college. In addition, females were more engaged and more willing to return than males in this research study.

Overall, the research results suggest the importance of willingness to return as it relates to the customer-driven business model approach in Ackerman and Schibrowsky's (2007) relationship life cycle of a graduate student. Relationships assist in solidifying the

bonds with students in higher education institutions, and the strength of those relationships ultimately determines whether students enroll, stay, or leave.

These results challenge scholars to expand their mindset and view retention as a construct on a continuum which extends beyond graduation to include willingness to return. At the same time, the concept of willingness to return suggests to higher education administrators that students have a lifetime value, and their institutional experiences and relationships provide opportunities to develop loyal alumni who serve as recruiters and donors to the institution as they perpetuate the relationship life cycle of a graduate student indefinitely.

Chapter I

Introduction

Student retention and graduation rates, both at the undergraduate and graduate levels, continue to be key measures of institutional quality and effectiveness at public and private colleges and universities today. During the past forty years, the majority of research on student retention in higher education has focused on the undergraduate student population and the reasons students depart. The focus of those studies has typically been on the freshmen population and students' decision to return, or not, for their sophomore year. It is only within the last decade that many higher education institutions in the United States have taken responsibility for collecting and maintaining their own student data for this purpose. Of these, only a small percent attempt to document attrition data and analyze it to drive retention initiatives primarily at the undergraduate level (Ackerman & Schibrowsky, 2007).

For the graduate student population, data are provided by the Council of Graduate Schools (CGS) through their annual CGS/GRE Survey of Graduate Enrollment and Degrees, which collects the only national data for this population (Council of Graduate Schools, 2011). Data from these surveys provide information on first-time and total graduate enrollment for all fields of graduate study, graduate enrollment for master's and doctoral levels, and the number of graduate applications by field of study. No data are available on the graduate student experience, time to degree completion, or the number of degree completers. Per the National Research Council (1996), "national data on graduate

program attrition is nonexistent” (as cited in Lovitts, 2001, p. 24). Thus, administrators are left to contend with the problem of graduate student retention in isolation within their institutions.

The need to understand and effectively address graduate student retention issues will only increase in the future, as the Bureau of Labor and Statistics 2009 projection indicated there will be an 18% increase in jobs requiring a master’s degree and a 17% increase in jobs requiring doctoral degrees by 2018 (Woods, 2011). While even the most effective student retention strategy will not result in zero percent attrition (Carroll, Ng, & Birch, 2009) and not all student attrition is viewed as negative (Bean, 1980), the loss of a graduate student from a higher education institution has a triple impact, as it affects the student, the institution, and society. For the student, the decision is life changing and has a significant impact that extends beyond the financial cost of not obtaining a degree. Lovitts (2001) summarized the loss of a graduate student by saying, “it can ruin individuals’ lives. The financial, personal, and professional costs of attrition to the student are immense” (p. 6). At the same time, higher education institutions have been reluctant to acknowledge that it costs less to keep a student than to recruit a new one. The institution’s loss of a student impacts the recruitment, retention, graduation, and alumni life-cycle and results in immediate financial loss, loss of future relations with the student, and the cost of replacing the student (Ackerman & Schibrowsky, 2007). In addition, the costs to society are evident by shortages of qualified applicants for positions in business, industry, and education.

Purpose of Study

The purpose of this study is to investigate the factors related to student

engagement, satisfaction, and retention for a designated group of degree-seeking graduate students at the master's level at one private college during a specified time frame. Items of particular interest are those that can be identified as having a correlation to student persistence and degree attainment.

Research Questions

The research questions for this study include the following:

R₁: What factors contribute to engagement of graduate students in degree-seeking master's programs?

R₂: What factors contribute to satisfaction of graduate students in degree-seeking master's programs?

R₃: What factors contribute to retention outcomes of graduate students in degree-seeking master's programs?

Definition of Terms

To aid the reader in understanding the topic of student engagement, satisfaction, and retention, a list of terms and associated definitions are identified and explained in

Table 1.1.

Table 1.1
Terms and Definitions

Term	Definition	Source
Attrition	a student's decision, voluntary or involuntary, to leave the school permanently without completing a degree	DeRemer, 2002; Tinto, 1993, 2012
Cohort	a group of degree-seeking students who begin their program of studies at the same time	Baird, 1993; Brien, 1992

Dropout	a decision made by a currently enrolled student to cease enrollment without completing a graduate degree program within a designated timeframe which is typically considered six years	DeRemer, 2002; Girves & Wemmerus, 1988; Tinto, 2012
Persistence	the desires and actions of a student to stay within the system of higher education from beginning through degree completion	Campbell & Nutt, 2009; Woodward, Mallory, & DeLuca, 2001
Retention	a student's continuous enrollment in a graduate program; the ability of an institution to retain a student from admission through graduation; for undergraduates - a percentage measurement of freshmen who re-enroll as sophomores the following year at the same institution	Baird, 1993; Campbell & Nutt, 2009; Texas Guaranteed Student Loan Corporation, 1999
Self-efficacy	the student's level of self-confidence regarding their personal ability to accomplish certain goals	Astin, 1985
Socialization	a learning process whereby students acquire the "knowledge, skills, attitudes, values, and norms of the profession"	Bragg, 1976, (p.1)
Stop-out	one or more temporary departures from a degree-seeking program by an enrolled graduate student who ultimately graduates during a six-year time frame	DeRemer, 2002; Girves & Wemmerus, 1988
Student attrition	cessation of individual student membership in an institution of higher education	Bean, 1980
Student culture	"those attitudes, values, beliefs, and activities that	Conrad, Haworth, & Miller, 1993, (p. 104)

	shape how students interact with one another within master's programs"	
Student engagement	student involvement in activities and relationships which foster high quality learning as well as positive learning outcomes	ACER, 2011; Caulfield, 2010
Student satisfaction	the degree to which the student's experiences met their level of expectations in the learning environment	Girves & Wemmerus, 1988
Student success	broadly includes academic achievement, attainment of knowledge, skills, and competencies, attainment of educational goals, and graduate degree progress	Campbell & Nutt, 2009; Girves & Wemmerus, 1988
Turnover	analogous with dropout; used in business organizations when an employee leaves the organization	Bean, 1980

Focus of the Study

The study will focus on degree-seeking graduate students in MBA and M.Ed. programs at one private college who began their studies in the academic years of 2005, 2006, and 2007 and their perceptions and experiences as related to student engagement, satisfaction, and retention in designated master's programs. These specific programs were selected for inclusion in this study because they were well-established and yielded graduates during the designated time frame. These specific years were selected because they included the most recent graduate students who matriculated and had the opportunity to complete their degrees within the six-year time frame specified by the college.

Significance of the Study

The study is significant because it seeks to identify the role of performance, engagement, satisfaction, and alienation and their impact on retention outcomes. It includes students who did and did not complete designated graduate programs during this time frame. Once retention factors are identified, they may be utilized by the College's administration to enhance retention practices and policies, increase retention and degree completion rates, and improve the life cycle of graduate student relationships with the College. The results of the study also will provide greater depth of knowledge about retention factors at the graduate level in higher education institutions.

Delimitations

The delimitations of the study are that the research only focuses on specific master's degree programs (MBA and M.Ed.).

Limitations

The study is limited to those graduate students beginning MBA or M.Ed. degree programs in 2005-2007 at one private college and their self-reported survey results. Self-reported data cannot be independently verified and may contain potential sources of bias. This is the result of participants' use of any or all of the following: selective memory, telescoping, attribution, or exaggeration (University of Southern California Libraries, 2013). Therefore, the results may not be precisely accurate for this college and may not be generalizable to other higher education institutions.

Chapter II

Literature Review

The literature review begins with an exploratory analysis of retention theories and models. Categorization of the models varies as does the definition of retention and attrition based on the population (i.e., undergraduate or graduate) being studied. Typical classifications of models include sociological, psychological, organizational, economic and interactional (Braxton, 2000; Miller, 1991; Tinto, 1993). The examination in this study begins with theories and models applicable to the undergraduate population to provide a basic understanding of student retention and then expands to include the graduate student population and investigation of business models applicable to higher education retention. Because the characteristics of the graduate student population differ significantly from the undergraduate student population and the research on the graduate population is limited, it is essential to explore the undergraduate theories and frameworks along with applicable business retention models to gain a basic understanding and foundation for conceptualizing graduate student retention. Subsequently, the chapter concludes by identifying gaps in the literature which support the rationale for this study.

Undergraduate Theories

At the undergraduate level, a plethora of research has focused on the subject of why students “drop out” or depart from institutions of higher education (IHE). The results, however, have not always proven useful in providing institutions with meaningful data and explanations for departure behaviors/occurrences. Tinto (1987, 1993) noted that,

“most so-called theories of departure are in actuality atheoretical in character” (p. 84), and result in models that lack consistency in explanations and relationships.

Of primary significance is Tinto’s (1993) Longitudinal Model of Institutional Departure, which many researchers have identified as the most widely accepted and tested model for student attrition (Ackerman & Schibrowsky, 2007; DeRemer, 2002; Ethington, 1990; Gross, Lopez, & Hughes, 2008; Jensen, 2011; Meyer, Bruwelheide, & Poulin, 2009). Tinto’s original attrition model was conceptualized in 1975 and then revised in 1993 to include the following additions: student intentions and external commitments as part of personal goal/institutional commitments, formal and informal components of academic and social systems, and the role of external commitments. As shown in Figure 2.1, the model provides an explanation for students’ departure based on individual characteristics and interactions within the academic and social systems of the institution and its associated communities.

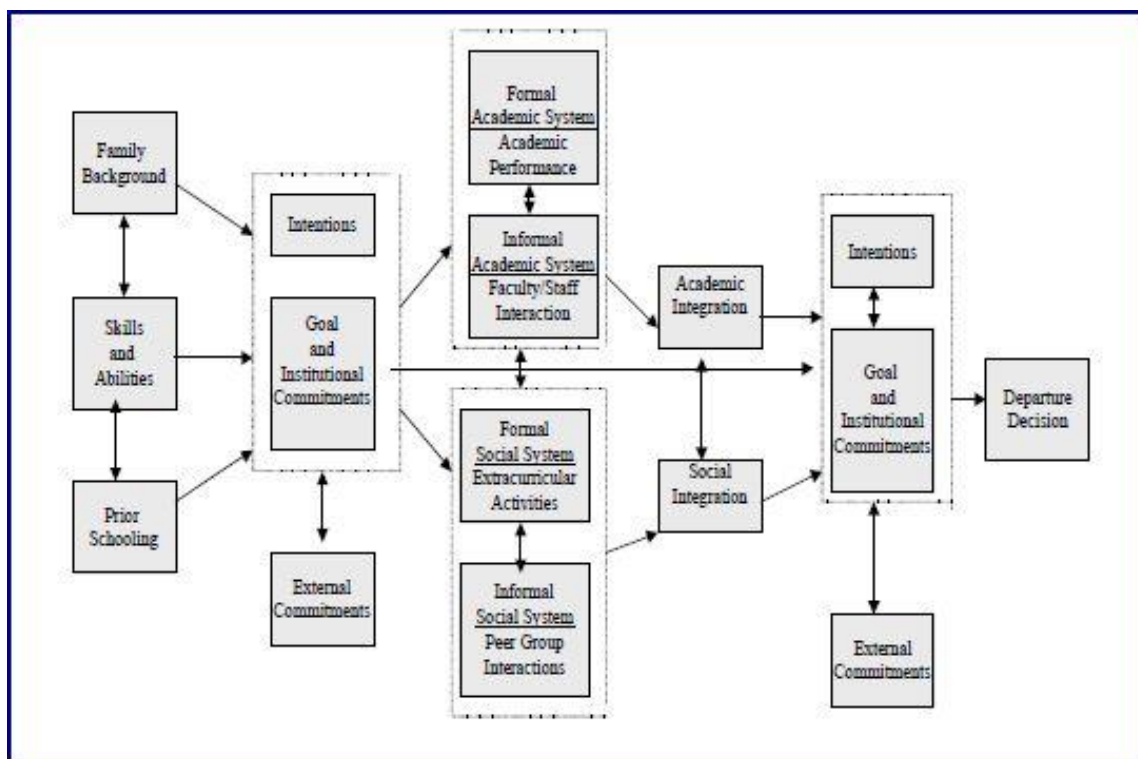


Figure 2.1. Tinto's Longitudinal Model of Institutional Departure. Reprinted from Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition* (p. 114). Chicago: University of Chicago Press. Copyright 1993 by the University of Chicago Press.

The students' individual characteristics include the pre-entry attributes of prior schooling, skills and abilities, and family background, as well as goals/commitments at the personal, institutional, and external levels. Once immersed in college, the academic integration includes the student's academic performance as well as their interaction with faculty and staff, while social integration includes the student's involvement in peer group interactions and extracurricular activities.

Tinto's (1993) model concluded that the greater the level of academic and social involvement, or student engagement, the greater the student's persistence. While integration was not as crucial for students at two-year colleges, it has been credited with explaining the rationale for departure of traditional age students at four-year colleges

(Meyer et al., 2009). The model also identified the importance of the institution's responsibility for integrating students, particularly freshmen or other beginning students, and the benefits of developing freshmen interest groups and learning communities through the process of collaborative learning as evident at the University of Oregon, University of Washington, and Syracuse University (Tinto, 1993).

Tinto's model (1975) was utilized in research by Grosset (1991) to study the impact of student attributes and interactions as related to the persistence of younger (ages 17 to 24 years) and older (25+ years) undergraduate students. Research results from this longitudinal study indicated integration was more important for persistence in the younger group than in the older group; and for the older group, self-assessed study skills were the main determinant of persistence. Furthermore, both groups rated perception of personal and cognitive development, along with goal commitment, as being important to persistence decisions.

Research by Bean and Metzner (1985) focused on non-traditional students, aged 24 and older, who were employed. Findings from their research contrasted with Tinto's (1987, 1983) as these students were less influenced by college social integration, placed higher value on the quality and future applicability of education being received, and valued encouragement/support from family, friends, and employers. Academic integration, financial support, and time were also seen as essential components of student success. Thus, environmental factors (e.g., finances, hours of employment, family responsibilities, and opportunity to transfer) were seen as influencing departure decisions of adult students at the undergraduate level more so than academic factors.

Additional research by Bean (1980, 1983) further supported and expanded Tinto's undergraduate student retention model by applying organizational concepts of employee turnover from industry and student attrition to the development of a Model of Work Turnover to Student Attrition as shown in Figure 2.2. According to Bean (1980), the purpose of the study was three-fold and included application of an adapted causal model of employee turnover in business (originally developed by Price, 1977) to attrition in higher education; provided a framework within which to test the applicability of the model to explain student attrition; and ranked designated variables and their ability to clarify variations in student attrition.

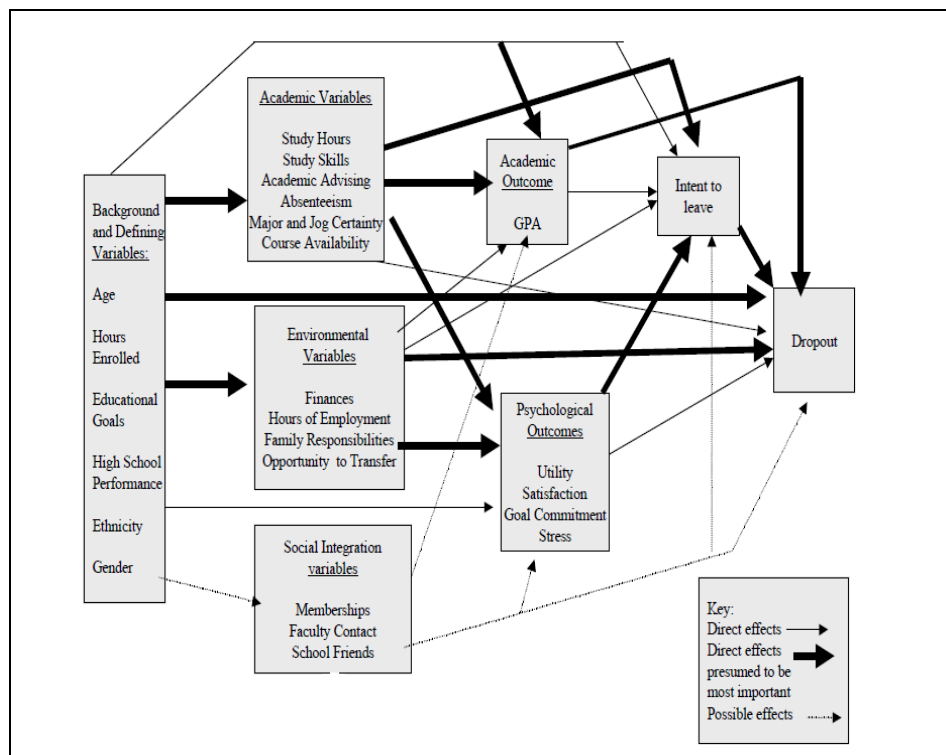


Figure 2.2. Bean and Metzner's Attrition Model. Reprinted from Bean, J.P. & Metzner, B.S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), p. 491.

While the final turnover model proved useful in predicting student attrition (dropout), the research also suggested that men and women departed higher education for a variety of reasons. Institutional commitment (i.e., importance students attributed to attending one particular college and/or importance of graduating from that college) was cited as the most important variable for both groups in explaining departure. In addition, opportunity variables (e.g., optional roles of student, employee, or dependent) had the highest path coefficient for females and the second highest for men when identifying the variables significantly relating to institutional commitment. For women, satisfaction was a significant intervening variable, and both groups rated performance as the most important background variable.

In addition, research by Pascarella and Terenzini (1980) focused on the development of a multidimensional instrument to assess the main concepts of Tinto's model as well as its predictive validity for freshmen who persist or depart. In their research study, Pascarella and Terenzini (1980) controlled for the pre-entry attributes in Tinto's model in an attempt to determine the degree to which social and academic integration, as well as institutional goals/commitment, contributed to freshmen's persistence and departure decisions as shown in Figure 2.3.

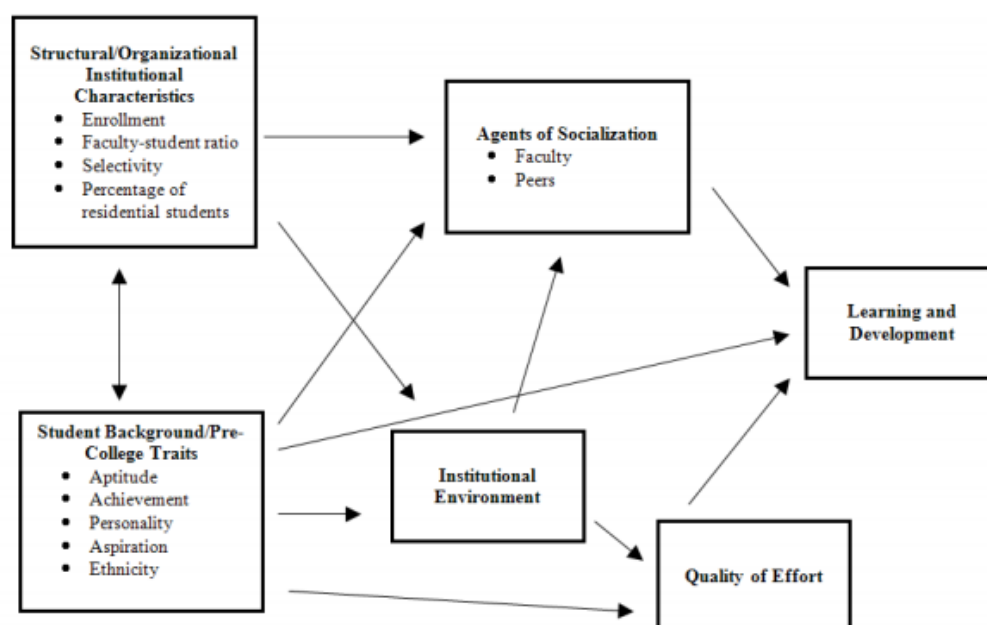


Figure 2.3. Pascarella's Attrition Model. Reprinted from Pascarella, E. T., & Terenzini, P.T. (2005). *How College Affects Students: A Third Decade of Research* (p.57). San Francisco: Jossey-Bass. Copyright 2005 John Wiley & Sons, Inc.

The five institutional integration scales (i.e., peer-group interactions, interactions with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitments) were capable of correctly identifying 78% of students who persisted and 75% of the students who dropped out. Although limited to a single university and single sample, the results of the study supported the predictive validity of the basic concepts of Tinto's (1975) model and suggested the use of the five scales constructed for measurement predictors of persistence/departure decisions. Results also suggested the quality and intent of informal and formal student-faculty contacts could be critical elements in social integration and freshmen students' decisions to stay or withdraw.

Furthermore, Astin's (1985) longitudinal research of college dropouts resulted in his Theory of Student Involvement which suggested the more involved a student is in college, the greater their chances for persistence (retention). Astin (1985) posited, "student involvement refers to the amount of physical and physiological energy that the student expends in the academic environment" (p.518). Student involvement was identified as a continuous process with measurable and identifiable attributes. Those features, in turn, have a direct proportional relationship to the amount of student learning and personal development that occurs within any educational program. In addition, the Astin study suggested the effectiveness of an institution's educational policy was directly measured by its capability to increase student involvement.

Astin's (1985) theory explains how students develop or change based on inputs (demographics, background, and previous experiences), environment (collective college experiences), and outcomes (knowledge, attitudes, and beliefs after college). As institutions of higher education provide students a wide variety of opportunities to become involved in academic and social opportunities, the "fit" between the student and college became stronger and bonded the student's ability to identify with the institution and its environment.

Each of the theories and models discussed so far have focused on undergraduate behavior and whether or not students persisted from their freshman to sophomore years or dropped out. The studies lacked information on degree persistence or degree completion and the impact of financial support on student retention. As the focus of the literature review shifts from the theoretical framework established at the undergraduate level to implications for graduate student retention, it is important to acknowledge the

difference in characteristics of undergraduate and graduate students.

Characteristics of Graduate Students

Baird (1993) indicated that, as compared to undergraduate students, graduate students are generally older, have prior experiences in higher education and their program/discipline/profession, typically have work experience, may have family responsibilities, and may have prior educational debt. In addition, graduate students return to higher education for a variety of reasons which include professional development, certificates, or degree-seeking programs. They also vary in their time to degree completion and may stop-out and restart multiple times based on their personal situation and professional development goals. Time limits for master's degree completion vary from institution to institution and generally range from 5-8 years (Associate Registrar, personal communication, November 10, 2012). Research conducted in a 1993-2003 study by the National Center for Education Statistics (2007) indicated that 60% of students who entered a master's degree program during that 10-year time period successfully completed their degree requirements, and the average degree completion time was 2.7 years.

Knowles (1970) further illustrated the differences between undergraduate and graduate students through the comparison of pedagogy and andragogy models. "Andragogy is defined as the art and science of helping adults learn, in contrast to pedagogy as the art and science of teaching children" (Knowles, 1970, p. 43). In the pedagogy model, the learner is seen as dependent and teacher driven while the andragogy model views the learner as self-directed with teacher support as needed. Thus, the adult learner is performance centered, has the ability to control their learning through

interaction with their environment, and learns more effectively through effective learning-teaching interactions.

Graduate Theories and Models

Because of these differences (e.g., maturity, obligations, career goals/aspirations, financial stability), research has suggested that graduate students do not necessarily “fit” into the theoretical models developed for undergraduate students. Katz (1976) developed a psychological model that identified three distinct stages of graduate student development with emphasis on the relationship between personal development and intellectual growth. The stages identified by Katz (1976) included the following: 1) entry: when a student’s level of confidence and subject mastery are first challenged; 2) active coping: when coursework is viewed as more manageable and professional identity is established; and 3) mastery: when students are able to achieve balance with discipline specific program knowledge and reality. In each stage, certain attributes were linked to attrition and slow degree progress. With graduate student attrition, the initial stage was characterized by a student’s lack of self-confidence and unrealistic view of the program and faculty. In the middle stage, students faced limited communication and interaction with peers and faculty while the final stage was one of limited program discipline development and compliance with faculty directives.

In addition, Tinto (1993) identified the link between attrition and slow degree progress as related to graduate student development in his research with factors associated with student persistence at the doctoral level. These stages, according to Tinto (1993), included the following: 1) transition to membership in the graduate community through interactions with peers and faculty having similar values and norms in both

academic and social settings; 2) attaining candidacy through the development of competence inside and outside of the classroom with peers and faculty members; and 3) active research through dissertation development and interaction with the dissertation chair. Tinto acknowledged the impact that certain factors, such as family and work commitments as well as financial aid and assistantships, could have on persistence. Attrition and slow degree progress were linked to insufficient social and academic interactions and lack of career goals in stage one, insufficient relationships and communication in stage two, and inadequate relationships with one or more faculty members in stage three.

Explanations for graduate student attrition were also evident in the process model or “model of knowing” as developed by Berkenkotter, Huckin, and Ackerman (1991), which focused on discipline specific literary competency. This was defined as the acquisition and mastery of departmental and professional specific norms of speaking, writing, and thinking. Acquisition of these norms was considered essential for the students’ inclusion in the learning community and successful socialization into the profession. While this model did not have designated stages, attrition and slow degree progress were linked to lack of comprehension for the “model of knowing,” insufficient relationships/communication with faculty, and inability to master the literacy components of the discipline.

Baird (1993) supported an integrated approach of the three models developed by Katz (1976), Tinto (1993) and Berkenkotter et al. (1991) for graduate students by identifying faculty and student peers as integral parts of each model and the catalyst for socialization into the specific discipline and its associated community of learners. Baird

further acknowledged that graduate students have multiple roles, personally and professionally, and those roles may enhance or detract from the individual's degree progress. Attrition was linked with lack of "fit" to the academic and social communities, lack of personal support systems, and obligations (e.g., family, employment, and/or financial). High completion rates and reduced time to degree completion were credited to departments and programs that embraced graduate students and provided clear paths of integration, both academically and socially, while also periodically monitoring student progress.

Girves and Wemmerus (1988) built on the theoretical models of Spady (1971), Tinto (1975), and Bean (1980) and added the factors of student/advisor relationship and financial support to a conceptual model for graduate student degree progress. Their two stage model illustrated how the four sets of variables in stage one were expected to affect the intervening variables in stage two, which were related to Tinto's concepts of academic and social integration as shown in Figure 2.4.

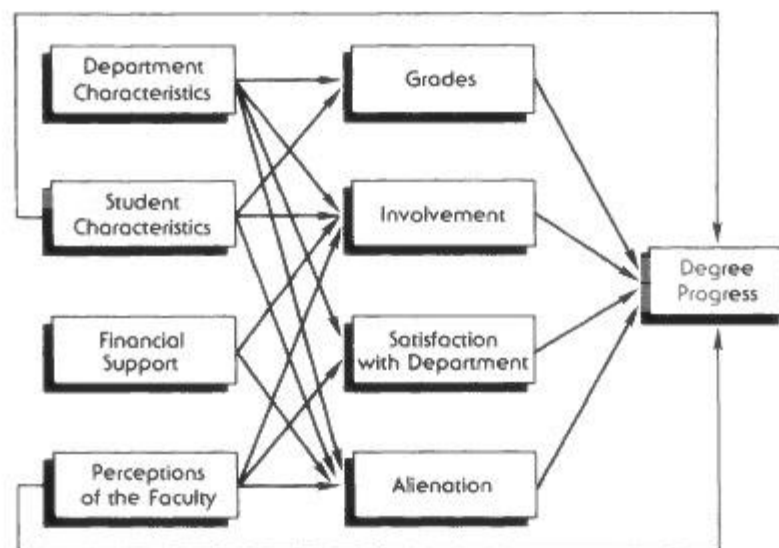


Figure 2.4. Conceptual Model of Graduate Student Degree Progress.
 Reprinted from Girves, J. E. & Wemmerus. (1988). Developing models
 of graduate student degree progress. *Journal of Higher Education*, 59(2),
 p. 166.

Girves and Wemmerus' (1988) study focused on all entering graduate students from multiple departments and colleges in both master's and doctoral programs at one college. They used student records to gather data for this population, and these included age, gender, ethnicity, residence status (U.S. citizen or foreign), GPA, and fulltime or part-time status. Their survey instrument measured students' experiences during and after graduate school. The survey had a 59% response rate, and the sample was subsequently divided into two subsamples of degree progress based on either masters or doctoral degree intentions.

Girves and Wemmerus (1988) used hierarchical regression analysis to predict progress toward degree attainment for each subsample which resulted in two models—one for the master's level and one for the doctoral level. They found that academic integration factors predicted graduate degree progress for both models. At the master's level, graduate grades were the best predictors of degree progress while involvement in one's program was the best predictor at the doctoral level. In addition, student/faculty relationships and the department's characteristics were important to both groups, but the social integration concept did not predict degree progress for either group. Even though Girves and Wemmerus (1988) did not attempt a goodness of fit or hypothesis test for the model as a whole, their descriptive method focused on their conceptual model and allowed them to thoroughly describe relationships that were identified for master's and

doctoral participants. Their research suggested the applicability of these models as a basis for future research on graduate student degree progress.

As noted earlier, one factor closely correlated to student degree progress is student engagement. Caulfield (2010) provided a narrow definition of student engagement as “students’ ability to achieve learning tasks associated with academic work” (p. 2). Student engagement at the undergraduate level has previously been measured by the National Survey of Student Engagement (NSSE, 2014), which framed five specific categories of engagement with associated outcomes of personal development and educational learning, and correlated to Astin’s Theory of Student Involvement (1985). Wang (2003) developed and tested a graduate student engagement model through the use of a Graduate Student Survey (GSS) instrument similar to the NSSE.

Wang (2003) distributed the GSS electronically to a random sample of graduate students at one university and had a response rate of 41%. The study included students in both master’s and doctoral programs, and one out of three respondents was an international student. The findings supported previous research by Tinto (1987) and Baird (1993) and suggested that master’s and doctoral students demonstrated consistent patterns of student engagement regardless of classification as full time/part-time or gender. Overall, students pursuing teaching careers in higher education were more engaged socially and academically than those students planning to pursue research in higher education or work in industry. In addition, Asian students were less involved than other ethnicities. Wang indicated the study demonstrated the need for a valid and reliable graduate survey instrument to measure student engagement uniformly across all higher education institutions.

Student engagement was also the focus of research by Caulfield (2010) who developed a conceptual model for learning task engagement at the graduate level. This model viewed student engagement as the product of affective, behavioral, and cognitive factors as they related to the level of engagement specific to a learning task. This research used a purposive convenience sample for graduate students who enrolled in master's programs delivered in hybrid format at one private Midwestern university.

Caulfield (2010) measured student engagement through a self-report survey. A statistically significant positive relationship was found with the four predictor variables of value, effort, difficulty, and self-efficacy and the outcome variable of engagement. In addition, the data analysis for value and effort predicted 93% of the variance in student learning task engagement. Statistical analysis supported the literature link between achievement and grades with students indicating higher achievement on engaging tasks as compared to assignments ranked as least engaging.

Consequently, while research on graduate student engagement is limited, it has become more prevalent perhaps due to advancements in technology which have changed the landscape of learning in higher education. One model, the Community of Inquiry Model, was initially developed by Garrison, Anderson, and Archer (2000) as a tool for educators to use in facilitating computer conferencing (see Figure 2.5).



*Figure 2.5. Community Model of Inquiry. Reprinted from Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), p. 88.*

The Garrison et al. (2000) model integrates the three elements of social presence, cognitive presence, and teacher presence into a Venn diagram concept. The presence and interaction of the three elements are essential for a learning experience and student engagement in higher education. The three elements also parallel Knowles' (1970) andragogy assumptions for adult learners as the learner demonstrates a readiness to learn and the ability to construct meaning from their experiences and interactions. Originally developed as a model for hybrid learning, its applicability to traditional educational learning environments has not been studied.

Meyer et al. (2009) also used the Community of Inquiry Model to identify why students enrolled and persisted in an online certificate program. The sample of graduate students was limited to those enrolled in one college's 21 credit hour certificate program in library media. The program was offered in an online hybrid format and had a retention rate of 96 percent. Intrigued by the high retention rate, Meyer et al (2009) attempted to

identify the reasons students stayed in the program and how they “fit” per the established theories of Tinto (1993), Bean and Metzner (1985), and Garrison et al. (2000). In addition to assessing social presence and cognitive presence, this study also assessed faculty’s teaching presence.

In the Meyer et al. (2009) study, participants completed an online survey, developed by the university and the research funding agency. The survey instrument included demographic information and two open-ended questions requesting participants to list their top five reasons for enrolling in the program, as well as their top five reasons for staying enrolled, in addition to Likert-scale questions. Findings suggest students’ main reasons for enrolling in the online certificate program were flexibility/convenience and job related training. In addition, their reasons for remaining enrolled included flexibility/convenience as well as faculty and personal reasons. These findings suggest the presence of academic integration indicators per Tinto’s model as well as Bean and Metzner’s non-traditional adult retention model. In using the Community of Inquiry Model for analysis, the faculty’s social presence was rated slightly higher than their teaching presence while the quality of the course was rated as the primary reason for staying enrolled with the qualities of the faculty (personal and interpersonal) ranked second. Further research is needed to determine if the Community of Inquiry Model is applicable to traditional on-campus programs and whether reasons for persistence identified by online learners can also be applied to traditional learners.

Additional research on master’s programs was conducted by Conrad, Haworth, and Miller (1993). Their two-year, national, qualitative, multi-case study was endorsed by the Council of Graduate Schools and utilized interviews with 781 stakeholders from

47 master's programs and 11 programs of study. Using a "positioned subject approach to inquiry," the researchers focused on individual stakeholder's interpretation of their master's education experience and included the following six stakeholder groups: institutional administrators, program administrators, faculty, students, alumni, and employers. The research results detailed stakeholders' experiences and also provided a framework as well as identification of attributes for quality master's programs.

Cross-program analysis resulted in identification of five key stakeholder decisions which then characterized four specific categories of master's programs and their differences. Primary decision choice categories influenced stakeholders' experiences and included: 1) approach to teaching and learning; 2) program orientation; and 3) departmental support. In addition, auxiliary decisions made by institutional administrators and students influenced the quality of the master's programs, too. Within this category, institutional administrators chose to either support or not support specific graduate programs based on a program's link to the college's mission and values. Second, the type of student culture impacted students' overall learning experiences. Conrad et al. (1993) defined student culture as "those attitudes, values, beliefs, and activities that shape how students interact with one another within master's programs" (p. 104). For this, the researchers acknowledged that faculty influenced student culture to a point, but students themselves continuously determined culture through their level of peer interactions. The research also identified a long-term effect of student culture when alumni, as a result of their personal experiences, opted to recruit and support graduate programs after their graduation.

Next, the research results designated four types of master's programs which were categorized as ancillary, career advancement, apprenticeship, and community-centered. Per Conrad et al. (1993), most master's programs in the United States would fit into one of the four types and the associated stakeholders would have similar experiences.

Ancillary master's programs were characterized as pre-Ph.D. programs while career advancement programs were characterized as professional-oriented programs taught by experienced faculty. In addition, apprenticeship programs prepared students to become masters of a skill or craft while community-centered programs created a professional learning community for specific individuals with particular interests.

A final data analysis by Conrad et al. (1993) provided designated attributes of high quality master's experiences. These included four specific areas which were grouped as follows: 1) culture; 2) planned learning experiences; 3) resources; and 4) leadership and the human dimension. The first attribute, culture, was characterized by a designated leader (s) with a shared vision for the program who provided an open door policy for stakeholders. In addition, the culture needed to provide opportunities for stakeholders in the student, alumni, and employer groups to participate in decision-making opportunities for the program to foster a sense of ownership.

Culture was also well defined in successful master's programs that exhibited "an ethic of cooperative support and rigorous intellectual challenge" (Conrad et al., 1993, p. 296). The intellectual challenge encouraged risk taking and also promoted an environment of mutual respect and trust where failures were accepted and learning was encouraged outside of the box.

The second attribute, planned learning experiences, provided discipline specific or multi-disciplinary coursework as it related to basic theoretical concepts. This attribute provided for qualified faculty, adequate enrollments, and special embedded experiences such as internships or practicums. Conrad et al. (1993) noted that advisor/advisee relationships were essential for planned learning experiences to be successful along with faculty involvement and support for research and culminating projects. Activities beyond the classroom enhanced planned learning experiences by developing a sense of community for stakeholders through lunch and learn events, workshops, and socials.

The third attribute of resources included both institutional and departmental support. Important components within this attribute as identified by Conrad et al. (1993) were adequate facility and resource requirements and promotion/tenure policies for faculty. The final attribute, leadership and the human dimension, overlapped with some of the other three attributes as it recognized the importance of a leader with a shared vision who was willing to listen to stakeholders and offer them decision-making opportunities. The researchers viewed leadership as “a linchpin that connects the various components of a master’s program and provides the essential glue that enables participants to cultivate an enriching master’s experience for everyone involved” (Conrad et al., 1993, p. 310). In addition, the researchers noted that a shared commitment between faculty and students was essential for the success of individual programs as it allowed for the maximization of the “fit” between faculty members’ areas of expertise, a program’s objectives, and students’ personal development goals.

Furthermore, the lack of “fit” between the graduate student and the program was one of four main reasons for student departure identified in a research study by Lovitts

(2001). Although focused specifically on probable causes of doctoral attrition, the mixed methods research study provides insight and information applicable to graduate programs in general. Utilizing a social theory context, Lovitts' research suggests that doctoral attrition was not due to students' lack of academic ability but due instead to the lack of integration opportunities and lack of understanding a university's graduate policies, procedures, and expectations.

Using data from 511 Ph.D. completers and 305 non-completers from nine departments (i.e., biology, chemistry, economics, English, history, mathematics, music, psychology, and sociology) who were enrolled in an urban university (private research university in large city) and a rural university (public research university in a small town) during 1982-84, Lovitts (2001) concluded that non-completer Ph.D. students typically left programs in silence. By failing to provide higher education administrators with feedback, non-completers fueled the *fundamental attribution error* and allowed the blame for departure to be placed on students rather than on the situational factors within the institutions.

Lovitts' (2001) research identified four main causes of student departure. The first cause was lack of information which resulted in a lack of "fit" between students and their program. Many students lacked understanding of the graduate school experience beginning with the application and selection process and continuing through inadequate orientation programs. The data suggest the importance and need for institutional cognitive maps for prospective, admitted, and current students not only for policies and procedures but also to promote congruency between students' expectations and experiences. In addition, cognitive maps help graduate students gain an understanding of

the graduate school process and structure on both a large and small scale. Global cognitive maps provide the total picture of the formal graduate school structure and requirements while the program cognitive maps provide specific information about the informal expectations as they relate to academic and social integration. Per Lovitts (2001), valid cognitive maps are the product of interactive academic advising as well as students' interactions with faculty and peers. The lack of cognitive maps fuels departure decisions.

The second cause of student departure was absence of community. Here, Lovitts (2001) noted that adequate resources allowed students to have opportunities for academic and social integration at both the departmental and institutional levels which in turn foster a sense of community. While the primary purpose of graduate education focuses on academic integration, it is social integration, a byproduct of the higher education environment, which ultimately creates the communities and social bonds which influence completion or non-completion decisions (Lovitts, 2001). Thus, the researcher advocates creating a sense of community by fostering on- campus academic and social integration opportunities through graduate student lounges and office spaces, brown bag lunches, symposiums, sporting events, and on and off-campus social events for students and faculty.

The third cause of student departure was disappointment with the learning experience indicating student's expectations did not match their experiences. In this case, students' disappointment with faculty, the program, peers, and/or the learning environment resulted in lack of "fit" with the university and contributed to departure decisions. The data reinforces the importance of institutional cognitive maps for

prospective, admitted, and current students not only for policies and procedures purposes but also to promote congruency between students' expectations and experiences. In addition, the importance of cognitive maps was stressed not only for graduate students but for undergraduate students, too, through formal pre-graduate advising opportunities, shadowing or assigning graduate mentors, and developing research interests through dissertation readings.

The fourth and final cause of student departure was the quality of the adviser-advisee relationship. The survey and interview data suggest that non-completers were more likely to be associated with advisers who were labeled as low-producers and provided less guidance and/or opportunities for academic and social engagement. Lovitts (2001) summarized the importance of an adviser by stating, "the adviser is often the central and most powerful person not only on a graduate student's dissertation committee but also during the student's trajectory through graduate school" (p.131). Major reasons cited in the research for satisfaction with the adviser included intellectual/professional development, personal interest in the student, professionalism, personality, advising style, and accessibility.

Furthermore, as reasons and patterns for departure emerged from the research, Lovitts (2001) also noted that decisions to leave were based on multiple rather than singular reasons. Almost three-fourths of the non-completers in this research study cited a combination of academic and personal reasons for departure. In the area of academics, non-completers cited dissatisfaction with program, adviser, or faculty as the primary reasons for departure. Interestingly, academic failure (i.e., GPA or exams) was not an explanation for departure. While almost half left for academic reasons, 23% left for

personal reasons, 19% for financial reasons, and the remaining 9% for miscellaneous reasons.

Because higher education institutions typically resist customer-driven business models and change, Lovitts (2001) emphasized the need and benefit of frequent climate and culture assessments at the graduate level. Suggestions included utilizing focus groups and exit interviews as a means to obtain necessary data to drive decisions for reward structures for faculty and programs. In addition, Lovitts (2001) classified graduate students as consumers who make choices regarding education purchases and subsequently decide whether to stay or leave a university. Thus, her findings suggest business model approaches may warrant serious consideration by higher education institutions.

Business Models

Each of the models discussed thus far, whether for undergraduate, graduate, traditional, or online students, has framed basic concepts of student retention and attrition in an educational context. The use of business models to explain attrition in a higher education environment was initially utilized by Bean (1980, 1983) who developed the Industrial Model of Work Turnover which applied organizational concepts of employee turnover from industry and built on the adapted causal model of employee turnover in business (originally developed by J.L. Price in 1977). Bean's model viewed student departure through an organizational lens with a focus on attributes and rewards specific to higher education and their relationship to student satisfaction (Tinto, 1993). This provides a rationale for exploring higher education through a business or organizational model since higher education institutions, much like businesses, have, "formal structures,

resources, and patterns of association” (Tinto, 1993, p. 89) which directly impact all stakeholders (i.e., students, staff, faculty, parents, and alumni). Those formal structures, resources, and patterns of association vary from one institution to another, are the direct result of administrative decisions, and ultimately impact institutional effectiveness and institutional retention rates (Tinto, 1993).

In viewing retention from a business model perspective, Ackerman and Schibrowsky (2007) explored the adaptation of a customer relationship marketing (CRM) framework aimed at customer retention to one of student relationship marketing (SRM) for higher education. The SRM model was designed to build student relationships and thereby increase loyalty and retention as well as future alumni networks in higher education. This concept is illustrated in Figure 2.6, Student Relationship Marketing Model.

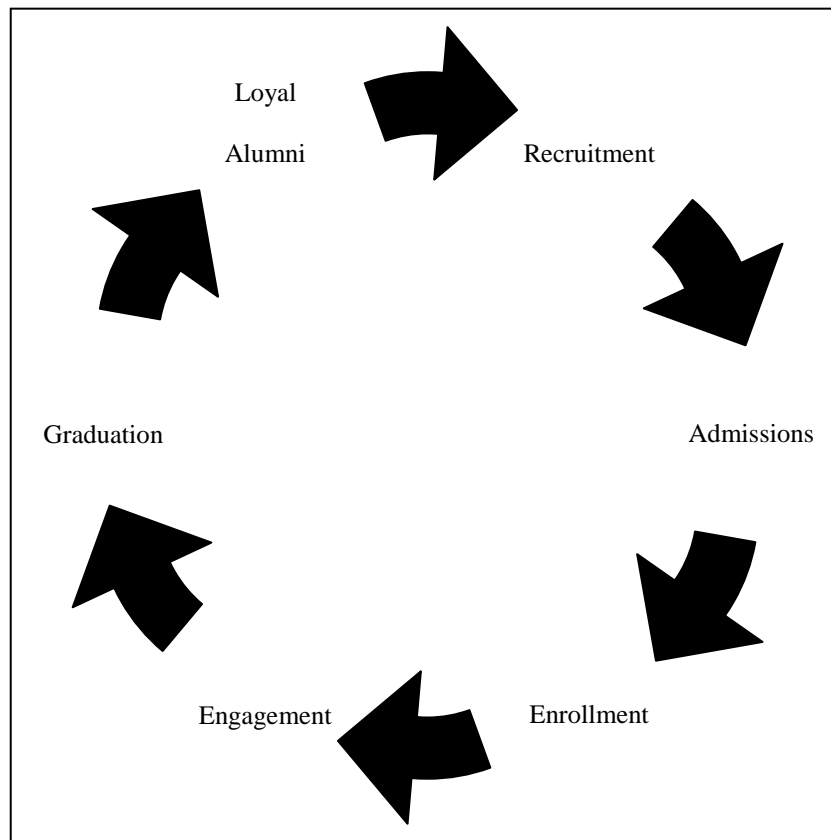


Figure 2.6. Student Relationship Marketing Model based on concepts from Ackerman & Schibrowsky. (2007). A business marketing strategy applied to student retention: A higher education initiative. *Journal of College Student Retention*, 9(3), p. 329.

The key concepts in the SRM model by Ackerman and Schibrowsky (2007) illustrate how an increase in retention rates had a compounding cumulative effect as every student had a lifetime value (LTV). Basically, the LTV of students can be used to provide financial measurements and justification for retention efforts. Ultimately, it costs less to keep current students than it does to recruit new ones. At the same time, from a revenue generating perspective, not all students are equal, and some place more demands on institutional resources than others in SRM. The relationship paradigm advocated by this model focused on learning as much as possible about students and then using the data

to provide services for them. This data could also provide information as to why students choose to stay or depart.

According to Ackerman and Schibrowsky (2007), SRM should focus more resources and efforts on student retention than on student recruitment which is contradictory to the current marketing model. In SRM, retention is everyone's responsibility, and relationships are built on commitment and trust. This coincides with Tinto's (1993) model that cited commitment, or a desire to maintain valued relationships, as a factor of retention. Overall, SRM aims, "to recruit and retain quality, profitable students" (Ackerman & Schibrowsky, 2007, p. 321) through the relationship life-cycle from recruitment, retention, and graduation to alumni relationships. This is accomplished through the SRM model for student retention that focuses on activities and programs that develop relationships through financial, social, and structural bonds.

In the SRM model, Ackerman and Schibrowsky (2007) noted the interrelatedness and importance of each of the three bond components. Financial bonds are viewed as the weakest but easiest to establish and hardest to sustain. Social bonding activities include interactions between the student and the institution as well as with faculty and peers. It is through social bonding activities that student engagement or involvement is determined and decisions are made regarding student persistence or attrition. Structural bonds are the most difficult to establish and the strongest. They essentially add value to the relationship and make it difficult for students to leave by creating barriers or associated costs for departure. Retention has a positive correlation to each of the bonding elements, and the best retention model would include all three components.

The structural bonding model paralleled, to an extent, the importance of “fit” as it pertained to academic and social integration (Tinto, 1993) and the impact of fit on students’ persistence or attrition decisions. The importance of fit is also evident in the human resource literature as fit also has implications for employee retention and turnover similar to the relationships found between higher education institutions and student attrition (Allen, Bryant, & Vardaman, 2010; Moynihan & Pandey, 2007; O’Connell & Kung, 2007).

This concept of structural bonding can be explained in terms of job embeddedness which takes into account the numerous ways employees become vested in their jobs and their communities through relationships and connections with links, fit, and sacrifice (Allen et al., 2010). Links pertain to the connections the employee has with other people, coworkers, family, friends, and organizations. Employers foster these links by encouraging community service, teamwork assignments, and mentoring programs. Fit, per previous definition, measures the employee’s self-perception of being in congruence with their job, organization, and/or community. This involves motivational fit as well as person-job fit as research shows a direct correlation to greater job satisfaction, organizational loyalty, and reduced turnover (O’Connell & Kung, 2007). Employers foster fit by sharing accurate information about the organization and its culture, the community, and job expectations. The third connection, sacrifice, pertains to what would be lost by leaving the job which includes advancement and monetary gains, tenure, and community involvement.

Following this further, factors that affect turnover intention are classified into three major categories which include environmental or economic, individual, and

organizational (Selden & Moynihan, 2000). The state of economic conditions is a determinant of an employee's willingness to leave while individual differences, once framed by race and gender, now include age and length of employment as having a negative correlation to turnover. Interactions within the organization deal with factors related to the employee's level of job satisfaction.

Research by Moynihan and Pandey (2007) added social networks and Person-Organization (P-O) value fit to a turnover intention model. P-O fit involves establishing value overlap between the organization and its employees. Their results suggest P-O value fit and internal social networks have the capability to limit turnover while external networks aid the employee in seeking employment outside of the organization.

Thus, the literature on retention and turnover identified similar components that strengthened or weakened the integration of the student or employee into the organization. Interactions within the organizations/institutions provided opportunities for development of commitment and loyalty as well as person-organization fit which determined decisions to persist or depart.

Despite 40 years of research on attrition, the literature suggests the presence of contradictory information and the need to continue research on the complex attrition process in higher education (Tinto, 2006). While most theories and models have focused on undergraduate attrition and utilized one or more components of Tinto's Longitudinal Model of Institutional Departure, the need to connect theory with research and policy in an effort to enhance graduate persistence and degree completion remains a significant concern and challenge for higher education institutions today.

Gaps in the Literature

Research on student retention has typically focused on the undergraduate population and involved program specific samples at individual institutions, thereby limiting generalization of the findings to larger populations. At the same time, research on graduate students is typically limited to cohorts, often at the doctoral level, as degree-seeking master's students frequently have stop-outs during their program of studies which may delay degree progress and completion and make it difficult to track and predict degree progress.

Furthermore, it appears that limited research has been conducted on graduate subgroups such as minorities, women, international students, and first generation graduate students. Graduate research typically focuses on the reasons students leave academia, but the data are not used by institutions to improve their retention efforts and programs. In addition, few studies attempt to identify why students enroll in graduate programs and why they persist to degree completion. No graduate surveys, similar to NSSE, exist to uniformly measure the level of student engagement, student experiences, career aspirations and outcomes for graduate students. The retention models, theories, and research have previously viewed retention as a final outcome and do not look beyond graduation to extend opportunities and relationships with graduate students.

As a result, the literature validates the need to identify why students enroll in graduate degree-seeking programs at the master's level, why they persist, and whether or not retention outcomes extend beyond graduation. This research study will attempt to identify these factors as well as others that impact engagement, satisfaction, and retention outcomes of graduate students at one private college in Virginia. If these factors can be

identified, then the data can potentially be used to enhance graduate retention outcome strategies, policies, and procedures for this and other higher education institutions.

Chapter III

Methods

The methodology for the research design of this quantitative study will utilize official college records and a self-reported student experience survey to attempt to identify the factors related to engagement and retention of degree-seeking graduate students in master's programs at one private college in Virginia. The chapter begins with a detailed explanation of the study's conceptual framework, the participants, a description of the data and survey instrument, and concludes with an explanation of procedures and anticipated data analysis. In addition, the associated appendices identify the student sample, designated fields of student data that will be retrieved from specific databases at this college, and a copy of the survey instrument.

Conceptual Framework

This research study will use a conceptual framework for graduate students adapted from Girves and Wemmerus (1988). After systematically comparing models of retention, this model was selected due to its applicability to graduate students who are typically "working professionals" and influenced by personal and external factors which serve as "push/pull" influences in degree progress and attainment. The model also includes the academic and social integration factors of Tinto's Longitudinal Model of Student Departure (1993) and is not discipline specific. The model used in Girves and Wemmerus' (1988) study explained 30% of the variance associated with degree progress at the master's level and therefore has previous validity and reliability.

This study will use an adaptation of their model as shown in Figure 3, Conceptual Model of Graduate Student Retention. The student attribute variables indicate the push/pull factors while the student outcome variables indicate the academic and social integration which impact retention outcomes.

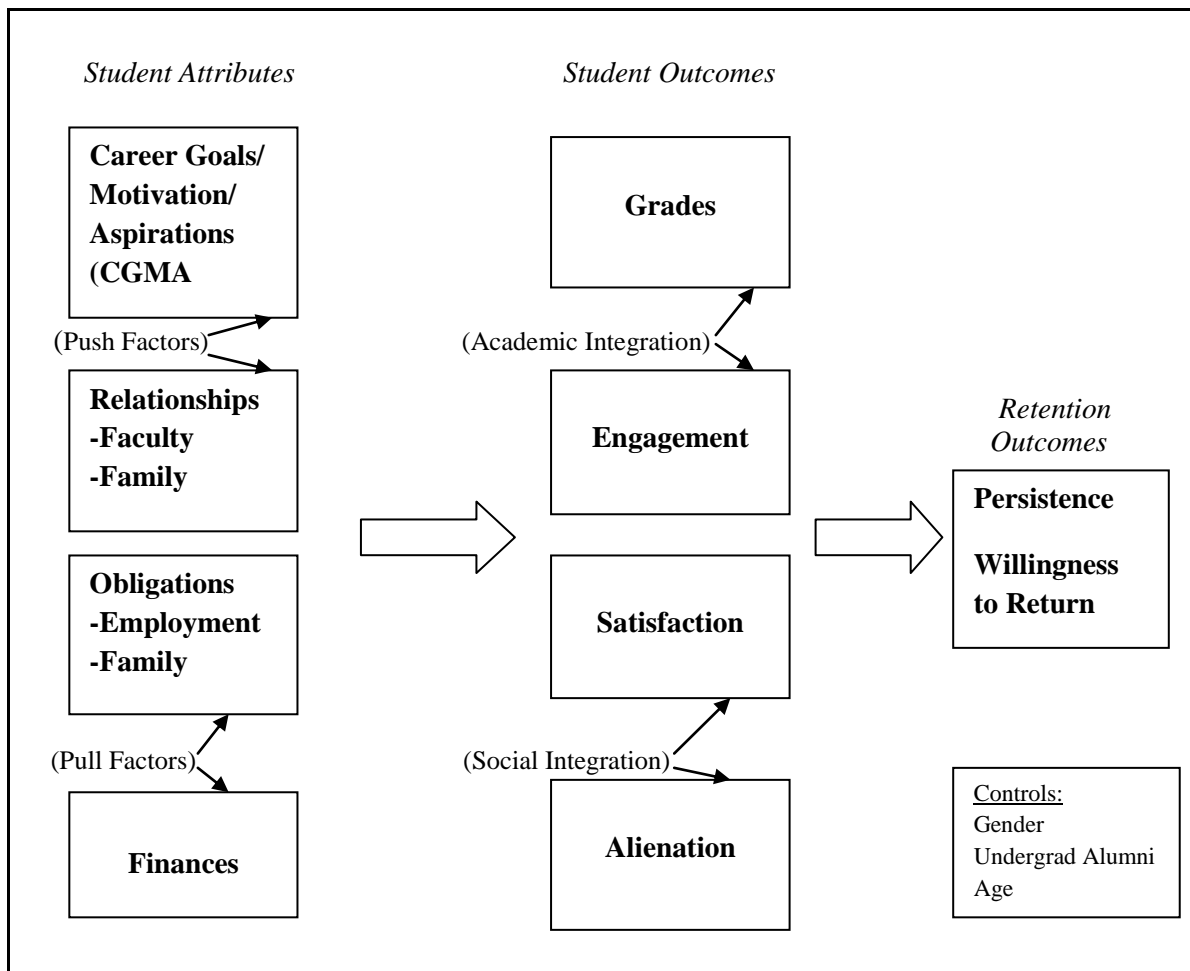


Figure 3. Conceptual Model of Graduate Student Retention. Adapted from Girves, J. E. & Wemmerus, V. (1988). Developing models of graduate student degree progress. *Journal of Higher Education*, 59(2), p. 166.

Hypotheses

Thus, the conceptual model and research questions will test the following hypotheses which are grouped by the associated constructs in the conceptual model.

Student Attributes

H₁: Career goals, motivations, and aspirations (CGMA) will affect student outcomes.

H_{1a}: CGMA will positively affect GPA.

H_{1b}: CGMA will positively affect engagement.

H_{1c}: CGMA will positively affect satisfaction.

H_{1d}: CGMA will negatively affect alienation.

H₂: Relationships with family or faculty will affect student outcomes.

H_{2a}: Relationships with family or faculty will positively affect GPA.

H_{2b}: Relationships with family or faculty will positively affect engagement.

H_{2c}: Relationships with family or faculty will positively affect satisfaction.

H_{2d}: Relationships with family or faculty will negatively affect alienation.

H₃: Family and employment obligations will affect student outcomes.

H_{3a}: Family or employment obligations will negatively affect GPA.

H_{3b}: Family or employment obligations will negatively affect engagement.

H_{3c}: Family or employment obligations will negatively affect satisfaction.

H_{3d}: Family or employment obligations will positively affect alienation.

H₄: Financial obligations will affect student outcomes.

H_{4a}: Financial obligations will negatively affect GPA.

H_{4b}: Financial obligations will negatively affect engagement.

H_{4c}: Financial obligations will negatively affect satisfaction.

H_{4d}: Financial obligations will positively affect alienation.

Student Outcomes

H₅: GPA (grade point average) will positively affect retention outcomes.

H₆: Student engagement will positively affect retention outcomes.

H₇: Student satisfaction will positively affect return outcomes.

H₈: Alienation will negatively affect retention outcomes.

Participants

This purposive sampling will include all degree-seeking graduate students (beginning/new admits) entering the MBA and M.Ed. programs¹ at any time during the years of 2005, 2006, and 2007 at one private college in Virginia. Preliminary data from the College's Office of Institutional Effectiveness indicate this sample included 425 students (see Appendix A). The sampling was limited to these students for the designated years since this College requires degree completion within a six year time frame of initial admissions and enrollment. Thus, the MBA and M.Ed. programs were well-established during those time frames, yielded graduates from their programs, and were within the required time frame (6+ years) to track degree attainment.

Once permission was granted to access the College's databases for this purpose, participants were identified and designated data (per Appendix B and Appendix C) was collected for each student through data programs in the Registrar's Office (INPROGRAM, INGENRL, INSTATUS, and INCOLLG) and the Office of Community Advancement (Raiser's Edge). In addition, was anticipated that internet searches and social media (Facebook and LinkedIn) could also be utilized as needed to obtain current

¹ M.Ed. programs included counseling, curriculum and instruction, educational leadership, reading, science, and special education.

contact information for as many students in the sample as possible. Contact information (either email address or regular postal service mailing address) was required to reach all potential sample participants for survey participation.

Instrumentation

For the purposes of this study, an adapted version of the survey instrument developed and used by Girves and Wemmerus (1988) in their study of student degree progress of graduate students was used for this sample population. The original survey instrument, which was obtained from the senior author, was adapted and updated to measure the following constructs related to graduate retention and degree attainment found in graduate surveys (Girves & Wemmerus, 1988; Meyer et al., 2009; Wang, 2003): environmental factors; financial support; faculty relationships; program satisfaction; and intervening variables (grades, engagement, and alienation). Girves and Wemmerus (1988) validated their survey instrument to measure progress toward graduate degree attainment.

In addition, two open-ended questions that were used by Meyer et al. (2009) in their research study on graduate students in an online certificate program were adapted and added to this survey instrument. These two survey items allowed students to identify the top three reasons they enrolled in their designated graduate program (motivation indicators) and the top three reasons they stayed enrolled (engagement/retention indicators) from a list provided. There was also an open ended choice for them to fill-in any factor(s) not listed in the choices (see Appendix D).

Plans included a pilot test of the survey on a random sample of 10-15 current graduate students in MBA and M.Ed. programs at this College in spring 2013. Feedback

regarding clarity of instructions, test items, and responses provided the opportunity to make modifications as needed to the survey instrument. Following this, the survey was administered in April 2013 to all graduate students in the sample population who agreed to participate. The survey was available in hard copy and online formats for a period of six-weeks.

Research Design

This quantitative study attempted to replicate, and extend, research done by Girves and Wemmerus (1988). Phase I utilized two-steps to determine the overall and program specific retention rates for degree-seeking MBA and M.Ed. graduate students beginning studies in three specific years (2005, 2006, and 2007) at one private Virginia college. Data were initially obtained for designated items (Appendix B) from the Registrar's databases for the sample (n=425) and then supplemented in the second step with additional data (Appendix C) for the same population through the use of Raiser's Edge. This identified those within the sample who did and did not achieve degree attainment, and all were invited to participate in Phase II of the study which involved survey administration to identify factors related to student engagement, satisfaction and retention in degree-seeking master's programs. Due to time constraints, qualitative interviews were not included in this study but will be a consideration for future research and continuation of this study.

Procedures

Initial admissions data as indicated in Appendix B was collected for the sample (n=425) from the Registrar's databases and recorded in an Excel spreadsheet for Phase I. Subsequent data for the second step in Phase I was obtained from Raiser's Edge for the

same sample and recorded in the Excel spreadsheet to identify those who did and did not attain degree completion during the designated time frame (2005-2012).

All participants (both those who did complete degrees and those who did not) in this sample were contacted by email and/or regular mail with an invitation to participate in the research. The IRB consent form and survey were sent electronically to all potential participants who had a non-college email address in the data base. If they did not have an email address listed, then they received a hard copy of the consent form and survey along with a stamped, self-addressed envelope for ease in returning the information.

The survey instrument was available in hard copy format as well as online utilizing LimeWire via a college link. It was administered during a specific six-week time frame and periodic reminders were sent to all participants. The schedule was planned as follows: surveys were scheduled to be sent to potential participants the week of 04/08/13; reminder postcards/email reminders were scheduled to be sent one week later; second reminders were scheduled to be sent by postcard/electronically to non-responders two to three weeks later; and survey data analysis was planned for summer 2013.

Since it is generally accepted in Social Sciences to have a thirty to forty percent response rate (S. Selden, personal communication, February 26, 2013), that was the goal for this study and responses were validated with the original sample. If this response rate was not attained, then focus groups were an option for obtaining additional data.

Data Analysis

Initially, demographic and background data from both steps in Phase I were analyzed in SPSS to obtain descriptive statistics. This yielded means and standard deviations as well as program specific and overall retention rates.

Next, survey data from Phase II were analyzed using regression metrics in SPSS to identify and predict progress toward degree attainment and factors associated with graduate student engagement, satisfaction, and retention. Means and standard deviations were calculated for individual and sets of variables. Degree progress was regressed on all variables, on the first-stage set individually and as a group, and then on the second-stage variables individually and as a group. This resulted in an estimate of the variance contributed by each first-stage set to all second-stage variables. Hierarchical regression was used with the sets of variables to test the conceptual hypothesis of the model, and Goodness of Fit was also evaluated.

Limitations

Finally, it is important to recognize the delimitations of the study which are limited to research on master's programs. In addition, because of the study's limitations to one group of graduate students beginning MBA or M.Ed. degrees in 2005-2007 at one college, the results may not be generalizable.

The study is limited to quantitative data, and the initial data retrieval was derived from two college employees using two different data bases. Furthermore, the response rate was limited to those persons choosing to respond to the email/mail invitation and their self-reported data which may contain biases.

It was anticipated, however, that the research findings from this study would identify the factors related to why graduate students enroll in degree-seeking programs at the master's level and why they persist to degree completion. If these factors can be identified, then the information could be useful for enhancement of graduate retention

programs which in turn impact retention rates. This is important as retention rates remain a primary measure of institutional effectiveness in higher education institutions today.

Chapter IV

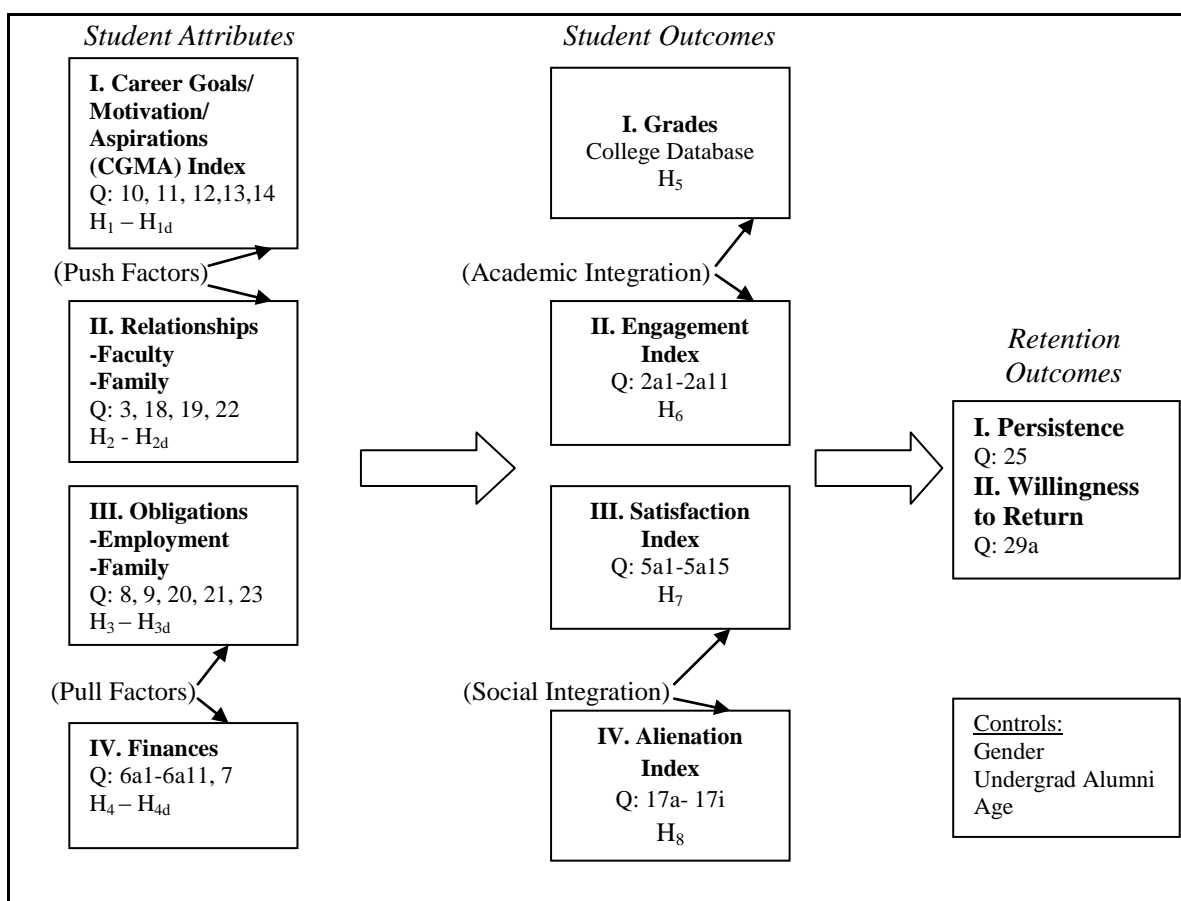
Results

This chapter presents the findings of the quantitative study which utilized official college records and a self-report student experience survey to identify factors for performance, engagement, satisfaction, alienation, and retention of degree-seeking graduate students who began designated master's programs at one private college in Virginia during 2005, 2006, or 2007. Initially, information from the institution's databases and survey responses were exported into Microsoft Excel (2010). Next, files were merged and exported into IBM's Statistical Package for Social Sciences (SPSS) Version 21 for Microsoft Windows 2010 which resulted in statistical analysis of data. In addition, axial coding of free response questions provided emerging themes as they relate to the four student attributes and four student outcomes variables in the conceptual model.

The research findings are presented in four sections. First, descriptive statistics for demographic and background data are explored using information from institutional databases and survey question responses. Second, descriptive statistics for variables are analyzed in relation to the associated student attributes, student outcomes, and retention outcomes in the conceptual model. Qualitative data from free response items is also provided to enhance and clarify the quantitative data for the variables. Third, bivariate and multivariate analyses examine the relationships between variables and the predictors

for student outcomes as well as retention outcomes. Fourth, the chapter concludes with model and hypotheses summaries.

The conceptual framework for the study is reflected in Figure 4.1. This model provides a map for the survey questions and hypotheses and shows their association to designated student attributes, student outcomes, and retention outcomes. The presentation of research results in this chapter follows the design and constructs within the conceptual model.



*Figure 4.1. Conceptual Model of Graduate Students' Retention Outcomes Mapped to Survey Questions and Hypotheses. Adapted from Girves, J. E. & Wemmerus, V. (1988). Developing models of graduate student degree progress. *Journal of Higher Education*, 59(2), p. 166.*

Note. Q indicates designated survey questions and their numbers (see Appendix F for specific map of survey questions and indices); H indicates designated hypotheses.

Descriptive Statistics for Demographics and Background Data

Using the institution's databases, 425 students met the criteria as outlined for this research study. Closer examination of the sample resulted in a reduction as a result of the following: two deaths, five name changes with duplicate listings, two errors, and the inclusion of this researcher in the original sample. Thus, the actual research sample was $n = 415$.

The survey instrument was piloted with a total of 21 students who were enrolled in two M.Ed. and MBA courses in March 2013. Students completed hard copies of the survey and responses indicated no modifications were needed prior to the planned administration.

The 30-question survey and consent form were available in both hard copy and online format via LimeWire through a college link requiring the user's unique 15 digit identification number. From this total, those with non-college email addresses ($n = 190$ or 45.8 %) were contacted via email and asked to participate in the survey using a College provided URL. The remainder of the sample ($n = 225$ or 54.2%) were contacted using the most current mailing addresses provided by the databases. Hard copy surveys were stamped with "Research Opportunity" in red ink near the mailing address. (Ten emails bounced back from the initial email, and these recipients were then added to the hard copy mail group.) In addition, 6.8% of the mailings were returned as undeliverable, and attempts to find current contact information for each of these was unsuccessful.

Participants could complete the survey during a six-week window in April and

May 2013. Designated email reminders were sent to non-respondents on April 18, May 2, and May 14. Postcard reminders were sent to hard copy recipients on May 2.

The research survey had an overall response rate of 32.3% ($n = 134$) from the original sample ($n = 415$). Of this total, 76.1% of survey participants responded by email and 23.9% responded by postal mail. Participants were 19.4% male and 80.6% female (see Table 4.1, Gender of Participants) and ranged in age from 22 to 57 years of age ($M = 32.12$, $SD = 9.31$) with the mode being 22 years for this research sample.

Table 4.1

<i>Gender of Participants</i>		
	N	Percent
Male	26	19.4%
Female	108	80.6%

Note. N=134

These data were similar to the original sample ($n=415$) which showed a gender analysis of 23.6% male and 76.4% female who met the designated criteria for the research study.

In addition, the majority of respondents (77.3%) were white. Minority representation included 7.6% Black/African American, 10.9% Non-resident/Alien, 3.4% Hispanic, and 0.8% American Indian (see Table 4.2, Race/Ethnicity of Participants).

Table 4.2

<i>Race/Ethnicity of Participants</i>		
	N	Percent
White	92	77.3%
Black/African American	9	7.6%
Non-Resident /Alien	13	10.9%
Hispanic	4	3.4%
American Indian	1	0.8%

Note. N=119

While the majority of participants (67.2%) received their bachelor's degree from a different college/university, 32.8% were alumni of this college. Furthermore, 18.7% reported they were enrolled full-time (9 credit hours or more per semester) and 81.3% reported they were enrolled part-time (6 credit hours or less per semester). Additional data indicated 26.8% of participants transferred credit from another institution into their degree program at this college (per survey question 16), and only 4.7% changed degree-seeking programs after initial enrollment (per survey question 24).

The MBA and M.Ed. in Educational Leadership programs had the largest number of survey participants, and these specific programs enrolled cohort groups during this time frame. Thus, the data also indicated that 52.2% of survey participants had a cohort experience during their graduate enrollment at this college (see Table 4.3, Program Enrollments).

Table 4.3

<i>Program Enrollments</i>		
	N	Percent
Educational Leadership ¹	32	23.9%
MBA ¹	27	20.1%
Special Education	21	15.7%
Community Counseling	12	9.0%
Educational Guidance and Counseling ²	11	8.2%
School Counseling	10	7.5%
Reading	9	6.7%
English Education	4	3.0%
Science	4	3.0%
Teaching and Learning	4	3.0%

Note. N=134; ¹These programs operated on-campus cohorts during this time frame;

²This program was offered as a cohort program at an off-campus international location for non-U.S. students.

Descriptive Statistics for Student Attributes

Next, survey questions were analyzed in relationship to the conceptual model in Figure 4.1. Some participants chose not to respond to all questions and missing values are reflected in the sample size in each table. Survey questions for student attributes one through four, push and pull factors, were analyzed first and included **CGMA, relationships, obligations, and finances**. The push factors have the potential to directly impact each of the four student outcome variables and indirectly impact the retention outcomes in the conceptual model. Push factors propel the student toward retention outcomes via student outcomes and may be seen in many forms which include but are not limited to support, encouragement, collegiality, and incentives.

The analysis for student attribute one of **career goals, motivations, and aspirations (CGMA)**, a “push factor,” utilized an additive index which included survey questions 10, 11, 12, 13, and 14. For this index, the designated survey question responses were added together and divided by the total number of questions to form a new construct of **CGMA** ($M = 2.51$, $SD = .82$).

For student outcome one, **CGMA**, survey question 10 provided students with the opportunity to select the three main reasons they enrolled in a graduate program. The top choices included to increase advancement or pay ($M = .69$, $SD = .46$), improve skills and knowledge ($M = .65$, $SD = .48$), and to learn more about a field of interest ($M = .34$, $SD = .48$). Other choices regarding career paths and educational attainment were not selected as often (see Table 4.4, CGMA-Main Reasons for Initial Enrollment).

Table 4.4

<i>CGMA - Main Reasons for Initial Enrollment</i>		
	Mean	SD
increase advancement and/or pay	.69	.46
improve skills and knowledge	.65	.48
learn more about a field of interest	.34	.48
facilitate a job/career change	.28	.45
best option available at the time	.17	.38
requirements of current employer	.13	.34
stepping stone for additional education	.13	.34
requirements of prospective employer	.11	.31

Note. N=134

These data were supplemented by 13 free response answers to this question. Seven of the responses (54%) complemented designated choices in the question. The other 6 responses indicated additional push factors that included the following: part of a cohort program with funding support (3 responses); maintain athletic eligibility (1 response); to acquire a graduate assistant position (1 response); and spiritual guidance to take this route (1 response).

Per survey question 11, 78.4% of participants indicated their present job was related to their master's degree field. In addition, survey questions 12 and 13 further explored student attribute one, **CGMA**, by examining family educational attainment. Participants indicated 42.5% were "first generation" undergraduate students, and 69.3% were "first generation" master's degree students. Furthermore, only 17.3% of the

participants had completed a previous master's degree before enrolling in this program (survey question 14).

Next, data for student attribute two, **relationships**, also a push factor, were examined through questions 3, 18, 19, and 22. Each of these questions contributes to the construct of **relationships** but remained separate as reflected in the bivariate correlation matrix (Table 4.21) and regression model tables (Table 4. 22 – 4.26).

For the student attribute two, **relationships**, survey question 3 asked participants to designate the number of faculty members, on a scale of 0 to 5, with whom they maintained regular, professional interactions. Results indicated the majority maintained relationships with two faculty members ($M = 2.34$, $SD = 1.27$).

These data were supplemented by survey question 18 which asked participants to indicate their marital status at the time of enrollment. A slight majority of participants, 55%, were married at the time of matriculation (see Table 4.5, Relationships-Marital Enrollment Status).

Table 4.5

Relationships-Marital Enrollment Status

	Mean	SD
married or marriage-like relationship	.55	.50
single	.34	.47
single (divorced)	.03	.17
separated	.01	.12
single (widowed)	.00	.00

Note. N=124

The change in personal **relationships** while in a graduate program was measured by responses to survey question 19 and only 14.2% of graduate students experienced a change in their marital status during that time (see Table 4.6, Relationships-Marital Status Change in Graduate School).

Table 4.6

Relationships-Marital Status Change in Graduate School		
	N	Percent
yes	18	14.2%
no	109	85.8%

Note. N=127

Survey participants provided additional **relationship** data for student attribute two with question 22 which requested the educational attainment level of their spouse/partner. Data indicated approximately one-fifth of spouses/partners did not have a college degree (see Table 4.7, Relationships-Educational Attainment of Spouse/Partner).

Table 4.7

<i>Relationships - Educational Attainment of Spouse/Partner</i>		
	N	Percent
high school education or less	18	14.2%
some college	9	7.1%
bachelor's degree	38	29.9%
some graduate school	11	8.7%
master's degree	10	7.9%
earned doctorate	4	3.1%
Not applicable	37	29.1%

Note. N=127

In contrast, the conceptual model also includes student attributes three and four of **obligations** and **family**, both pull factors, which directly influence student outcomes and indirectly influence retention outcomes. As these student attributes interact with student outcomes, they have the potential to pull students away from the retention outcomes by creating conflicts with persistence and willingness to return as illustrated in the conceptual model. If this occurs, then these pull factors may result in the “stop outs” associated with graduate retention (Baird, 1993; DeRemer, 2002; Girves & Wemmerus, 1988).

Student attribute three, **obligations**, included family and employment responsibilities and was explored through questions 8, 9, 20, 21, and 23. Survey responses for these questions contributed to the **obligation** construct for student attribute three but remained separate as reflected in the conceptual model (Figure 4.1), bivariate correlation matrix (Table 4.21), and regression models (Tables 4.22- 4.26).

Question 8 asked students who were employed during their graduate program to evaluate whether employment (either college or non-college) affected the quality of their academic performance. A slight majority indicated it did affect the quality ($M = .55$, $SD = .50$) as indicated in Table 4.8, Obligations/Employment Affects Academic Performance).

Table 4.8

<i>Obligations/Employment Affects Academic Performance</i>		
	N	Percent
yes	66	55.0%
no	54	45.0%

Note. N=120

For student attribute three, **obligations** of employment, data were also supplemented by question 9 with participants indicating the length of time they held a non-college job while attending graduate school. Responses were converted to a scale of 0 to 5 with 0 representing no employment, 1 representing entire time in graduate school, 2 representing less than a year, 3 representing one or two years, 4 representing more than two but less than three years, and 5 representing more than three years ($M = 1.33$, $SD = 1.25$). The majority of participants, 60.6%, were employed for the entire time they attended graduate school while 18.1% were not employed at all (see Table 4.9, Obligations - Length of Time for Non-College Employment).

Table 4.9

Obligations - Length of Time for Non-College Employment

	N	Percent
did not hold a non-college job	23	18.1%
entire time in graduate school	77	60.6%
less than a year	6	4.7%
one or two years	11	8.7%
more than two but less than three years	3	2.4%
more than three years	7	5.5%

Note. N=127

As a continuation of student attribute three, **obligations**, question 20 surveyed participants regarding the number of children/dependents they had when they first enrolled in graduate school. Responses were converted to a scale of 0 to 3 with no children equal to 0, 1 or 2 children equal to 1, 3 or 4 children equal to 2, and 5 or more

children equal to 3 (see Table 4.10, Obligations-Number of Children/Dependents at Enrollment). Approximately half of the participants did not have children ($M = .62$, $SD = .76$) at the time of enrollment, and data from question 21 indicates 11.9% (15 participants) had additional children while they were pursuing their graduate degree.

Table 4.10

Obligations-Number of Children/Dependents at Enrollment

	N	Percent
none	67	52.8%
1 or 2	43	33.9%
3 or 4	15	11.8%
5 or more	2	1.6%

Note. N=127

The last survey question included in the construct for student attribute three, **obligations**, asked participants about their spouse's/partner's employment status during graduate school enrollment (survey question 23). The response choices were converted to a 1 to 5 scale. Employed full-time was converted to a 5, employed part-time 4, not employed 3, student- employed 2, and student-not employed 1. Data indicate that a majority of spouses/partners were employed full-time during this period ($M = 4.72$, $SD = .79$) (see Table 4.11, Obligations-Spouse/Partner Employment).

Table 4.11

<i>Obligations-Spouse/Partner Employment Status</i>		
	N	Percent
not applicable	39	30.7%
employed full-time	75	59.1%
employed part-time	6	4.7%
not employed	3	2.4%
student, employed	3	2.4%
student, not employed	1	0.8%

Note. N=127

Student attribute four, also a pull factor, measured **finances**, and this was examined through questions 6 and 7. For this student attribute, the survey responses for question 6 were combined to create the additive index Finances 1a (see Appendix F) and responses to question 7 were included separately and labeled financial challenge as reflected in the conceptual model (Figure 4.1), bivariate correlation matrix (Table 4.21), and regression models (Tables 4.22-4.26).

For the additive index of Finances1a ($M = 5.84$, $SD = 2.27$), question 6 asked participants to indicate whether 12 financial source options were a major, minor, or no source of funding for their graduate degree. Response options were converted to 2 for major, 1 for minor, and 0 for not a source. Data suggest employment outside of the college was the major financial source of graduate school funding for this sample population followed by personal savings and loans (see Table 4.12, Financial Resources for Graduate Education).

Table 4.12

<i>Financial Resources for Graduate Education</i>					
	Major N	Minor N	Not a Source N	M	SD
employment outside of the college	63	26	39	1.19	.88
personal savings	32	39	57	.80	.81
loans (any source)	39	12	77	.70	.91
employer reimbursement/assistance	33	24	71	.70	.85
grant funds	30	16	82	.59	.85
employment at the college	25	11	92	.48	.80
graduate scholarship	18	14	96	.39	.72
parents, relatives, or friends	16	16	96	.38	.70
spouse's or partner's income	15	14	99	.34	.68
tuition remission for college staff/faculty	12	3	113	.21	.60
support from foreign government	3	1	124	.05	.32
other	2	0	126	.03	.25

Note. N = 128

For the construct of financial challenge, question 7 expanded on the financial resource data provided and asked participants to reflect on the extent that financing a master's degree at this college was a challenge. Responses were converted as follows: to a great extent 3, to a moderate extent 2, to a small extent 1, and not at all 0. Data suggest the majority of participants viewed financing a master's degree as a small or no challenge at all ($M = 1.21$, $SD = 1.04$) (see Table 4.13, Financial Challenge for Master's Degree).

Table 4.13

<i>Financial Challenge for Master's Degree</i>		
	N	Percent
to a great extent	20	15.6
to a moderate extent	25	19.5
to a small extent	45	35.2
not at all	38	29.7

Note. N =128

Student Outcome Variables

Next, each of the four student outcome variables in this research study was analyzed in relation to the corresponding survey questions. Student outcomes one through four as indicated in the conceptual model in Figure 4.1 include **GPA, engagement, satisfaction, and alienation**. Each of these variables has the potential to directly impact the retention outcomes in the conceptual model.

For student outcome one, **GPA**, participants' cumulative grade point average was used. Looking back via the institution's databases, **GPA** data reflect a minimum of 2.86 and a maximum of 4.00 ($M = 3.82$, $SD = .25$) for this sample ($n=134$), and this college requires a cumulative GPA of 3.0 for graduation for all graduate programs (College's Graduate Catalogue, public domain).

Next, student outcome two, **engagement**, was measured by question 2 which asked a series of questions regarding engagement in graduate programs. The yes/no responses were converted to a scale of 1 for yes and 0 for no. Survey responses suggest participating in projects/research, study groups, and discussing educational issues outside

of the classroom were the main ways of involvement for graduate students at this college.

Table 4.14, Graduate Engagement provides this data along with the mean and standard deviation for each of the 11 items.

Table 4.14

Graduate Engagement

	N	M	SD
participated in projects/research	129	.84	.36
participated in a study group	129	.81	.39
discussed educational issues	129	.81	.39
received regular assessment of academic progress	129	.78	.41
participated in social activities	129	.65	.48
attended professional meetings	129	.64	.48
participated in internship	129	.43	.50
wanted to spend more time with faculty	129	.39	.49
participated in independent study	129	.31	.46
worked with faculty on research project	129	.24	.43
introduced to faculty at other institutions	129	.24	.43

Source: Student Survey Questions 2-1 to 2-11

Together, the responses to this question formed an additive index of Engage 1

(Cronbach's $\alpha = 0.65$; $M = 0.56$; $SD = 0.21$) as reflected in the conceptual model

(Figure 4.1), bivariate correlation matrix (Table 4.21), and regression models (Tables 4.22-4.26).

Student outcome three, **satisfaction**, was measured by the items in question 5 which examined the level of satisfaction with 15 different program aspects. Ratings were converted to a scale of 1 to 4 with 4 representing very satisfied, 3 representing satisfied, 2 representing dissatisfied, and 1 representing very dissatisfied. Data indicated that participants were satisfied with all 15 program aspects as all achieved a mean of 3.00 or greater (see Table 4.15, Student Satisfaction). The missing values in fairness of financial support and opportunities for financial support suggest that participants may not have been familiar with or utilized financial support for graduate school funding. In addition, the missing values for questions regarding scholarly research and guidance emphasize that this college was not research oriented at the master's level (College Mission Statement, public domain). As a liberal arts college, the emphasis focuses on a teaching orientation, and opportunities for research and associated funding are limited.

Table 4.15

Student Satisfaction

	N	M	SD
fairness of comprehensive exams	121	3.62	.50
degree requirements enforced	124	3.60	.53
collegial atmosphere	124	3.54	.55
quality of faculty instruction	128	3.52	.56
communication between faculty and students	128	3.48	.60
accessibility of faculty	127	3.46	.60
fairness of academic progress	127	3.45	.64
concern for you as a professional	126	3.44	.69

fairness in financial support	89	3.42	.74
requirements for graduate degree	125	3.42	.57
career preparation	121	3.32	.69
opportunities for financial support	93	3.25	.73
quality of scholarly/research guidance	113	3.25	.66
intellectual ability of other graduate students	126	3.23	.67
research/scholarly opportunities	108	3.12	.69

Source: Student Survey Questions 5-1 through 5-15

Together, the responses to this question formed an additive index of Satis1 (Cronbach's $\alpha = 0.92$; $M = 3.50$; $SD = 0.40$) as reflected in the conceptual model (Figure 4.1), bivariate correlation matrix (Table 4.21), and regression models (Tables 4.22-4.26).

Student outcome four, **alienation**, refers to a student's sense of a void in institutional and cultural acceptance, belonging, and integration (Girves & Wemmerus, 1988). Alienation has the potential to contribute to drop out or stop out periods for graduate students. Question 17 addressed this variable by having students indicate if the designated potential barriers were a major, minor, or no problem to them. Responses were converted from a 0 to 2 scale with 2 representing a major problem, 1 representing a minor problem, and 0 representing no problem. Table 4.16, Alienation-Barriers to Graduate Progress, shows the five questions included in the additive index for Alien 1 (Cronbach's $\alpha = 0.64$; $M = 0.16$; $SD = 0.26$) and reflected in the conceptual model

(Figure 4.1), bivariate correlation matrix (Table 4.21), and regression models (Tables 4.22-4.26).

Table 4.16

Alienation-Barriers to Graduate Progress

	M	SD
few people I could identify with	.23	.49
did not feel part of the program	.17	.39
graduate school not challenging	.15	.40
not encouraged by faculty	.14	.39
graduate school not as expected	.11	.36

Note. N=127; Student Survey questions 17a, 17d, 17e, 17f, 17i

This survey question measuring alienation was supplemented by comments from 22 participants who engaged in the free response option and listed other barriers they experienced while in graduate programs at this college. Student attributes three and four, **obligations** and **finances**, both pull factors, were cited by 10 participants (45.5%) as being areas of concern. One student summarized his/her situation by stating, “The amount of work required outside of the classroom made it difficult to balance work and family,” while another mentioned work challenges due to lack of staff combined with a family member’s unexpected serious health issue resulted in him/her taking a leave of absence from the program.

Additional barriers were identified in the area of student outcome three, **satisfaction**, as 7 responses (31.8%) focused on the quality of instruction, lack of fair grading, and inadequate relationships with faculty. These responses indicated dissatisfaction with the quality of instruction by some adjunct faculty members who were

“not concerned with academics and brought nothing to the table” as well as adjuncts that displayed unprofessional attitudes and failed to develop relationships with students. Grading comments indicated that “too many professors gave out passing grades to students who did not deserve them.” Another student stated, “I was looking for corrections for the work I had done incorrectly and it was not provided. I felt that in order to teach correctly, I needed to know the correct information.” Of the remaining five responses, four (18. 2%) specified course/program completion was a barrier to their career goals, and one (4.5%) indicated travel time was a problem.

Qualitative Data

Two free response items at the end of the survey instrument provided opportunities for participants to expand on topics that were or were not identified in quantitative questions. These qualitative responses were analyzed using axial coding which provided emerging themes related to the four student attributes and four student outcomes in the conceptual model. Question 30 provided participants with the opportunity to identify any college policies/practices that could be changed to enhance retention and graduate degree completion at this college. Fifty-eight responses were received. Of this total, seven were satisfied and had no suggestions for improvement, and the remaining 51 were analyzed in relationship to the variables in the conceptual model. A summary of these results is shown in Table 4.17, Enhance Retention/Graduation, and follows the analysis of students’ comments.

Approximately one-half of the survey responses focused on the two push factors as identified by student attributes in the conceptual model. One-third of the survey

responses focused on student attribute one, the push factor of **CGMA**. Comments suggested the college should offer more programs/courses and provide better career preparation including internships. One student emphasized, “the need to marry programs to the reality of the profession(s) the program supports” while another mentioned, “I would like to see an awareness of the job market outside of this state.”

Next, student outcome three, **satisfaction**, comprised approximately one-fourth (23.5%) of the responses received. Students’ comments noted the need for online and hybrid formats to provide flexible options for learning and scheduling. One student explained, “There were no online classes offered during my program and that would have helped me tremendously. I wouldn’t offer all classes online, but I could have finished my degree faster with these.” There was also evidence of the need to support student diversity particularly in age and cultures. One student suggested integrating multiculturalism into more course work and another specifically addressed the concerns of older students. This student reflected:

Give older students more respect and opportunity. We deserve as much financial aid as younger students. Older students are just as valuable as younger students and many times we have the experience to back up what is being studied.

Relationships, student attribute two and a push factor, were mentioned by 19.6% of the participants and centered on faculty involvement and relationships, cohort groups, and placement/networking/alumni. Participants suggested more faculty involvement “to make students feel they are appreciated, not a bother” and to “encourage and compensate faculty to maintain office hours to provide guidance and help students understand key concepts of the courses.” In addition, two programs, the MBA and the M.Ed. in

Educational Leadership, had cohorts during this time period and comments reinforced the value of those relationships. One student stated:

I have now participated in two cohort groups. The cohort philosophy is an excellent way to enhance retention and degree completion because as a student you bond with those in your group and receive support and encouragement from one another.

The importance of **relationships** was further extended beyond graduation by placement/networking/alumni. This was emphasized by one student who said, “for younger individuals seeking a degree, more emphasis on placement/networking/alumni interactions would be extremely helpful. This is lacking at the undergraduate and graduate level here.”

Next, student attribute four, **finances**, a pull factor, was mentioned by 13.7% participants. Comments included the need for more funding sources, including grant opportunities, as well as the importance of communicating their availability to all students. Return on investment (ROI) was important to some graduate students, as illustrated by the following comment from one student:

With most of your Master’s of Education participants being teachers, it would be nice to have more financial options to help pay the cost of a very expensive master’s. Most teachers want to further their education, but there are few career options beyond being a teacher with a master’s in this program. It took me four years to pay my savings back (from tuition costs) with the master’s supplement given as a teacher.

The need for increased **engagement**, student outcome two, was mentioned by 9.8% of the participants and comments centered on improving graduate students’ involvement in the campus community. One student summed up the potential opportunities by stating the following:

I think graduate students need to be offered more on-campus activities such as more socials and more participation in on-campus activities in order to feel more important and more involved on campus. I also think offering meal plans for dining services would be helpful. Since some students come to campus straight from work, it would be nice to be able to eat on campus at a discounted rate before going to class.

One student also suggested having a graduate assistant position for this purpose as “organizing occasional potluck dinners on the Dell would be amazing in helping graduate students connect with other students and faculty.” Comments here suggested the need to develop a sense of community for graduate students.

Table 4.17

<i>Enhance Retention/Graduation</i>			
Variable Area	N	Percent	Comments
CGMA (student attribute variable)	17	33.3%	<ul style="list-style-type: none"> -offer more programs/courses -competency based credit -tailor programs to meet the needs of students -provide internships -career preparation -communicate post-grad options
Satisfaction (student outcome variable)	12	23.5%	<ul style="list-style-type: none"> -more online course offerings -more hybrid courses -greater flexibility in course offerings -less emphasis on class participation and group work -timely feedback and corrections on assignments -avoid age discrimination in classrooms -more multiculturalism -offer weekend programs
Relationships	10	19.6%	<ul style="list-style-type: none"> -placement/networking/alumni

(student attribute variable)			<ul style="list-style-type: none"> -reduce faculty turnover -encourage faculty/student interactions both formal and informal -better advisor/advisee relationships -change from “process oriented” to “people oriented” - more cohort groups for peer support
Finances (student attribute variable)	7	13.7%	<ul style="list-style-type: none"> -more funding sources -more grant funded opportunities -show return on investment for graduate programs -communicate availability of financial aid
Engagement (student outcome variable)	5	9.8%	<ul style="list-style-type: none"> -more activities for graduate students -campus wide programming for graduate students to include campus life and cultural opportunities -more collaboration opportunities -use technology to engage students -more cohort group opportunities

Source: Student Survey Question 30

Next, the final section of the survey allowed survey participants to provide general free response comments related to financial support, employment, involvement in the program, the faculty, or the learning environment that might improve understanding of graduate student retention and degree completion at this college. Of the 47 total comments received, 72.3% were positive and 27.7% were negative. Responses primarily addressed three of the four student attribute variables which included **CGMA**, **relationships**, and **finances** (see Table 4.18 Additional Retention/Graduation Data).

Table 4.18

<i>Additional Retention/Graduation Data</i>		
Variable Area	N	Percent
Relationships	25	53.2%
Finances	12	25.5%
Career goals, motivation, aspirations	8	17.0%
Other	2	4.3%

N = 47; End of survey free response item

Over half (53.2%) of these responses highlighted the importance and need for **relationships**, student attribute two and a push factor, in their success. Several students shared details about their experiences. Student 1 explained:

The learning environment at this college played an immense role in my success. The faculty was extremely supportive and was always there to provide guidance and support when you needed it. They were always happy to get students involved in research providing opportunities for further development. I am proud to have been a graduate from this college.

In addition, student 2 noted the importance of faculty relationships by stating:

I was very thankful for my professional relationship with Dr. X. He was very encouraging in the classroom and out of the classroom. He definitely went out of his way to form a bond with any student that wanted/needed guidance in one of his classes or in any class in the program. He is a majority of the reason that I felt included in the program and comfortable with my progression through the program.

The absence of relationships was evident in comments by Student 3 who explained:

I think it should be mandatory to meet with your advisors more often. I did not have a relationship with my advisor which is partly my fault but also my advisor's. If it is mandatory to meet with your advisors, we will have a better opportunity to foster a relationship. During my time at this college, I felt too busy to make time for my advisor but I regret not fostering those relationships with faculty now.

Relationships were also mentioned in a broader sense as Student 4 noted, “The grad program needs to keep expanding and find some way to foster a sense of community in its students. If it does, it will continue to be successful.”

Next, student attribute four, the pull factor of **finances**, was mentioned by one-fourth of the participants (25.5%). The majority of these students expressed gratitude for the various forms of financial support they have received while a few others, particularly international students, expressed concern about the lack of funding sources. One student suggested more information regarding financial aid, grants, etc. should be provided to graduate students.

Student attribute one, **CGMA**, a push factor, was also mentioned by 17.0% of the respondents. These responses centered on achievement of personal and career goals and include comments from four students who participated in an international partnership with this college. One student detailed his/her experience as follows:

I was thoroughly impressed with the college partnership in my country which was a special arrangement with our Government back here. The program really did meet my general expectations. The faculty members did everything in their power to make the experience a wonderful, rewarding, and meaningful one for the students. They were professional and supportive in all the courses I did. The courses enabled me to apply everything which I was taught directly to my profession.

The remaining comments (4.3%) were categorized as “other” as they were not in any of the variable categories identified by the conceptual model. One comment emphasized the importance of providing mental health services to graduate students while the other comment praised the library resources and online access as being essential to research assignments.

Retention Outcomes

Per the conceptual model, the final outcomes for graduate students in degree-seeking master's programs were **persistence** and **willingness to return**. These constructs were analyzed separately by designated survey questions. First, retention which is a proxy for **persistence** was measured by survey question 25. This question provided degree completion data for this sample population. Participants indicated if they did or did not persist to finish their degree at this college. Yes/no answers were converted to 1 for yes and 0 for no. Results are provided in Table 4.19, Persistence and Degree Completion, and indicated that 90.6% of students in this study completed their degree at this college ($M = .91$, $SD = .29$).

Table 4.19

<i>Persistence and Degree Completion</i>		
	N	Percent
yes	115	90.6%
no	12	9.4%

Note. N=127

Here, the low response rate ($n = 12$) for non-completers, identified challenges for the research study which were further acknowledged in question 27.

Additional data from question 27 specifically addressed those students who did not complete a master's degree program and provided an opportunity for them to indicate which of 14 reasons listed may have contributed to their decision not to continue graduate studies at this college. When responding, students had the option to indicate more than one reason for departure. Yes/no answers were converted to 1 representing yes and 0 representing no. Only nine students responded to this question and the top reasons for

leaving included accepting a job ($n = 5$), lack of adequate financial support ($n = 3$), and moved out of area ($n = 2$). Choices not selected as reasons for leaving a graduate program at this college included difficulty with academics, family constraints, health issues, lack of family support, and lack of peer support.

This sample ($n = 134$) included 9.4% ($n = 12$) who did not complete their degree-seeking program. This compares to the 21.7% ($n = 90$) in the original sample population ($n = 415$) who did not complete their degree at this institution. Based upon the small number of non-completers ($n = 12$) in this research study, a multivariate analysis could not be completed, and the conceptual model was modified to omit persistence and reflect the singular retention outcome of **willingness to return** from this point forward.

The final retention outcome of **willingness to return** was measured by survey question 29. This survey question asked participants: “If you could start graduate school over, would you come back to this college?” Responses were converted to a 1 to 5 scale with 5 representing definitely yes, 4 representing probably yes, 3 representing uncertain, 2 representing probably not, and 1 representing definitely not. Table 4.20, Willingness to Return presents this data. Results suggest 57.1% of participants definitely would come back to this college ($M = 4.36$, $SD = .94$). The data also indicated a small percentage of students were dissatisfied with their experience at this college.

Table 4.20

Willingness to Return

Come back to this College?

	N	P
Definitely yes	72	57.1%
Probably yes	38	30.2%
Uncertain	8	6.3%

Probably not	5	4.0%
Definitely not	3	2.4%

Note. N=126

Free response survey question 29b provided an opportunity for participants to explain their answer choice. A total of 72 responses were received and 18 (25%) were negative while 54 (75%) were positive. Of the negative responses, four responses (22.2%) noted student attribute one and push factor **CGMA** as they cited lack of job opportunities (3 responses) and the limited programs offered (1 response). This was exemplified by one student who stated:

I feel I learned everything I needed to know for a job in my field. The problem was that I was not prepared for the lack of job opportunities there would be. I also wish we would have been advised that if we were seeking jobs out of state, we should take the PRAXIS II in order to be eligible for licensure in neighboring states.

Next, four participants (22.2%) commented on dissatisfaction with **relationships** with faculty, student attribute two and a push factor. One student explained, “I felt the full-time faculty were very difficult to work with and I actually enjoyed the adjunct faculty professors. I was very excited to attend this college but was very disappointed with the faculty.”

In addition, three responses (16.6%) focused on student attribute three, **finances**, a pull factor, and the lack of return on investment (ROI). Representing this viewpoint, one graduate student indicated, “After working in my field of study for several years, I find this particular field is underpaid (tremendously) and not valued in the community.” Another student explained, “My degree is not financially benefitting me. It does not

increase my salary and recently I've had to take it off my resume in order to be marketable.”

The remaining seven negative responses (38.9%) focused on the student outcome three, **satisfaction**, and expressed dissatisfaction with the quality of instruction (3 responses), weak students (2 responses), weak programs (1 response), and distance traveled (1 response). One participant noted, “I do not feel the quality of my education is equal to that of other nearby institutions.” Another student completed one year at this college and then transferred to another institution out-of-state. Finishing in the top of his class, he stated, “From these two experiences, this college had weak students and weak curriculum compared to the other institution.”

At the same time, the 54 positive responses to this survey question focused on three major areas as identified in the conceptual model. These included the two student attributes and push factors of **CGMA** (25 responses) and **relationships** (19 responses) as well as the student outcome of **satisfaction** (10 responses). Overall, student experiences were described by numerous students who had multiple degrees from this college and one particular student who explained, “Not only would I do my master's again at this college, I enjoyed my time here so much, that I am enrolled in the doctoral cohort.” Another student shared these comments, “After attending a large public undergraduate school, I found the personal connections with the professors and the small class sizes refreshing.” The college experience was also summed up by this student who stated, “Wonderful school, wonderful staff and faculty, wonderful experience. This college is/was a good fit for me.” Thus, the free response answers and the 57.1% of students who would definitely

return to this college again suggest that relationships with graduate students do not necessarily end at graduation but build on bonds that have been formed during enrollment and extend into the future.

Correlations

Next, Table 4.21, Summary of Bivariate Measured Variables, shows the correlation between the measured variables as they relate to student attributes, student outcomes, and retention outcomes in the conceptual model in Figure 4.1. As previously discussed, the 18 variables in the bivariate correlation matrix are mapped to the student attributes, student outcomes, and retention outcomes in the conceptual model.

Specifically, the student attributes include the following: 1) **CGMA**; 2) **Relationships** (items 2-5); 3) **Obligations** (items 6-10); and **Finances** (Finances 1 Index and Financial Challenges-items 11 and 12). In addition, the student outcomes include the following: 1) **GPA** (student's cumulative GPA in the program from college database-item 13); 2) **Engage 1** (additive index-item 14); 3) **Satis 1** (additive index-item 15); and 4) **Alien 1** (additive index-item 16). Retention outcomes include: 1) **Retention** (item 17) and 2) **Willingness to Return** (item 18). In addition, Appendix F provides a detailed explanation of indices and individual survey questions as they map to student attributes, student outcomes, and retention outcomes.

Table 4.21
Summary of Bivariate Measured Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	---																	
2	.09	---																
3	-.13	.21**	---															
4	-.02	-.04	.11	---														
5	.24**	-.03	-.07	.74**	---													
6	-.02	.06	.06	.14	.19*	---												
7	.04	.04	.11	-.02	.01	.02	---											
8	-.01	-.02	-.04	.36**	.53**	.19*	.006	---										
9	.05	-.06	.20*	.21**	.21**	.10	-.02	-.05	---									
10	.21**	-.04	.12	.90**	.82**	.16*	.04	.41**	.28**	---								
11	.15*	.01	.06	.00	-.02	.08	.16*	-.10	.09	.01	---							
12	-.05	-.09	-.02	-.09	-.03	.02	.14	-.01	.04	.20*	.25**	---						
13	.03	.08	-.05	.27**	.13	-.04	-.17*	.13	.01	.19*	.07	-.01	---					
14	.10	.35**	.10	-.09	-.17*	-.05	-.02	-.25**	.04	-.13	.29**	-.04	.12	---				
15	-.12	.29**	-.09	-.02	-.08	-.05	-.08	-.10	-.10	-.07	.12	-.24*	.26**	.31**	---			
16	-.23**	-.20*	-.04	.01	.03	.13	.14	-.02	-.06	.02	-.14	.17*	-.28**	-.29**	-.38**	---		
17	.07	.20*	.13	.03	.000	-.06	-.02	.12	.12	-.01	.11	-.12	.14	.32**	.09	-.20*	---	
18	.30**	.31**	.12	-.00	-.04	.08	-.06	.05	.08	-.01	.15	.01	.37**	.37**	.40**	-.54**	.33**	---

Note. N=134; Factors Affecting Master's Degree Attainment Survey; * $p < 0.05$ level (one-tailed); ** $p < 0.01$ level (one-tailed).

- | | |
|----------------------------------------------------------------------|------------------------------------------------|
| 1. CGMA Index (Questions 10a -10i, 11, 12, 13, 14) | 10. Obligation-spouse employment (Question 23) |
| 2. Relationships with faculty (Question 3) | 11. Finances 1a index (Question 6a1 to 6a11) |
| 3. Relationship change (Question 19) | 12. Financial challenge (Question 7) |
| 4. Relationship -spouse educational level (Question 22) | 13. GPA (at time of program completion) |
| 5. Relationship-marital status (Question 18) | 14. Engage1 Index (Question 2a1 to 2a11) |
| 6. Obligation-employment affects academics (Question 8) | 15. Satis1 Index (Question 5a1 to 5a15) |
| 7. Obligation- non-college employment (Question 9) | 16. Alien1Index (17a, d, e, f, i) |
| 8. Obligation-number of children at time of enrollment (Question 20) | 17. Retention (Question 25) |
| 9. Obligation-additional children while enrolled (Question 21) | 18. Willingness to return (Question 29a) |

Chart does not include controls of age, gender, and undergrad alumni due to space limitations. These are included in data for Tables 4.22 – 4.26.

From a bivariate perspective at the macro level, the student attribute of faculty relationships was significantly correlated with three student outcome measures. Faculty relationships showed a significant, positive correlation with engagement and satisfaction indicating the greater the number of professional interactions with faculty, the greater the student's engagement and satisfaction with their master's program ($r = .35$, $r = .29$, respectively). These findings suggest that faculty interactions fostered engagement for students through learning activities and outcomes while faculty interactions provided value to college expectations and experiences thereby increasing satisfaction for students. At the same time, faculty relationships showed a significant, negative correlation with alienation which indicated the less interaction the student had with faculty, the greater the degree of alienation ($r = -.20$).

In addition, all four student outcomes were significantly correlated with the retention outcome, willingness to return. Positive correlations included GPA ($r = .37$), engagement ($r = .37$), and satisfaction ($r = .40$) which indicated the higher the student's GPA, level of engagement, or level of satisfaction, the greater their willingness to return to the college. At the same time, alienation had a significant, negative correlation with a student's willingness to return to this college ($r = -.54$).

Multivariate Analysis

The relationship between student attributes and student outcomes in this study are illustrated by the conceptual model in Figure 4-2, Conceptual Model of Graduate Students' Retention Outcomes. The student attributes indicate the push/pull factors that directly impact student outcomes of **GPA, engagement, satisfaction, and alienation**

which then impact the retention outcomes. As a result of the low response rate from students who did not complete their degree at this college, the conceptual model has been adapted to reflect the change for final retention outcomes from inclusion of both **persistence** and **willingness to return** to only include **willingness to return** per Figure 4.2, Conceptual Model of Graduate Students' Retention Outcomes.

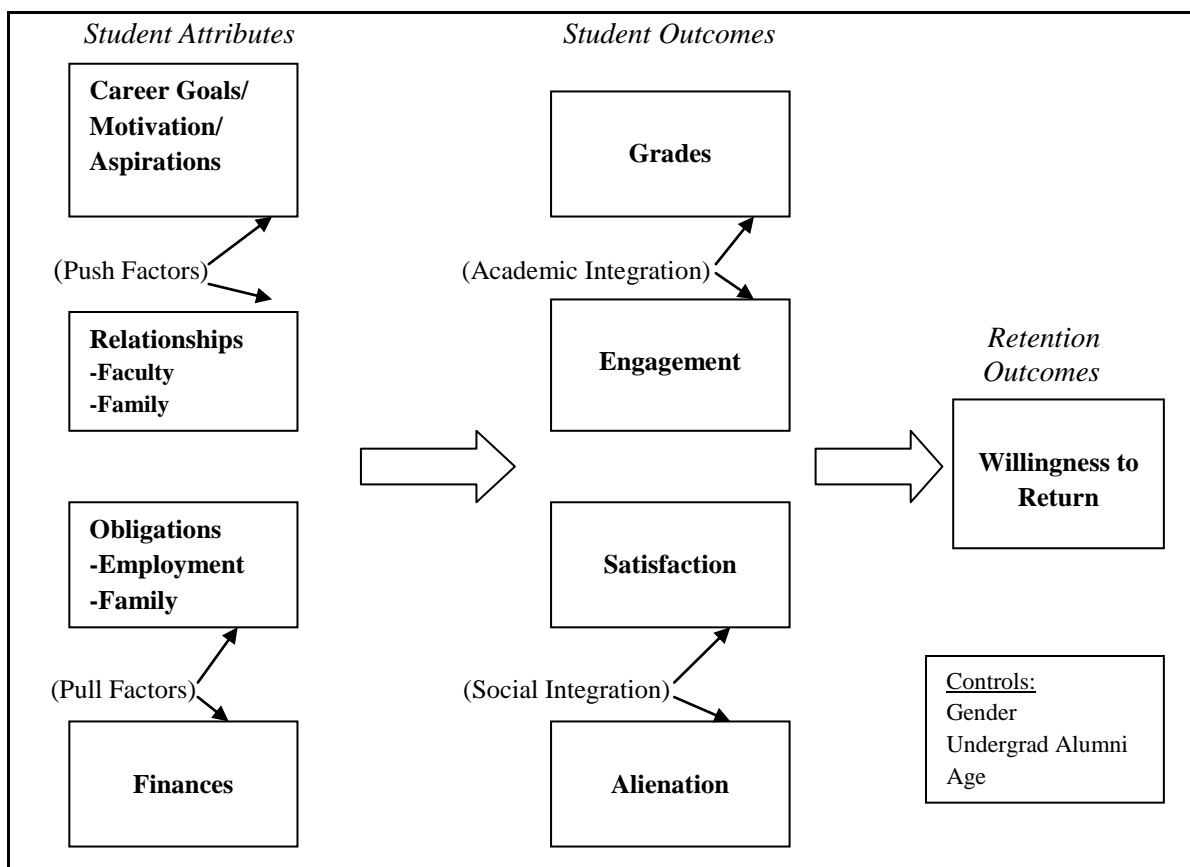


Figure 4.2. Conceptual Model of Graduate Students' Retention Outcomes. Adapted from Girves, J. E. & Wemmerus, V. (1988). Developing models of graduate student degree progress. *Journal of Higher Education*, 59(2), p. 166.

Subsequently, multiple regression was used to explain each of the four student outcomes separately and resulted in four separate models. Then multiple regression was also utilized to explain the retention outcome of willingness to return which resulted in

one model since the n for persistence was so small.

First, multiple linear regression analysis was used to examine the model for predicting student outcome one, **GPA**, using the 12 factors associated with student attributes in the conceptual model in Figure 4-2, controlling for gender, undergraduate alumni, and age. This model specifically addressed the following hypotheses:

H_{1a}: Career goals/motivation/aspirations will positively affect GPA.

H_{2a}: Relationships with family or faculty will positively affect GPA.

H_{3a}: Family or employment obligations will negatively affect GPA.

H_{4a}: Financial obligations will negatively affect GPA.

The results are shown in Table 4.22, Regression Analysis of Dependent Variable, GPA. The model is significant and accounts for 22% of the variance in graduate GPA, $F(15, 118) = 1.92, p = .029, R^2 = .22$.

Based on this analysis, there were four significant findings. First, for the student attribute of **relationships**, for each additional faculty member that a student maintained regular, professional interactions with, their GPA increased by .03 ($p = .06$). Next, the student attribute of **relationships** suggests that for each added level of educational attainment achieved by the graduate student's spouse, the student's GPA increased by .02 ($p = .03$). Thus, the data suggests that **relationships** with faculty and **relationships** with family, which provided support from spouses with educational attainment of bachelor's degree or higher, contribute or "push" students to higher GPA attainment. These findings support H_{2a}.

Furthermore, there was also a negative relationship between the student attribute of **obligation** of employment during graduate school and student's GPA ($b = -.07, p = .07$) as well as the **obligation** of length of employment and student's GPA ($b = -.04, p = .02$). Therefore, employment **obligations** were pull factors and had a negative impact on GPA. These results support H_{3a}. Hypotheses for the other student attributes of **CGMA** (H_{1a}) and **Finances** (H_{4a}) were not supported by this model.

Table 4.22

Regression Analysis of Dependent Variable, GPA

Variables/factors	Unstandardized Coefficients B	Standardized Coefficients Beta
<i>CGMA index (push)</i>	.04	.11
<i>Relationships</i>		
Relationships with faculty (push)	.03*	.15
Relationship change (push)	-.08	-.11
Relationship/spouse's education (push)	.02**	.39
Relationship/marital status (push)	-.09	-.18
<i>Obligations</i>		
Obligations-employment/academics (pull)	-.07*	-.14
Obligations-employment length (pull)	-.04**	-.20
Obligations-children at enrollment (pull)	.02	.05
Obligations-additional children (pull)	-.00	-.01
Obligations-spouse's employment (pull)	.01	.04
<i>Finances</i>		
Finances 1a index (pull)	.00	.03
Financial challenge (pull)	.01	.05
<i>Controls</i>		
Gender	.06	.10
Undergraduate alumni	-.06	-.11
Age	.00	.05

Note. N=118; $R^2 = .22$; * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01(one-tailed)

Next, a multiple linear regression analysis was used to examine the model for predicting student outcome two, **engagement**, using the same 12 variables in the conceptual model in Figure 4-2, controlling for gender, undergraduate alumni, and age. Results are shown in Table 4.23, Regression Analysis of Dependent Variable, Engagement. The model is significant and accounts for 31% of the variance in graduate student engagement, $F(15, 118) = 3.00, p = .001, R^2 = .31$. This model specifically addresses the following hypotheses:

H_{1b}: Career goals/motivation/aspirations will positively affect engagement.

H_{2b}: Relationships with family or faculty will positively affect engagement.

H_{3b}: Family or employment obligations will negatively affect engagement.

H_{4b}: Financial obligations will negatively affect engagement.

Based on this analysis, there are three significant findings. In this model, for the student attribute of **relationships**, for each additional faculty member that a student maintained regular, professional interactions with, their engagement increased by 0.5 ($p = .001$). This suggests that **relationships** with faculty serve as a push factor and positively impact engagement. These findings support H_{2b}.

Furthermore, for the student attribute of **finances**, each additional major funding resource that the student incurred to finance their master's education, increased their level of engagement by .02 ($p = .004$). This suggests that students who require financial support in any form are more likely to be engaged in the learning process. Here financial commitments had a positive impact on engagement and supported H₄ but did not support

H_{4b} as predicted. In addition, the model did not support hypotheses for **CGMA** (H_{1b}) or **Obligations** (H_{3b}).

There was, however, a positive relationship between the **control** of gender and the level of engagement ($b = .09, p = .04$). This suggests females had greater levels of engagement than males.

Table 4.23

Regression Analysis of Dependent Variable, Engagement

Variables	Unstandardized Coefficients B	Standardized Coefficients Beta
<i>CGMA Index (push)</i>	.03	.08
<i>Relationships</i>		
Relationships with faculty (push)	.05***	.30
Relationship change (push)	.02	.03
Relationship/spouse's education (push)	.00	.10
Relationship/marital status (push)	-.00	-.00
<i>Obligations</i>		
Obligations-employment/academics (pull)	-.02	-.05
Obligations-employment length (pull)	-.01	-.04
Obligations-children at enrollment (pull)	-.04	-.13
Obligations-additional children (pull)	-.01	-.02
Spouse's employment (pull)	-.01	-.14
<i>Finances</i>		
Finances 1a index(pull)	.02***	.25
Financial challenge (pull)	-.02	-.09
<i>Controls</i>		
Gender	.09**	.16
Undergraduate alumni	-.03	-.06
Age	-.00	-.12

Note .N=118; $R^2 = .31$; * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01(one-tailed)

The third model utilized multiple regression analysis to examine and predict student outcome three, **satisfaction**, using the 12 variables in the conceptual framework, controlling for gender, college undergraduate, and age. The results are shown in Table 4.24, Regression Analysis of Dependent Variable, Satisfaction. The model is significant and accounts for 31% of the variance in graduate student satisfaction, $F(15, 81) = 1.93$, $p = .036$, $R^2 = .31$. This section addresses the following hypotheses:

H_{1c}: Career goals/motivation/aspirations will positively affect satisfaction.

H_{2c}: Relationships with family, colleagues, or faculty will positively affect satisfaction.

H_{3c}: Family or employment obligations will negatively affect satisfaction.

H_{4c}: Financial obligations will negatively affect satisfaction.

This model's analysis resulted in three significant findings. First, for the student attribute of **relationships**, for each additional faculty member with whom the graduate student maintained regular, professional interactions, their level of satisfaction increased by .10 ($p = .00$). Consequently, **relationships** with faculty served as a push factor and positively impacted satisfaction which supports H_{2c}.

Second with the student attribute of finances, as **financing** their master's education became more challenging, students' level of satisfaction decreased by .08 ($p = .03$). **Finances**, therefore, had a negative impact on satisfaction and supports H_{4c}. The model did not support hypotheses for **CGMA** (H_{1c}) or **Obligations** (H_{3c}).

Third, there was also a negative relationship between the **control** of undergraduate alumni who enrolled in master's degree programs and satisfaction

($b = -.21, p = .01$). This suggests that those students who received their undergraduate degree from this college and continued on with their education were less satisfied with their graduate experience.

Table 4.24

Regression Analysis of Dependent Variable, Satisfaction

Variables	Unstandardized Coefficients B	Standardized Coefficients Beta
<i>CGMA Index (push)</i>	-.09	-.12
<i>Relationships</i>		
Relationships with faculty (push)	.10***	.32
Relationship change (push)	-.15	-.14
Relationship/spouse's education (push)	.01	.17
Relationship/marital status (push)	.09	.12
<i>Obligations</i>		
Obligations-Employment/academics (pull)	-.04	-.06
Obligations-employment length (pull)	-.03	-.10
Obligations-children at enrollment (pull)	-.09	-.17
Obligations-additional children (pull)	.04	-.03
Obligations-spouse's employment (pull)	-.04	-.20
<i>Finances</i>		
Finances 1a index (pull)	.02	.12
Financial challenge (pull)	-.08**	-.21
<i>Controls</i>		
Gender	.10	.10
Undergraduate alumni	-.21***	-.27
Age	.00	.00

Note. N=81; $R^2 = .31$; * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01(one-tailed)

The fourth model analyzed used multiple linear regression analysis to examine student outcome four, **alienation**, using the 12 variables in the conceptual framework in Figure 4-1, controlling for gender, undergraduate alumni, and age. The results are shown

in Table 4.25, Regression Analysis of Dependent Variable, Alienation. The model is significant and accounts for 25% of the variance in alienation, $F(15, 118) = 2.29$, $p = .008$, $R^2 = .25$. This section addresses the following hypotheses:

H_{1d}: Career goals/motivation/aspirations will negatively affect alienation.

H_{2d}: Relationships with family or faculty will negatively affect alienation.

H_{3d}: Family or employment obligations will positively affect alienation.

H_{4d}: Financial obligations will positively affect alienation.

This analysis yielded nine significant findings related to the student attribute variables and designated hypotheses. First, for each unit increase in the student attribute of **CGMA**, alienation decreased by .10 ($p = .006$). This suggests that **CGMA** serves as a push factor for students in institutional environments and supports hypothesis H_{1d}. Next for the student attribute of **relationships**, each additional faculty member with whom the graduate student maintained regular, professional interactions resulted in a decrease in alienation ($b = -.04$, $p = .03$). Thus, **relationships** with faculty served as a push factor to strengthen students' bonds to the institution and provide support for hypothesis H_{2d}.

Furthermore, the student attribute of **obligation** of employment/academics was positively related to alienation. Specifically, the **obligation** of employment (college or non-college) increased alienation ($b = .11$, $p = .01$) as did the obligation of length of employment ($b = .04$, $p = .03$). These findings suggest the impact of this pull factor as employment and length of employment increased, the student had less time to devote to the college experience. These findings support H_{3d}.

The **obligation** of family also impacted alienation as the addition of children while pursuing a master's degree decreased alienation ($b = -.13, p = .07$). While this particular finding was not as anticipated, it may suggest that additional children did not negatively affect the student's educational experience.

For the other student attribute of **finances**, each additional major funding resource that the student incurred to finance their master's education decreased alienation ($b = -.02, p = .10$). While this was not as expected, it may suggest that as students incurred funding to finance their education, their level of commitment increased and therefore decreased alienation. This supports H_4 . At the same time, the greater the level of financing a master's degree was viewed as a challenge by the student, the greater the alienation ($b = .04, p = .04$). This suggests that those students who struggled to secure adequate finances were more likely to feel alienated. These findings support H_{4d} .

In the **control** group, there was a positive relationship between those students who were undergraduate alumni of this same college and alienation ($b = .08, p = .08$) and a negative relationship between age and alienation ($b = -.01, p = .07$). Data here suggests that undergraduate alumni were more likely to feel alienated while those students who were older were less likely to feel alienated.

In conclusion, no significance was found between alienation and marital status, relationship status changes, spouse's/partner's educational attainment level, the number of children at matriculation, spouse's employment, and/or gender. However, nine of 15 variables in the model are significant and eight hypotheses were supported by this model. The student attributes and "push" factors of **CGMA** along with **relationships** decreased

alienation. At the same time, the student attributes and “pull” factors of **obligations** and **finances** provided some unanticipated results.

Table 4.25

Regression Analysis of Dependent Variable, Alienation

Variables	Unstandardized Coefficients B	Standardized Coefficients Beta
<i>CGMA Index (push)</i>	-.10***	-.24
<i>Relationships</i>		
Relationships with faculty (push)	-.04**	-.18
Relationship change (push)	-.01	-.01
Relationship/spouse's education (push)	.00	.03
Relationship/marital status (push)	.10	.19
<i>Obligations</i>		
Obligations-employment/academics (pull)	.11***	.21
Obligations-employment length (pull)	.04**	.17
Obligations-children at enrollment (pull)	-.02	-.07
Obligations-additional children (pull)	-.13*	-.15
Obligations-spouse's employment (pull)	-.01	-.06
<i>Finances</i>		
Finances 1a index (pull)	-.02*	-.13
Financial challenge (pull)	.04**	.16
<i>Controls</i>		
Gender	-.03	-.05
Undergraduate alumni	.08*	.13
Age	-.01*	-.19

Note. N=118; $R^2 = .25$; * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01(one-tailed)

In the final model, multiple regression analysis was used to examine the model for predicting the retention outcome of **willingness to return** (i.e., “If you could start graduate school over, would you come back to this college?”). The model predicts that the four student outcomes which include **GPA, engagement, satisfaction, and alienation** will impact a student's willingness to return. Gender, undergraduate alumni, and age are

also included in the model as controls. The results are shown in Table 4.26, Impact of Student Outcomes on Willingness to Return. Together, these predictors account for 32% of the variance in willingness to return, $F(7, 90) = 5.47, p = .000, R^2 = .32$. This section addresses the following hypotheses:

H₅: GPA (grade point average) will positively affect retention outcomes.

H₆: Student engagement will positively affect retention outcomes.

H₇: Student satisfaction will positively affect return outcomes.

H₈: Alienation will negatively affect retention outcomes.

This analysis resulted in three significant, positive findings. First, **GPA** has a strong, positive impact on willingness to come back to this college ($b = 1.07, p = .00$) suggesting the higher the student's **GPA** (academic success) the greater their willingness to return to the college if this student outcome occurs. This indicates the importance of academic integration for students and supports H₅.

In addition, **satisfaction** and willingness to return to the college have a positive relationship ($b = .39, p = .01$) also suggesting that students who were satisfied with their experience would be more likely to return to this college. These findings indicate the importance of social integration for students and supports H₇.

For the control variables, **gender** also has a moderate, positive effect on willingness to return ($b = .39, p = .06$) suggesting that women would be more likely to return to this college. No significant effects are identified between the other student outcome variables of **engagement** (H₆), **alienation** (H₈), and the other **controls** of undergraduate alumni and age with **willingness to return**.

Table 4.26

<i>Impact of Student Outcomes on Willingness to Return</i>		
Variables	Unstandardized Coefficients	Standardized Coefficients
	B	Beta
<i>Student Outcomes</i>		
GPA	1.07***	.39
Engagement	.08	.02
Satisfaction	.39***	.25
Alienation	-.17	-.06
<i>Controls</i>		
Gender	.24*	.15
Undergraduate alumni	.03	.03
Age	-.01	-.12

Note. N=90; $R^2 = .32$; * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01 (one-tailed); Student Survey Question 29a- If you could start graduate school over, would you come back to this college?

Conclusion

In summary, all five regression models are significant and support some of the hypotheses in this research study. In reviewing the student outcomes in the model, Table 4.27, Summary Across Four Student Outcome Models, provides a synopsis of the student outcome models and the coefficient determination (R squared), significant predictors, and sample size for each. The student attribute of **relationships**, particularly with faculty, is a significant predictor in all four models. In addition, the student attribute of **finances** (resources and extent of challenge) is also a significant predictor in three of the four models, and the **obligation** of employment (affecting academics and length of time) was a significant predictor in two of the five models. At the same time, the student outcome variable of **engagement** is the strongest predictor among the regression models for student outcomes.

Table 4.27

<i>Summary Across Four Student Outcome Models</i>			
Dependent Variable	R^2	Significant Predictors (+ or -)	N
GPA (<i>Academic integration</i>)	.22**	Relationships with faculty(+) Relationships-spouse's education (+) Obligations-employment/academics (-) Obligations-employment length (-)	118
Engagement (<i>Academic integration</i>)	.31***	Relationships with faculty (+) Financial resources (+) Gender (+)	118
Satisfaction (<i>Social integration</i>)	.31**	Relationships with faculty(+) Financial challenge (-) Undergraduate alumni (-)	81
Alienation (<i>Social integration</i>)	.25***	CGMA (-) Relationships with faculty (-) Obligations-employment/academics (+) Obligations-length of employment (+) Obligations-additional children (-) Financial resources (-) Financial challenge (+) Undergraduate alumni (+) Age (-)	118
<i>Note.</i> * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01 (one-tailed)			

The research study supports 13 of the 20 hypotheses for the four student outcomes as indicated in Table 4.28, Hypotheses Summary- Predicting Student Outcomes and subsequent discussion. The table shows the impact of the student attribute **relationships** with faculty as a strong predictor of student outcomes in all four models in this study.

Table 4.28

Hypotheses Summary – Predicting Student Outcomes

Student Attribute variables	Student Outcome variables			
	GPA	Engagement	Satisfaction	Alienation
<i>CGMA Index</i>	NS	NS	NS	S-
<i>Relationships</i>				
Relationships with faculty	S+	S+	S+	S-
Relationship change	NS	NS	NS	NS
Relationship/spouse's education	S+	NS	NS	NS
Relationship/marital status change	NS	NS	NS	NS
<i>Obligations</i>				
Obligations-employment/academics	S-	NS	NS	S+
Obligations-employment length	S-	NS	NS	S+
Obligations-children at enrollment	NS	NS	NS	NS
Obligations-additional children	NS	NS	NS	S-
Obligations-spouse's employment	NS	NS	NS	NS
<i>Finances</i>				
Financial resources index	NS	S+	NS	S-
Financial challenge	NS	NS	S-	S+

Note. S = supported; NS = not supported; + = positive correlation; - = negative correlation

H₁: Career goals/motivation/aspirations will affect student outcomes.

The hypothesis is supported as CGMA has a negative impact on alienation (H_{1d}).

H₂: Relationships with family or faculty will affect student outcomes

This hypothesis is supported in all four regression models. Relationships with faculty have a positive influence with GPA (H_{2a}), engagement (H_{2b}), and satisfaction (H_{2c}) but a negative influence with alienation (H_{2d}). For relationships, spouses' education level also has a positive relationship with GPA (H_{2a}).

H₃: Family and employment obligations will affect student outcomes.

This hypothesis is supported. Both obligations of employment and obligations of length of employment have a negative relationship with GPA (H_{3a}) and positive relationship

with alienation (H_{3d}). The addition of children while in graduate school also has a negative relationship with alienation (H_{3a}).

H_4 : Financial obligations will negatively affect student outcomes.

This hypothesis is supported. Financial resources has a positive effect with engagement and a negative effect with alienation which were not as anticipated and did not support H_{4b} and H_{4d} respectively. However, as funding graduate school becomes a challenge, this variable also has a negative impact with satisfaction (H_{4c}) and a positive effect with alienation (H_{4d}).

Next, an analysis of the conceptual model's final retention outcome, **willingness to return**, is provided in Table 4.29, Summary of Retention Model. This table provides a synopsis of the model and the coefficient determination (R squared), significant predictors, and sample size. In this model, the student outcomes of GPA and satisfaction along with the control of gender were significant predictors of students' willingness to return.

Table 4.29

<i>Summary of Retention Model</i>			
Dependent Variable	R^2	Significant Predictors (+ or -)	N
Willingness to Return	.32***	GPA (+) Satisfaction (+) Gender (+)	90

Note. * Significant at 0.10 (one-tailed); **Significant at 0.05 (one-tailed); ***Significant at 0.01 (one-tailed)

While predicting 32% of the variance in the retention model, the results also provide support for two of the four retention outcomes (H_5 and H_7).

Table 4.30

Hypothesis Summary – Retention Outcome

Student Outcome Variables	Willingness to Return
GPA	S+
Engagement	NS
Satisfaction	S+
Alienation	NS

Note. S = supported; NS = not supported; + = positive correlation; - = negative correlation

H₅: GPA (grade point average) will positively affect retention outcomes. This hypothesis is supported in the model and suggests that GPA has a positive impact on students' willingness to return to this college.

H₆: Student engagement will positively affect retention outcomes.

This hypothesis was not supported in this model.

H₇: Student satisfaction will positively affect return outcomes.

This hypothesis was supported in the model and suggests the positive relationship between students' satisfaction and willingness to return to this college.

H₈: Alienation will negatively affect retention outcomes.

This hypothesis was not supported in the model.

Overall, the data analysis from the bivariate correlation matrix and multiple regression models together suggest the conceptual model is robust and provides a framework that extends beyond the complex topic of graduate student retention to include students' willingness to return.

Chapter V

Discussion and Conclusion

Per the three research questions, this study was designed to identify the factors related to engagement, satisfaction, and retention of a designated group of degree-seeking graduate students at the master's level at one private Virginia college during 2005-2007. Previous research on retention has focused primarily on undergraduate retention and persistence from the freshman to sophomore year and lacks data on why students stay (Noel-Levitz, 2008). Few researchers have focused on why students stay, particularly at the graduate level, and none have examined students' willingness to return. Thus, this study fills needed gaps in the literature and pushes scholars to think more broadly about the retention cycle.

Student Attributes

Overall, the strength of the student attributes and their ability to predict student outcomes in the conceptual model was explored in the analyses for the four regression models. All of the regression models for student outcomes were significant and predicted 22% to 31% of the variance associated with each student outcome using the 12 student attribute variables in the conceptual model in Figure 4-1, controlling for gender, undergraduate alumni, and age (see Table 4.27, Summary Across Four Student Outcome Models). The results from each of these models provide support for **relationships** with faculty as the strongest student attribute variable predictor in the conceptual model. In

addition, **relationships** with faculty were significantly related to all four student outcome variables and predicted in all four models. Relationships with faculty had a positive impact on **GPA**, **engagement**, and **satisfaction** as well as a negative impact on **alienation** as anticipated. Free response items also supported this “push” factor with over one-third of survey respondents recognizing and emphasizing the importance of **relationships** with faculty to their success in graduate school.

Attrition models at the undergraduate level have categorized faculty contact as part of the informal academic system (Tinto, 1993) or as part of the social integration variable (Ackerman & Schibrowsky, 2007; Bean & Metzner, 1985; Pascarella and Terenzini, 2005). Integrated model approaches have emerged, however, particularly at the graduate level which recognize and support the importance of faculty and departmental interactions for students’ academic and social integration as well as degree persistence (Baird, 1993; Berkenkotter et al., 1991; Girves & Wemmerus, 1988; Meyer et al., 2009).

Thus, the importance and recognition of **relationships** with faculty have been identified in the literature during the last four decades but have viewed the construct mainly as an element of an academic or social component and not as a significant predictor variable. This study, however, recognizes the significance of **relationships** with faculty as a strong student attribute variable and also identifies its impact on each of the student outcome variables which include **GPA** and **engagement** (academic integration) as well as **satisfaction** and **alienation** (social integration). It is also the faculty interactions which provide graduate students with individualized attention and unity of

purpose to strengthen social bonds between the student and institution and ultimately extend the relationship beyond graduation (Ackerman & Schibrowsky, 2007; Conrad et al., 1993; Lovitts, 2001).

Student Outcomes

Specifically, this research study focused on examination of the following research questions which relate to two of the four student outcomes in the conceptual model.

R₁: What factors contribute to **engagement** of graduate students in degree-seeking master's programs?

R₂: What factors contribute to **satisfaction** of graduate students in degree-seeking master's programs?

First, while research on graduate student engagement is limited, research by Ackerman and Schibrowsky (2007) and Lovitts (2001) suggests that **engagement** is the result of strong social bonds within a graduate community that foster opportunities for academic and social interaction between faculty, students, and other institutional stakeholders. In this research study, **engagement** was the strongest predictor of the student outcome variables, and the associated model was significant and accounted for 31% of the variance in engagement. The engagement model indicated a positive effect between the student attribute of **relationships** with faculty and the student outcome of **engagement** as well as the student attribute of **financial resources** and **engagement**. This suggests faculty relationships increased student engagement and as did funding resources that were college related (i.e., grants, scholarships, assistantships, and tuition

remission). These results also suggest that the student attribute of finances actually pushed, rather than pulled as predicted, students toward engagement opportunities.

In addition, there was a positive relationship between **gender** and engagement in this model suggesting females had greater levels of engagement, and women represented four-fifths of survey participants. The moderate gender correlation in this study contrasted, however, with previous research that suggested graduate students, both master's and doctoral, experienced consistent patterns of engagement regardless of their gender or student classification (Baird, 1993; Tinto, 1987; Wang, 2003). These differences in engagement by subgroup support the need identified in previous research for a uniform survey to measure student engagement at the graduate level similar to NSSE at the undergraduate level (Wang, 2003).

As a result, the engagement model provided data for R_1 . Per this research study, the factors contributing to engagement of graduate students in degree-seeking programs included relationships with faculty, financial resources, and gender.

Next, the second research question was examined by the regression model for **satisfaction**. The student outcome of satisfaction refers to the degree to which the student's experiences met their level of expectations and includes both program and institutional components of the learning environment. This model was also significant and accounted for 31% of the variance in graduate student satisfaction. Here again, the student attribute of **relationships** with faculty had a significant, positive impact on satisfaction indicating the importance of faculty interactions as a link to students' learning experiences/outcomes and their level of satisfaction.

In contrast, the student attribute of **financial** challenges had a negative impact on satisfaction and the control of undergraduate alumni had a negative relationship with satisfaction. These findings suggest that graduate students need/want financial resources and undergraduate and graduate expectations/experiences may be very different at this college. Both of these findings suggest the need for better communications with the graduate population at this college.

Thus, the satisfaction model provided data for R₂. Per this research study, the factors contributing to satisfaction of graduate students in degree-seeking programs included relationships with faculty, adequate financial resources and information, and clear expectations for undergraduate alumni who continue on as graduate students at the same institution.

Retention Outcomes

Next, the research explored the third and final research question of retention outcomes.

R₃: What factors contribute to retention outcomes of graduate students in degree-seeking master's programs?

Per the conceptual model, this study was originally designed to measure the two retention outcomes of persistence and willingness to return. However, the research was not able to predict persistence due to the low number of non-completers who responded to the survey (n=12). As a result, the conceptual model was modified to only include the single retention outcome of **willingness to return**.

The results of this research study suggest that graduate retention extends beyond persistence to include willingness to return. Per Table 4.20, Willingness to Return, 57.1% of survey participants definitely would come back to this college and 30.2% would probably come back to this college ($M = 4.36$, $SD = .94$). Thus, willingness to return proposes that the student's institutional experience has been at such a level that their individual bonds with the institution have created relationships and commitments that extend beyond degree persistence into future opportunities. This supports business models which advocate a customer driven approach to student retention and recognize the importance of fit in attrition and persistence decisions (Allen et al., 2010; Moynihan & Pandey, 2007; O'Connell & Kung, 2007). In particular, these findings parallel Ackerman and Schibrowsky's (2007) student relationship management (SRM) program which focuses on activities and experiences that foster institutional relationships with students to build satisfaction and loyalty. Financial, social, and structural bonds are the result of those relationships and experiences the student has within the institutional context. If those bonds are successful, then the five-stage student life cycle will be established and continue indefinitely as illustrated in Figure 5.1, Relationship Life Cycle of a Graduate Student.

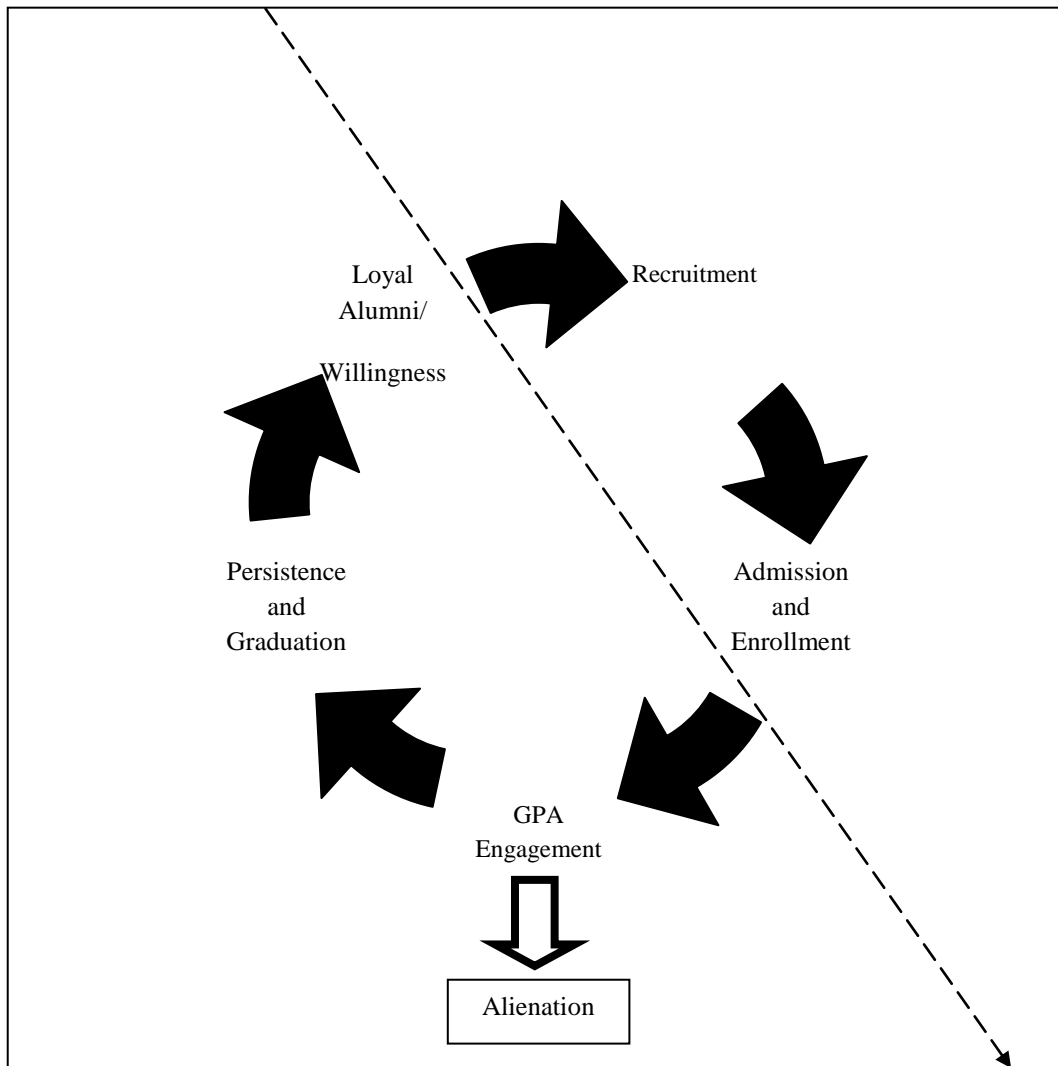


Figure 5.1. Relationship Life Cycle of Graduate Student. Model based on concepts from Ackerman & Schibrowsky. (2007). A business marketing strategy applied to student retention: A higher education initiative. Journal of College Student Retention, 9(3), p. 329.

In this model, the student outcomes and retention outcomes which are addressed in this research study are noted in the left side of the model (below the dotted line). The student outcomes of GPA, engagement and satisfaction provide structural and social bonds which push the student to continue through the relationship cycle and progress on

to graduation and then to the alumni stage. It is in the student outcome stage, however, that alienation has the potential to appear if students do not have a sense of “fit” with the institution and result in negative social bonding experiences. If alienation occurs, then the student will stop out or drop out of the cycle temporarily or permanently. Reentry into the cycle is possible and the reentry point is determined by the length of stop out or drop out and the institution’s policy for readmission. (It should be noted that satisfaction and alienation are not opposites but separate variables measuring different concepts in this research study.)

Moreover, viewing retention through the lens of willingness to return is mutually beneficial for the graduate student and the institution. First, persistence to degree completion allows the graduate student to achieve his/her immediate goal but also develops relationships which foster lifelong learner opportunities to return to the college. At the same time, those students who indicate a willingness to return have developed a loyalty to the institution and continue as alumni who are potential donors and recruiters for the college. This parallels customer driven models where satisfied customers become repeat customers, members, and advocates for a company (Ackerman & Schibrowsky, 2007).

Furthermore, multiple regression analysis was used to examine the model for predicting graduate students’ **willingness to return** with the student outcome variables (i.e., GPA, engagement, satisfaction, and alienation) and accounted for 32% of the variance in the model (see Table 4.26, Impact of Student Outcomes on Willingness to Return). Both **GPA** (academic integration) and **satisfaction** (social integration) showed

significant positive relationships with willingness to return suggesting that those students who were 1) successful academically and 2) satisfied with their college experience were more likely to continue in the life cycle of the graduate student per Ackerman and Schibrowsky's (2007) concept. This regression model provides support for previous research findings by Girves and Wemmerus (1988) which identified grades as the best predictor of graduate student degree persistence at the master's level as well as research results by Baird (1993) and Tinto (1993) which identified the importance of academic and social integration factors for graduate degree persistence and completion.

In this regression model, GPA is an example of a structural bond which adds value to the student's experience and makes it difficult to leave the institution once a certain number of credit hours have been accrued. Transferring to another school or "stopping out" have associated costs and provide barriers that encourage the student to stay. At the same time, satisfaction is a component of social bonds and the result of perceived satisfaction with the many aspects of the product of education at the institution. Here, satisfaction has the potential to create loyalty as it propels the student through the Relationship Life Cycle of a Graduate Student, per Figure 5-2. Thus for R_3 , the factors contributing to the retention outcome of willingness to return as identified in this research study included GPA and satisfaction.

Unanticipated Findings

Furthermore, the research study had some unanticipated findings for the designated subgroup of undergraduate alumni who continued at this college for a master's degree. This subgroup comprised one-third of the survey participants and

showed a negative correlation with satisfaction. This dissatisfaction may be due in part to unexpected differences in undergraduate and graduate experiences. Students' free response comments suggesting changes to college programs/practices to enhance retention and degree completion noted the lack of campus wide programming and activities for graduate students as compared to undergraduates as well as the overall "lack of a sense of community" for graduate students. These comments suggested distinct differences may be present in undergraduate and graduate social integration at this college and offered a possible explanation for the significant negative relationship between satisfaction and undergraduate alumni. The research findings warrant further study to examine and determine factors associated with undergraduate alumni dissatisfaction. The local and global cognitive maps recommended by Lovitts (2001) could provide valuable resources for the college to use to map out graduate student experiences for prospective and incoming students to ensure the congruency between graduate students' expectations and experiences.

Relationship to Previous Research

This study adds to the limited literature on graduate student retention by building on previous research by Girves and Wemmerus (1988) and utilizing an adaptation of their framework and conceptual model. The results of this study suggest the overall conceptual model as adapted is robust and supports the significance of each of the four student outcome variables and the retention outcome variable in the conceptual model.

Furthermore, the significance of the relationships with faculty as a student attribute for master's degree students extended and supported research by Girves and

Wemmerus's (1988). Their results showed the variable was a significant predictor of doctoral degree progress both indirectly through involvement (engagement) as well as directly to degree persistence. Frequent contact with faculty had also been previously identified as an essential element of student persistence at the undergraduate level (Tinto, 1993).

This study and conceptual model provide further support for the theoretical model of persistence developed by Tinto (1975) which posits that student persistence occurs as the result of student integration, both academically and socially. In this research study, the student attribute variable of relationships with faculty provided the "push" or link to academic integration via the student outcomes of GPA and engagement as well as social integration via the student outcomes of satisfaction and alienation.

This research study, however, pushes beyond the previous research models which stop at persistence or retention. This research suggests retention outcomes should encompass more than degree persistence and retention for the graduate student population. Retention outcomes should now capture the institutional loyalty created through the graduate experience as advocated in business model approaches. By taking this approach, higher education intuitions can embrace the potential to extend graduate students' experiences/relationships into future opportunities/relationships as indicated by graduate students' willingness to return.

Recommendations

For this college, sharing the results of the research study with graduate faculty and school administrators should be a top priority. Recognition of the importance of faculty

relationships as new faculty are hired and oriented to the graduate programs on campus will promote an expectation and culture of faculty/student interactions. By providing opportunities throughout the year for faculty/student interactions, both formally and informally as well as on and off-campus, the college has the opportunity to foster a sense of community at the graduate level and create social bonds which extend beyond student enrollment and into the alumni relationship cycle.

Since the research provides substantial data on the graduate student experience while in graduate school, the instrument could be utilized as an exit survey for completers and non-completers. This could prove problematic though for non-completers as they often stop-out without taking a leave of absence or withdrawing from the program and thereby make it difficult to track their intentions and progress. Having these data, however, would provide the college's administrators with regular, timely feedback and comparison data for graduate programs individually and overall.

Modifications of the survey will provide an opportunity to build on this research and explore subgroups in greater depth. In particular, the research identifies the need for more information about cohort groups, gender, undergraduate alumni who continue at the same college for a graduate degree, and special groups (i.e., assistant coaches, graduate assistants, and grant/scholarship recipients).

In addition, data regarding the student attribute of relationships with family and the student attribute of obligations with children and spouse's employment along with discrimination practices did not yield any significant findings. This may reflect changes in society, the graduate school environment, and graduate students themselves since the

time the survey instrument originated in 1985 (Girves & Wemmerus, 1988). Thus, some survey questions can be omitted and survey modifications will parallel modifications to the conceptual model. By decreasing the number of first stage variables to two (i.e., relationships and obligations), a modified conceptual model will result as shown in Figure 5.2, Conceptual Model of Graduate Students' Retention Relationship.

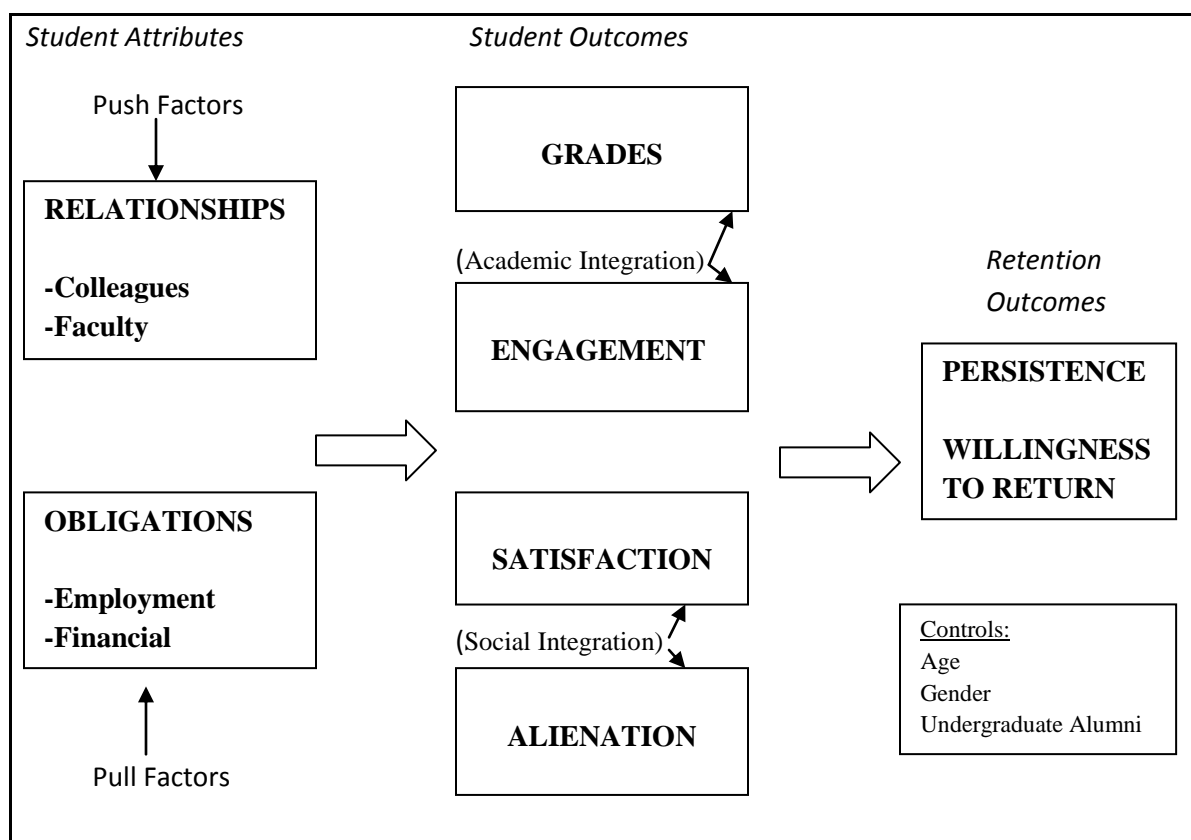


Figure 5.2. Adapted Conceptual Model of Graduate Students' Retention Relationship.

The adapted model and survey will provide higher education institutions with a conceptual framework to utilize for studying designated graduate student attributes, student outcomes, and retention outcomes. Because higher education institutions vary in the graduate degrees and programs they offer, survey results have the potential to provide

episodic data which reflects an individual college's graduate population, culture, and climate. The survey results are only valuable, however, if college administrators use them to drive decisions, policies, and procedures and recognize the importance of willingness to return in the graduate student relationship management cycle.

Limitations

The research study has limitations as it only includes graduate students beginning MBA or M.Ed. degree-seeking programs at one private college in Virginia during 2005-2007 and their self-reported survey results. Self-reported data are voluntary, not subject to independent verification, and may contain potential sources of bias.

Another limitation was the low response rate of non-completers (n=12) which resulted in a modification to the conceptual model and to the research study by eliminating persistence as a final retention outcome. Primarily quantitative in nature, this research study provided for a limited amount of qualitative data via free response questions and did not contain the breadth and depth of qualitative studies. In addition, time to degree completion may vary from one institution to another. Therefore, these research results may not be precisely accurate for this college and may not be generalizable to other higher education institutions.

Future Research

Given the findings of this study, future research should focus on further exploration of the relationships variable and include the following: 1) Is the advisor/advisee relationship separate from, or related to, faculty relationships? 2) Do faculty relationships vary by graduate program? 3) What constitutes faculty interactions

and relationships, both formal and informal? 4) Do cohorts impact student outcomes and retention outcomes? By understanding answers to these questions, administrators can find ways to maximize the effects of this significant predictor in the conceptual model.

At the same time, more information is needed regarding subgroups (i.e., gender, undergraduate alumni, student employees, and grant/scholarship recipients) to determine relationships within the model. Additional data from focus groups or individual interviews have the potential to strengthen the quantitative data and provide insight for graduate students' persistence and willingness to return.

Conclusion

Although Tinto (1993) concluded, “unlike undergraduate persistence, the process of graduate persistence cannot be easily described by any one simple model” (p. 238), these results and conceptual model provide a basis for future research regarding graduate student engagement, satisfaction, and willingness to return. The inclusion of willingness to return as a retention outcome variable in graduate retention models is a significant change and requires scholars to expand their mindset to view retention as a construct on a continuum that extends beyond persistence. At the same time, this change also supports the adaptation of business model approaches for higher education institutions where students are viewed as consumers and the strength of relationships is a determinant of decisions to enroll, stay, or leave as well as the willingness to return.

This study's overall conceptual model as adapted from Girves and Wemmerus (1988) is robust and shows the relationships and strengths of the student attribute, student outcome, and retention outcome variables. Specifically, the study recognizes

relationships with faculty as the strongest student attribute and engagement as the strongest student outcome in the conceptual model. GPA and satisfaction were the strongest student outcome predictors of willingness to return in the overall model. These findings also provide support for 15 of the 24 hypotheses in the study and the necessary data to identify the factors in each of the three research questions.

Overall, the results provide administrators and faculty in higher education with the necessary data to change their mindset. No longer can attrition be attributed to the student who exits rather than to the situational factors within the institution (fundamental attribution error) (Lovitts, 2001). Higher education institutions now have the opportunity to embrace a business model, consumer driven approach and support opportunities to strengthen the financial, social, and structural bonds with students as suggested by Ackerman and Schibrowsky (2007). College stakeholder groups need to recognize that relationship building is a shared responsibility for everyone on campus. College administrators can foster graduate student/ faculty relationships by establishing expectations and providing ample opportunities for interactions, both formal and informal, to create a sense of community for graduate students. These interactions, in turn, have the potential to foster academic and social integration through the student outcomes of grades, engagement, and satisfaction which strengthen personal bonds to the institution and ultimately increase the potential for graduate students' willingness to return. This, in turn, perpetuates the life cycle of the graduate student beyond graduation as they continue as alumni and recruiters for the institution.

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Appendix A: Sample Population

Table 1

Total Sample Population

Degree	2005	2006	2007	Totals
MBA	33	16	23	72
MED¹	144	116	93	353
Totals	177	132	116	425²

Note. The data from the Office of Institutional Effectiveness on 12-05-12 indicate the number of students entering MBA and M.Ed. programs at this College during the 2005 to 2007 calendar years. This represents the total sample population for this study.

¹The MED category includes the following degree programs: counseling – school and clinical mental health, curriculum and instruction, educational leadership, reading, science education, special education, and an international offering in educational guidance and counseling.

²The sample will was reduced by one (n=424) because this researcher was included in the sample population.

Table 2

Degree Attainment Population

Degree	2005	2006	2007	Totals
MBA	18	9	19	46
MED	57	83	112	252
Totals	75	92	131	298

Note. Data from the Office of Institutional Effectiveness on 10-17-12 indicate the number of master degrees conferred by this College from 2005 to 2007 for MBA and M.Ed. programs. These data are part of the sample population (included in totals above) for this study.

Appendix B: Phase I – Initial Data

Data for degree-seeking graduate students entering (first-time) MBA and M.Ed. programs in calendar years 2005, 2006, 2007 was retrieved from the Registrar's databases (INPROGRAM, INGENRL, INSTATUS, and INCOLLG) to include the following:

INITIAL DATA:

Student name;

Student identification number;

Permanent address;

Phone number;

Email address;

Gender/1-female or 0=male;

Birthdate;

Ethnicity;

International or domestic;

Married;

Month entered program; year entered program;

Designated program;

Full time or part-time status;

LC undergraduate/1=yes or 0=no;

Year undergraduate degree issued;

Permanent residence in Virginia/1=yes or 0=no;

Deceased

Appendix C: Phase I – Follow Up Data

Data for students identified in Phase I was supplemented with data below from Raiser's Edge.

FOLLOW-UP DATA:

Student name;

Current mailing address;

Phone number;

Email address;

Designated program;

Month / year graduated

Appendix D: Phase II – Survey Instrument

FACTORS AFFECTING MASTER’S DEGREE ATTAINMENT

Survey for 2005-2007 Enrollments at XXXXXX College

1. Did your program hold an orientation when you enrolled in the master’s degree program? (Choose one.)
 - A. yes, and I attended
 - B. yes, but I did not attend
 - C. no
 - D. do not know

2. Indicate which of the following statements describe your involvement in your graduate program.

Statement	Yes	No
I participated in at least one independent study course.		
I participated in an internship.		
I worked with a faculty member on a research project.		
I participated in a study group with other graduate students.		
I participated in social activities with other graduate students.		
I discussed educational issues outside the classroom with faculty members.		
I received regular and periodic assessment of my academic progress (in addition to grades in courses.)		
I attended professional or scholarly meetings.		
I participated in projects and/or or research.		
I wanted to spend more time with individual faculty members.		
I was introduced to faculty at other institutions.		

3. While in graduate school, with how many faculty members did you maintain regular professional interactions? (Choose one.)
 - A. none
 - B. one
 - C. two
 - D. three
 - E. four or more

4. Below is a list of items that may describe your relationship with your faculty advisor while you were enrolled in your degree program. Please indicate your degree of satisfaction with each item as it pertains to the characteristics of your advisor.

Characteristic	Excellent	Good	Fair	Poor	Don't Know
Accessibility					
Useful feedback of your work					
Concern for professional development					
Knowledge of field					
Scholarly or research experience					
Interest in your welfare, including concern for you as an individual					
Value of the information provided					

5. Indicate your level of satisfaction with each of the following aspects of your program. (Choose the degree of satisfaction for each item.)

Descriptor	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Not applicable
Accessibility of faculty					
Career preparation					
Collegial atmosphere among faculty and students					
Communication between faculty and students					
Concern for you as a professional					
Fairness of evaluations of student academic progress					
Fairness with which comprehensive exams were administered					
Fairness with which degree requirements were enforced					
Fairness in providing financial support					
Intellectual ability of					

other graduate students					
Opportunities for financial support					
Quality of faculty instruction					
Quality of scholarly/research guidance					
Requirements for the graduate degree					
Research and scholarly opportunities					

6. Indicate whether each of the following was a major source, minor source, or not a source of funds for your graduate education. (Choose the appropriate ranking for each item.)

Financial source	Major	Minor	Not a source
Employment at this College- assistant coach, graduate assistantship, or resident assistant			
Employment outside of this College			
Employer reimbursement/assistance			
Graduate Scholarship			
Grant Funds			
Loans (any source)			
Personal savings			
Parents, relatives or friends			
Spouse's or partner's income			
Support from foreign government			
Tuition remission for staff and faculty at this college			
Other: specify			

7. To what extent was financing your master's degree education at this College a challenge? (Choose one.)
- A. to a great extent
 - B. to a moderate extent
 - C. to a small extent

D. not at all

8. If you were employed while attending graduate school at this College (either with the College or outside of the College), do you feel that your employment affected the quality of your academic performance? (Choose one.)
- A. yes
 - B. no (skip to question 10)
 - C. not applicable (skip to question 10)

8a. If yes to question 8, please evaluate whether employment enhanced or interfered with your academic performance. (Circle one.)

Interfered	Enhanced
1 _____ 2 _____ 3 _____ 4 _____ 5	

8b. If yes to question 8, please evaluate whether employment slowed down or sped up your progress toward your degree attainment.

Slowed down	Sped up
1 _____ 2 _____ 3 _____ 4 _____ 5	

9. Please indicate the item that best describes the length of time you held a non-college job(s) while attending graduate school. (Choose one.)
- A. entire time at graduate school
 - B. less than a year
 - C. one or two years
 - D. more than two but less than three years
 - E. more than three years
 - F. did not hold a non-college job
10. Please list the three main reasons you *initially* enrolled in your master's degree program. (Check up to three responses.)
- A. to improve my skills and knowledge
 - B. to increase opportunities for promotion, advancement, and/or pay
 - C. to meet requirements of my current employer
 - D. to meet requirements of a prospective employer
 - E. to learn more about a field in which I am particularly interested
 - F. best option available at the time
 - G. to facilitate a job/career change

H. to use as a stepping stone for additional education (e.g., Ph.D. or Ed.D.)

I. other (please specify): _____

11. Is your present job related to your master's degree field? (Choose one.)
 A. yes
 B. no
 C. not currently employed
12. Were you a "first generation" undergraduate student? (First generation indicates your parents did not attend college.)
 A. yes
 B. no
13. Are you a "first generation" master's degree student?
 A. yes
 B. no
14. Did you complete a previous master's degree before pursuing a graduate degree at this College?
 A. yes
 B. no
15. Did you take any online courses in this program?
 A. yes
 B. no
16. Did you transfer any credit from another institution to this degree program?
 A. yes
 B. no
17. The following contains a list of problems or barriers you may have encountered while enrolled in your graduate program. Indicate the extent to which each item posed a major, minor, or no problem to you in continuing your graduate program. (Please rank each item.)

Descriptor	Major Problem	Minor Problem	Not a problem
Did not feel part of or involved in the program			

Dissatisfied with my academic performance			
Few job prospects with graduate degree in my field			
Few people I could identify with			
Graduate school experience not what I expected			
Graduate school was not challenging			
Lack of child care			
Lack of support and encouragement from family, spouse/partner, and/or friends			
Not taken seriously; not encouraged by faculty			
Scheduling problems			
Unsure of my academic goals			
Other: specify _____			

18. At the time you were enrolled in this master's degree program at this College, were you (choose one):

- A. married or in a marriage-like relationship
- B. separated
- C. single
- D. single (divorced)
- E. single (widowed)
- F. other (please specify): _____

19. Did your status or relationship status change while in graduate school? (Choose one.)

- A. yes
- B. no (skip to question 20)

19a. If yes to question 19, how did your relationship status change?

- A. married or in a marriage-like relationship
- B. separated
- C. single (divorced)

19b. How did this change affect your progress toward your degree?

20. How many children or other dependents did you have at the time you first enrolled in your master's degree program? (Choose one.)
- A. none
 - B. 1 or 2
 - C. 3 or 4
 - D. 5 or more
21. Did you have additional children while pursuing your graduate degree? (Choose one.)
- A. yes
 - B. no (Skip to question 22.)
- 21a. If yes to question 21, how did this affect your progress toward your degree?
-
22. During the time you were in graduate school, what was your spouse's/partner's educational attainment level? (Choose one.)
- A. high school education or less
 - B. some college
 - C. bachelor's degree
 - D. some graduate school
 - E. master's degree
 - F. earned doctorate
 - G. not applicable
23. Which of the following best describes your spouse's/partner's employment while you were enrolled in graduate school? (Choose one.)
- A. employed full-time
 - B. employed part-time
 - C. not employed
 - D. student, employed
 - E. student, not employed
 - F. not applicable
24. Did you change degree-seeking programs while at this College?
- A. yes
 - B. no (Skip to question 25.)

24a. If yes to question 24, please explain your reasons for changing programs:

25. Did you complete your master's degree at this College?

A. yes

B. no (Skip to question 27.)

26. Please list the three main reasons you *stayed* enrolled in this master's degree program at this College. (Check up to three responses.)

A. convenience/schedule of course offerings

B. relationships with colleagues

C. academic success

D. involvement in campus activities/events

E. research opportunities

F. campus employment

G. relationship/support from faculty

H. progress toward personal/career goals

I. funding/scholarship/grant support

J. other (please specify):

27. For those students who did not complete a master's degree, the decision to leave graduate school may be motivated by a variety of reasons. Please indicate which reasons contributed to your decision not to continue graduate studies at this College by responding to each situational factor.

Situation	Yes	No	Not Applicable
Accepted a job			
Could not balance work and graduate school			
Courses/programs I wanted were not available			
Difficulty with academic or other program requirements			
Family constraints			
Health issues			
Lack of faculty support			
Lack of adequate financial support			
Lack of family support			
Lack of institutional or program support			
Lack of peer support			

Moved out of area			
Needed a break from graduate school			
Transferred to another graduate school			

28. While enrolled in your graduate program at this College, were you ever subjected to any of the following? (Indicate a response for each item.)

Description	Yes	No	Don't know
Age discrimination			
Bullying			
Harassment			
Racism			
Sexual harassment			

If you checked yes to any of the above items, please comment on the nature of the problem and how it affected your ability to make progress toward your degree.

29. If you could start graduate school over, would you:

Question	Definitely yes	Probably yes	Uncertain	Probably not	Definitely not
Come back to this College?					
Select the same program for your master's degree?					

Please explain your response:

30. What, if any, program or college policies/practices could be changed to enhance retention and graduate degree completion here at this College?

Please feel free to make any other comments related to financial support, employment, involvement in the program, the faculty, or the learning environment that might improve our understanding of graduate student retention and degree completion here at this College.

If you would like to discuss any issue raised in this survey in more depth, please feel free to contact Paula Lichiello, Assistant Dean of Graduate Studies, Lynchburg College, at 434-544-8464 or lichiello@lynchburg.edu.

Thank you for participating in this survey opportunity!

Appendix E: IRB Forms

Research Invitation and Informed Consent Agreement

Hello!

You are being asked to participate in a research study entitled, “Why They Stay: Engagement, Satisfaction, and Retention of Graduate Students.” Please take a few minutes to read this letter carefully and decide whether you wish to participate in this study and to make sure you meet the requirements for inclusion as a participant.

The purpose of this research study is to measure perceptions and experiences of degree-seeking MBA and M.Ed. graduate students who began their studies during the academic years of 2005, 2006, or 2007 at XXXXXX College. You are being asked to participate in this study because enrollment records at the college indicate you were enrolled in a MBA or M.Ed. degree-seeking graduate program during this specific time frame.

The study utilizes a self-report survey which is enclosed in hard copy format and focuses on student engagement, satisfaction, and retention. Participation involves completion of the 30 question survey between now and **May 10, 2013**. Your participation is expected to take approximately 15 - 20 minutes.

You may develop greater personal awareness of your experience as a graduate student as a result of your participation in this research. The risks to you are considered minimal; there is a slight chance that you may experience some discomfort during or after your participation based on the potentially sensitive subject area of some questions. Should you experience such discomfort, please contact your local healthcare provider. While no direct compensation is associated with completion of the survey, your input has the potential to benefit current and future graduate students at XXXXXX College through the enhancement of retention practices and policies as well as academic and support services.

Please understand that participation is completely voluntary. You have the right to refuse to answer any questions(s) for any reason, without penalty. You will also have the right to withdraw from the research study at any time without a penalty. If you want to

withdraw from the study, please do not complete the survey and/or submit it. You may simply choose not to respond in any way to this invitation.

Your individual privacy will be maintained throughout this study. In order to preserve the confidentiality of your responses, your information will be assigned a code number. The list connecting your name to this number will be kept in a secure file. All documents and data from this research will be protected and stored in a locked cabinet for a three year period and then destroyed. Your name will not be used in any report. The results of this research will be published in my dissertation and possibly in subsequent journals or books.

If you have any questions about any aspect of this study or your involvement, please contact me. I can be reached at the following: 434.544.8464; lichiello@lynchburg.edu; or Office of Graduate Studies, Lynchburg College, 1501 Lakeside Drive, Lynchburg, VA 24501. You may also contact my supervising faculty member, Dr. Sally Selden. Her contact information includes the following: 434.544.8266; selden@lynchburg.edu; or Academic Affairs, Lynchburg College, 1501 Lakeside Drive, Lynchburg, VA 24501. In addition, the Lynchburg College Institutional Review Board (IRB) for Human Subjects Research has approved this project. You may also contact the IRB Chair, Dr. Beth McKinney through the Health Promotion Department at Lynchburg College at 434.544.8962 or mckinney.b@lynchburg.edu with any questions.

Two copies of this informed consent form have been provided. Please sign both, indicating you are over 18 years old, have read, understood, and agree to participate in this research. Please **return one copy of the consent form** and the **completed survey** to me in the postage-paid, self-addressed envelope provided by **May 10, 2013**. You will also have the option to indicate if you are interested in receiving a copy of the survey results.

Thank you for your consideration,

Paula C. Lichiello

Researcher and Assistant Dean

Lynchburg College

Consent Agreement:

By signing below, I hereby acknowledge that I am over 18 years old, have read, understood, and agree to participate in this research study entitled, “Why They Stay: Engagement, Satisfaction, and Retention of Graduate Students.”

Information below should be completed by the consenting participant:

Name of Participant (please print)

Signature of Participant

Date

Survey Summary of Results Option: (Check if requesting information.)

_____ Yes, please send a summary of the study results (available May 2014) to the email or postal address indicated below.

(Please print clearly.)

Email address: _____

OR

Street address _____

City, State, Zip
code _____

Please return one copy of this signed form along with the completed survey in the postage-paid, self-addressed envelope provided by **May 10, 2013**.

Thank you for agreeing to participate in this research opportunity!

Appendix F: Survey Questions Mapped to Indices and Descriptive Statistics

Student Attribute Variables

CGMA : Career goals, motivations, and aspirations index ($M = 2.51$; $SD = 0.82$)

This additive index has a minimum of 0 and a maximum of 3.00.

All answers were coded yes = 1 and no = 0 and included the following questions.

Question 10: Please list the three main reasons you *initially* enrolled in your master's degree program. (Check up to three responses.)

- A. to improve my skills and knowledge
- B. to increase opportunities for promotion, advancement, and/or pay
- C. to meet requirements of my current employer
- D. to meet requirements of a prospective employer
- E. to learn more about a field in which I am particularly interested
- F. best option available at the time
- G. to facilitate a job/career change
- H. to use as a stepping stone for additional education (e.g., Ph.D. or Ed.D.)

Question 11: Is your present job related to your master's degree field? (Choose one.)

Question 12: Were you a "first generation" undergraduate student? (First generation indicates your parents did not attend college.)

Question 13: Are you a "first generation" master's degree student?

Question 14: Did you complete a previous master's degree before pursuing a graduate degree at this college?

Relationships: includes questions 3, 18, 19, and 22 separately

Question 3: While in graduate school, with how many faculty members did you maintain regular professional interactions? (Choose one.) Answers were coded none=0, one = 1, two=2, three=3, four or more = 4.

Question 18: At the time you were enrolled in this master's degree program at this college, were you (choose one): married or in a marriage-like relationship = 5, separated=4, single=3, single (divorced) =2, single (widowed) =1.

Question 19: Did your status or relationship change while in graduate school? (Choose one). Answers were coded yes=1 and no =0.

Question 22: During the time you were in graduate school, what was your spouse's/partner's educational attainment level? (Choose one). Answers were coded high school education or less=1, some college = 2, bachelor's degree = 3, some graduate school =4, master's degree=5, earned doctorate=6, and not applicable = -9.

Obligations: includes questions 8, 9, 20, 21, and 23 separately

Question 8: If you were employed while attending graduate school at this college (either with the College or outside of the College), do you feel that your employment affected the quality of your academic performance? (Choose one.) Answers were coded yes=1 and no=0.

Question 9: Please indicate the item that best describes the length of time you held a non-college job while attending graduate school. Answers were coded entire time in graduate

school = 1, less than a year = 2, one or two years = 3, more than two but less than three years = 4, more than three years = 5, and did not hold a non-college job=0.

Question 20: How many children or other dependents did you have at the time you first enrolled in your master's degree program? (Choose one.) Answers were coded none = 0, 1 or 2 children = 1, 3 or 4 children = 2, and 5 or more children = 3.

Question 21: Did you have additional children while pursuing your graduate degree? (Choose one.) Answers were coded yes = 1 and no = 0.

Question 23: (spouseemp) Which of the following best describes your spouse's/partner's employment while you were enrolled in graduate school? (Choose one.) Answers were coded employed full time = 5, employed part-time = 4, not employed = 3, student, employed = 2, and student, not employed = 1.

finances1a: finances index ($M = 5.84$; $SD = 2.27$)

This additive index has a minimum of 2.00 and a maximum of 13.00.

This included all components of questions 6.

Question 6 all – Indicate whether each of the following was a major source, minor source, or not a source of funds for your graduate education. All answers were coded major = 2, minor = 1, and not a source = 0.

- Employment at Lynchburg College- assistant coach, graduate assistantship, or resident assistant
- Employment outside of Lynchburg College
- Employer reimbursement/assistance

- Graduate Scholarship
- Grant Funds
- Loans (any source)
- Personal savings
- Parents, relatives or friends
- Spouse's or partner's income
- Support from foreign government
- Tuition remission for Lynchburg College staff and faculty

Question 7 is also included separately as part of finances.

To what extent was financing your master's education at this college a challenge?

(Choose one).

Answers were coded to a great extent = 3, to a moderate extent = 2, to a small extent = 1, and not at all = 0.

Student Outcome Variables

GPA: student's cumulative GPA in designated degree-seeking program from institution's database

engage1: engagement index (Cronbach's $\alpha = 0.65$; $M = 0.56$; $SD = 0.21$)

This additive index has a minimum of 0 and a maximum of 1.00.

Question 2 all - Indicate which of the following statements describe your involvement in your graduate program. All answers were coded yes = 1 and no = 0.

- I participated in at least one independent study course.

- I participated in an internship.
- I worked with a faculty member on a research project.
- I participated in a study group with other graduate students.
- I participated in social activities with other graduate students.
- I discussed educational issues outside the classroom with faculty members.
- I received regular and periodic assessment of my academic progress (in addition to grades in courses.)
- I attended professional or scholarly meetings.
- I participated in projects and/or or research.
- I wanted to spend more time with individual faculty members.
- I was introduced to faculty at other institutions.

Satis1: satisfaction (Cronbach's $\alpha = 0.92$; $M = 3.50$; $SD = 0.40$)

This additive index has a minimum of 2.23 and a maximum of 4.00.

Question 5 all - Indicate your level of satisfaction with each of the following aspects of your program. (Choose the degree of satisfaction for each item.) Very satisfied = 4;

Satisfied = 3; Dissatisfied = 2; Very dissatisfied = 1; not applicable = -9.

- Accessibility of faculty
- Career preparation
- Collegial atmosphere among faculty and students
- Communication between faculty and students
- Concern for you as a professional

- Fairness of evaluations of student academic progress
- Fairness with which comprehensive exams were administered
- Fairness with which degree requirements were enforced
- Fairness in providing financial support
- Intellectual ability of other graduate students
- Opportunities for financial support
- Quality of faculty instruction
- Quality of scholarly/research guidance
- Requirements for the graduate degree
- Research and scholarly opportunities

alien1: alienation index (Cronbach's $\alpha = 0.64$; $M = 0.16$; $SD = 0.26$)

This additive index has a minimum of 0 and a maximum of 1.20.

Question 17 select - The following contains a list of problems or barriers you may have encountered while enrolled in your graduate program. Indicate the extent to which each item posed a major, minor, or no problem to you in continuing your graduate program.

(Please rank each item.) All answers were coded major = 2, minor = 1, and not a problem = 0.

- a. Did not feel part of or involved in the program
- d. Few people I could identify with
- e. Graduate school experience not what I expected
- f. Graduate school was not challenging

- i. Not taken seriously; not encouraged by faculty

Retention Outcomes

Willingness to Return: ($M=4.36$; $SD=.94$)

Question 29a: If you could start graduate school over, would you: Come back to this College? Answers were coded definitely yes = 5, probably yes = 4, uncertain = 3, probably not = 2, and definitely not = 1.