Examination of Student, Program, and Institutional Support Characteristics that Relate to PGA Golf Management Students' Intent to Persist

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EXAMINATION OF STUDENT, PROGRAM, AND INSTITUTIONAL SUPPORT CHARACTERISTICS THAT RELATE TO PGA GOLF MANAGEMENT STUDENTS’ INTENT TO PERSIST

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ABSTRACT

Examination of Student, Program, and Institutional Support Characteristics that Relate to PGA Golf Management Students’ Intent to Persist

by

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The examination of student (entry characteristics, academic performance, career goals, and interaction with peers and faculty), program (programmatic interventions, academic major, and learning communities), and institutional support characteristics (financial aid and residence) that relate to cohort intent to persist are studied among 490 PGA Golf Management University Program undergraduate students from 12 universities. Results from this analysis will offer insight into which persistence factors lead to students’ matriculation to the next cohort, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics will help guide PGA Golf Management University programs by: recruiting the student with the characteristics that are likely to persist in the program; develop program characteristics that optimize cohort matriculation; and utilize and or promote the university characteristics that support program completion.
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I wish to acknowledge all that have played a part in providing the necessary motivation, support, and encouragement to assist my completion of the quest of scholarship. The completion of this dissertation did not come without sacrifice, and those who are close to me recognize this impact. The journey was difficult, rewarding, inspiring, and unique. I encourage all interested in pursuing this milestone to first be certain of your commitment, surround yourself with those who care about your development, and to be passionate about the topic of inquiry.

I was fortunate to have very understanding, passionate, and supportive committee members Nancy Lough and Doris Watson. I was blessed to have a chairperson that was determined to guide me in the right direction and help me finish what I started. Vicki, I thank you for not given up on me and kicking me in the tail when needed. You have been an inspiration and I am grateful for your guidance. Thank you all.

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My journey to this point in life has been paired with great accomplishment and a few bumps in the road. Throughout this ride I have had two special designated drivers. When the path was unclear, when the road was too hard to travel, or the vehicle just

v
simply ran out of gas, you two have always been there for me. I love you mom and dad.

While this milestone is for me… it is dedicated to you.

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CHAPTER 1

INTRODUCTION

The Professional Golfers’ Association (PGA) of America can trace its origins to January 17, 1916, when New York area golf professionals and prominent amateur golfers gathered to discuss forming a national organization aimed at promoting interest and profession of the game. Since 1916, the PGA of America has focused on the following objectives: promote the game of golf; elevate the standards of the golf profession; protect the mutual interests of its members; provide association meetings and tournaments for the membership; provide unemployment assistance for its members; establish a benevolent relief fund for its membership; and to accomplish relevant objectives determined by the Association to be in the best interest of the game (PGA, n.d.b.).

For an individual to achieve membership into the PGA of America, an individual must complete the PGA Professional Golf Management Program consisting of: knowledge exams; work experience requirements; playing ability exam; background check; United States citizenship or Resident Alien status; and eligible employment in the golf industry. The PGA has developed two paths in which individuals can matriculate through the PGA Professional Golf Management Program: 1) the PGA Apprentice Program; and 2) the PGA Golf Management University Program.

The PGA Apprentice Program requires an individual to matriculate through the PGA Professional Golf Management Program as a full-time employee under a supervising professional. The PGA Golf Management University Program requires the student to be enrolled fulltime in a PGA accredited university program, in which credit bearing courses within the students’ major area of study delivers the PGA learning
objectives. In 1975 the first PGA Golf Management University Program started at Ferris State University, located in Michigan. In the fall of 1985 Mississippi State University became the second PGA Golf Management University Program, by 1990 the PGA accredited New Mexico State University and Penn State University as the first four PGA Golf Management University Programs in the United States with a total of 4,116 incoming students since 1975. By 2008, twenty PGA Golf Management University Programs were accredited in the United States, enrolling 11,049 students since 1975 (PGA of America, 2012).

As the programs matured, the PGA of America Department of Education began to focus their attention on student attrition rates. According to a 2010 attrition report conducted by the PGA Department of Education, PGA Golf Management University Programs collectively experience a 46% rate of attrition. Individual university programs vary in their attrition rates from 24% to 62%, suggesting that a great deal of variation in student persistence exists among the university programs (Department of Education, PGA of America, 2011).

When examining student profile characteristics, the percentage of students at each university program that represents diversity as defined by the PGA of America (African American, Hispanic American, Asian American, American Indian, Multi-Racial and Female) vary between the low of 1% to the high of 25.9%, with the average percentage of diversity among all university programs at 10.56%. When examining gender differences among the university programs, 1.3% represents the lowest percentage and 11.4% represents the highest percentage of females in a particular program, with the average percentage of females among all university programs at 4.7% (PGA of America, 2011).
Program characteristics also vary among each university program. All PGA Golf Management University Programs are offered through a Bachelor of Science degree, however majors in which the program is delivered vary considerably. For example, the following major areas of study are offered: business administration with a focus in management, marketing, finance, accounting, or economics; Park, Recreation, and Tourism Management; Hospitality Management; and a major in PGA Golf Management. Additionally, program characteristics vary by the services provided to students. For example, each program varies within: student engagement levels within the student association; rigor and frequency of sessions within the player development program; levels of academic advisement to support cohort matriculation; staffing levels; and golfing ability entrance requirements.

Furthermore, university characteristics vary in the following ways: academic entrance requirements; the time the university and program have existed; climate affecting the ability to play golf year round; the number of golf courses available to the student for play, practice, and work; cost to attend; number of degrees and majors offered at the university; accessibility to fraternity or sorority involvement; and the size, and type (public or private) of the university.

**Brief Overview**

Since noted variation of attrition rates exist among PGA Golf Management University Programs, an exploration on factors influencing persistence provides the template for the literature review. Tinto (1993) suggested that the investigation of student departure should begin by exploring the first year of college. By doing this Tinto stated, “the first year proves to be an especially important year in the process of persistence. The
character of one’s experience in that year does much to shape subsequent persistence. By the same token, the largest proportion of institutional leaving occurs in that year and prior to the beginning of the second year” (p.14). Adelman (2004) shared a quite different perspective, offering a rationale for the exploration of factors beyond the first year by stating, “degree completion is the true bottom line for college administrators, state legislators, parents, and most importantly students - not retention to the second year, not persistence without a degree, but completion” (p.1). Further, Tinto (1988) and Graunke and Woosley (2005), explained that previous student persistence research has focused primarily on the student’s first year, and more evidence is therefore needed regarding factors pertaining to students at the sophomore level and beyond. These comments and findings by leading researchers in the study of persistence support further investigation into cohort specific factors that lead to persistence, and ultimately degree attainment.

Since this study examines undergraduate student, program, and institutional support characteristics that relate to cohort persistence of PGA Golf Management University Students the outline of these persistence factors provided by Tinto (1975) and Pascarella and Terenzini (2005) will be presented in three characteristic themes: 1) student, 2) program, and 3) institutional support characteristics. Each characteristic theme will include a description of the related persistence factors supported by peer-reviewed studies illustrating the relatedness of the factor to persistence and or degree attainment. The student characteristic theme will be organized by the review of the following persistence factors: entry characteristics (family background, individual attributes, and precollege schooling experience); academic performance; career goals, and interaction with peers and faculty. The program characteristic theme will be organized by a review
of the following: programmatic interventions, academic major and learning communities. Finally, the institutional support characteristic theme will be organized by a review of financial aid and residence.

**Persistence Factors Related to Student Characteristics**

Entry characteristics (also referred to as pre-college characteristics) of PGA Golf Management University students vary among programs and are well documented in persistence literature as influencing student persistence in college. Entry characteristics will be introduced in the following three segments with further explanation in Chapter 2: 1) family background (family socioeconomic status, parental educational level, and parental expectations); 2) individual attributes (race, and gender); 3) precollege schooling experience (characteristics of the student’s secondary school, and record of high school academic achievement, academic ability).

**Entry Characteristics- Family Background**

Tinto (1975) emphasized the importance of family background characteristics and its influence on student dropout, suggesting that the most important factor is the quality of the relationship within the family and the interest and expectations parents have for their children’s education. The likelihood of an individual’s dropping out of college is related to the characteristics of the individual’s family (Tinto, 1975). Furthermore, even when controlling for intelligence, individuals from lower status families exhibit higher rates of dropout than individuals coming from higher status families (Sewell & Shah, 1967). When looking into a more recent study, McGrath and Braunstein (1997) examined the importance of certain demographic, academic, financial, and social factors in
predicting freshman attrition finding a significant difference between socioeconomic background and retention (McGrath & Braunstein, 1997).

**Entry Characteristics- Individual Attributes**

Prior to Tinto’s (1975) findings, and offering insight on the way gender influences the relationship between socioeconomic status and intelligence on persistence, Sewell and Shah (1967) found that the student’s own ability was nearly twice as important in accounting for dropout as was the social status of the family. However, when gender was examined specifically the relative effect for females of socioeconomic status on college plan, attending college, and graduation was greater than the effect of intelligence. For males, the relative effect of intelligence at each of these stages was greater than the effect of socioeconomic status. When examining the impact ethnicity/race has on persistence, Murtaugh Burns, and Schuster (1999) findings provided perspective on the controlling effects of age, GPA, and residence status. The findings of this multivariate analysis suggested the average African America student is more likely to withdraw than the average Caucasian student, but when controlling for age, GPA, and residency, the African America student was actually less likely to withdraw.

**Entry Characteristics- Precollege Schooling Experience**

Tinto (1975) defined past educational experiences as being inclusive of both the characteristics of the student’s secondary school and the record of high school academic achievement. It is this precollege schooling experience as noted by Davis (1996) and previously by Nelson (1972) and St. John (1971) that influences both the social status of the school and the ability level of the students, consequently affecting the levels of future college education. Select findings of the Adelman (2004) study further supports the
precollege schooling experience as noted by Tinto (1975). In Adelman’s (2004) assessment of variables explaining bachelor’s degree attainment related to high school background, a number of interesting findings emerged. With respect to the academic resources students bring to college (high school curriculum, test scores, and class rank/GPA) there was no higher resource than high school curriculum when examining the correlation with bachelor’s degree attainment.

**Academic Performance**

Noted by Astin (1993), grades alone are not the ideal measures of learning and intellectual development, but rather a reflection of student performance relative to other students, placing less validity to grades representing what the student actually learned. However, grade point averages were found to be the means: to students’ standing and continued enrollment; to admission to undergraduate and graduate programs; to degree completion; and to employment opportunities (Pascarella & Terenzini, 1991). As a result of a survival analysis method used to model retention of 8,867 undergraduate students at Oregon State University, attrition was found to increase with age, and decrease with increasing high school GPA and first-quarter GPA (Murtaugh et al, 1999). Similarly, DeBerard, Spieimans, and Julka (2004) concluded in their examination of predictors of first-year academic achievement that GPA and SAT scores accounted for a substantial variation in academic achievement.

**Career Goals**

Prior research has indicated that students’ goals strongly influence decisions to remain in school (Tinto, 1993), and the presence of long term goals significantly predict academic performance (Ting, 1997). More specifically, long-term, specific, high-level,
learning-oriented, and/or attainable goals appear to be significant for retention-related factors (Claypool & Cangemi, 1983; Emerick, 1992; Fore, 1998; Mau, Dominick, & Ellsworth 1995; Silver, 1999). Similarly, Hull-Banks et al (2005) examined the relationships of value, job, school, and unknown career goals with retention decisions, academic performance, self-beliefs, and school and career commitment. In summary, results indicated that students with unknown career goals made fewer persistence decisions than students with job-related career goals.

**Interaction with Peers and Faculty**

Student interaction with peers and faculty and its influence on persistence and degree attainment has been well documented. Pascarella and Terenzini (2005) claimed the relationship students have with their peers is a powerful socializing agent in shaping persistence and degree completion, and this influence is a statistically significant and positive force in students’ persistence decisions. Furthermore, studies indicated students’ perceptions of faculty members’ availability and concern for their development and teaching, had positive and statistically significant effects on persistence when other relevant factors were controlled (Halpin, 1990; Johnson & Johnson, 1994; Mallette & Cabrera, 1991). Ullah and Wilson (2007) suggested that student and faculty interaction, student to student interaction, institutional emphasis on diversity, participation in extracurricular activities, student interaction with faculty outside the classroom and peer interactions are positively associated with student persistence and educational attainment.
Persistence Factors Related to Program Characteristics

Characteristics of PGA Golf Management University Programs also vary, leading to the examination of persistence factors related to programmatic interventions, academic major, and the program’s function as a learning community. These three segments will be introduced and further discussed in Chapter 2.

Programmatic Interventions

Pascarella and Terenzini (2005) recognized the pressures placed on institutions of higher education to increase retention and degree completions. Consequently, research in this area of study has gained traction leading to the effectiveness of programmatic interventions designed to promote retention and degree completion. As noted by Tinto (1993) not all students have the skills needed to participate in regular course work. Some require developmental educational support or some sort of remediation that is designed to assist students in acquiring the skills needed for full college participation. These programs typically combine an array of effort, from special coursework, to advising, and mentoring that most frequently follows the student throughout their matriculation at the university (Tomlinson, 1989). Additionally, Nealy (2005) spoke to the importance of advising as a factor influencing student persistence and similarly, Coll and Stewart (2008) recognized that a collaborative relationship between counseling services and faculty could help support assessments of professional program course work, extra-curricular activities, and custom tailored counseling services or faculty interactions designed to impact variables leading to persistence factors.
**Academic Major**

Suhre, Jansen and Harskamp (2007) revealed that academic ability, satisfaction with degree program, motivation, and regular study habits all had positive effects on academic accomplishment. When focusing on the satisfaction with degree program or major, the work of Robst (2006) comes to the forefront. Robst (2006) stated that students should also consider the potential for finding employment in a job related to that major since being unable to find employment reduces the returns to schooling for many majors. As such, before choosing a major that focuses on occupation specific skills, students should be advised to make sure it is what they wish to pursue in their career. Similarly, prior research shows that students should consider the likelihood that they will be able to finish the degree in their major of choice (Montmarquette, Cannings, & Mahseredjian, 2002). The results are robust and showed that the choice of college concentration depends decisively on the expected earnings in a particular concentration. Further, students with undecided majors had both low academic performance and low persistence rates (Leppel, 2001).

**Learning Communities**

It is noted within the literature that a popular method for improving the quality of the undergraduate experience is the development and implementation of learning communities. The term learning communities have many variations in definition. They include freshman interest groups, linked courses, block scheduling and registration for groups of students, and curriculum that is systematically linked (Pascarella & Terenzini, 1991). Evidence indicated that learning communities have statistically positive effects on student persistence into the second semester (Tinto & Russo, 1994) and into the second
year (Stassen, 2003; Tinto, 1997). Typical learning communities are organized around a central theme that links courses and curriculum to promote a deeper type of learning than is possible in standalone courses. Nearly all learning communities have three things in common: shared knowledge; shared knowing; and shared responsibility (Braxton, 2000). Learning communities have also resulted in increased involvement, effort, learning and persistence (Braxton, 2000; Pace, 1984; Tinto, 1997).

**Persistence Factors Related to Institutional Support Characteristics**

PGA Golf Management University Programs also vary in institutional support characteristics. This theme will be organized by an introduction of the influence financial aid and residence has on student persistence and further explained in Chapter 2. The PGA Golf Management University Programs vary in their offering of various levels of grants, scholarships, loans, work-study programs, and other forms of aid to the students. Additionally, each university campus has various levels of participation of their students in campus housing.

**Financial Aid**

While a large body of research focused on the impact financial aid has on students’ decisions to attend college or where to attend, limited studies have honed in on the effects financial aid has on the students’ decisions to persist and graduate (Herzog, 2005; Pascarella & Terenzini, 2005). Financial aid students benefit from take on many forms and sources (e.g. grants, scholarships, loans, and work-study as well as through family support, personal savings, and non-school related work). Estimating the impact of these types of financial aid is anything but straightforward (Heller, 2003). Astin (1993) indicated that financial aid enhanced persistence and degree completion particularly
among low-income students. Furthermore, studies finding financial aid producing a negative impact to persistence suggested that it is less of a case for ineffectiveness, but more likely a negative association due to the insufficiency of the funds (Cofer & Somers, 1999). Adelman (1999) noted the only form of financial aid that bears a positive relationship to degree completion after the student’s first year of college attendance is employment within a college work-study program or other campus-related work while the student is enrolled or for the purpose of covering the costs of education for students who attend a four-year college. When focusing on the impact grants and scholarships have on persistence and graduation, results are mixed. Controlling for other relevant variables, need based grants had no impact on persistence over a seven year period, whereas merit base scholarships had the largest impact in each year (DesJardins, Ahlburg, & McCall, 2002). Since the 1992 Reauthorization of the Higher Education Act, federal and state financial aid policies shifted significantly away from grants toward loans. As a result of this shift, loan polices are allowing for greater borrowing to accommodate higher tuition and fees resulting in higher levels of student debt. These forces have had potentially negative effects on persistence, graduation, and student’s decisions about graduate school enrollment (Pascarella & Terenzini, 2005).

**Residence**

According to Pascarella and Terenzini (2005) students living on campus are more likely to persist and graduate than commuters even when precollege characteristics associated with retention and educational attainment were controlled. According to Bean and Metzner (1985) the commuter student appeared to be dissimilar to residential students in ways that are important to retention decisions. When drawing comparisons
between commuter and residential, commuter students spent less time on campus outside of class time (Chickering & Kuper, 1971), generally had fewer friends at college and were in less contact with faculty outside of class time, were less involved in extracurricular activities, and were more concerned with financing their education (Chickering, 1974). In addition, Dressel and Nisula (1966) determined that commuters often work and are more likely to have family responsibilities and conflicting priorities. More recently, Huesman, Brown, Lee, Kellogg, and Radcliffe (2007) modeling of student academic success emphasized the important role living in residence halls play for students in their first semester in relation to their academic success. Further, Lowther and Langley (2005) conducted a study at a large public university that examined the effect on-campus housing had on first-year retention. The results showed a strong statistical relationship between housing choice and first year retention, even after controlling for ability (ACT scores). The relationship was only significant for female students.

**Theoretical Framework**

The belief that the influence of noted persistence factors (Pascarella & Terenzini, 2005; Tinto, 1975) within the literature review (family background; individual attributes; precollege schooling experience; academic performance; career goals; interaction with peers and faculty; programmatic interventions; academic major; learning communities; financial aid; and residence) help explain the connectedness between persistence and educational attainment is grounded in both Tinto’s theory of student departure (1975) and Astin’s (1984) student involvement theory. These two theories helped guide the study conceptually, which aimed to identify factors most important to persistence through the lens of cohort matriculation.
Tinto (1975) argued “that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person’s experiences in those systems continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout” (p.94). Tinto (1988) reinforced the notion that different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress through the three stages toward degree completion. With this being said, a closer look into factors influencing persistence specific to cohorts (i.e. first year, second year, third year, and fourth year) may provide institutions greater insight on the type of timely actions necessary to implement to improve a student’s transition through these stages with the ultimate goal of increasing persistence to degree attainment.

As noted by Pascarella and Terenzini (2005) Tinto’s theory of departure (students’ integration into the academic and social systems of the institution) is quite similar to Astin (1984) student involvement theory, with the exception that the importance of the investment of physical and psychological energy postulated by Astin is only implied in Tinto’s concept of integration. Astin’s (1984) theory of student involvement can explain most of the empirical knowledge about the environmental influences on student development that researchers have gained over the years. Ultimately, the theory can be used by researchers to guide college administrators and faculty to help design more effective learning environments.

While student entry characteristics influence persistence it is also important to note that Tinto (1988) reinforced the notion that different forms of institutional actions
for student persistence must be carefully timed to meet the changing situations and needs of students as they progress toward degree completion. This notion paired with the attempt of Berger and Braxton (1998) to revise Tinto’s theory by estimating the effects of organizational attributes on social integration, and furthermore students’ intent to persist provide the support for Astin’s student involvement theory. Additionally, Tinto (1975) exposed the need for research on dropout rates to develop a theoretical longitudinal model that links various individual and institutional characteristics to the process of dropping out of college.

Therefore, this study’s exploration of persistence factors that relate to cohort persistence extends past student entry characteristics and introduces those factors that influence student involvement. Astin (1984) recognized that the most precious institutional resource might be student time. As a result, this theory calls for focus by college administrators and faculty to create environments that capitalize on the time the university has with students both in and out of the classroom. When we look to this study’s literature review of persistence factors outside the students’ entry characteristics the connection these factors have on student involvement becomes clear.

Purpose of the Study

The purpose of this study is to examine undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University student cohort intent to persist. Results from this analysis could offer insight into which persistence factors lead to students’ matriculation to the next cohort, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics could help guide PGA Golf Management
University Programs by: recruiting the student with the characteristics that are likely to persist in the program; develop program characteristics that optimize cohort matriculation; and utilize and or promote the institutional support characteristics that lead to program completion.

Research Questions

The study used five research questions to examine student, program, and institutional support characteristics that relate to PGA Golf Management student cohort intent to persist. Each question addresses a theme of factors influencing persistence from the literature. The following questions guided the study:

Question 1

Controlling for students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), and pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability), which factors best explain the intention to persist among cohorts?

Question 2

Controlling for students’ academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities) and academic (e.g., faculty activities) relationships, which factors best explain the intention to persist among cohorts?

Question 3

Controlling for program characteristics (e.g., interventions, academic major, and learning communities), which factors best explain the intention to persist among cohorts?
Question 4

Controlling for institutional support characteristics (e.g., financial aid, and residency status), which factors best explain the intention to persist among cohorts?

Question 5

Which combination of persistence related factors: students’ family background; individual attributes; pre-college schooling experience; academic performance; career goals; social and academic relationships; program characteristics; and institutional support characteristics explain the intention to persist among PGA cohort students?

Method

Using a survey instrument, this quantitative study examined undergraduate students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, academic ability), academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities), and academic (e.g., faculty activities) relationships, program characteristics (e.g., interventions, academic major, and learning communities), and institutional support characteristics (e.g., financial aid, and residency status) that relate to cohort intent to persist in PGA Golf Management University Programs.

Data related to student, program, institutional support characteristics, and cohort intent to persist were obtained by self-reported responses to the survey instrument. Prior to the circulation of the survey, a pilot study was conducted by an expert review of five
people. The small group included those familiar with survey design, industry professionals, and alumni of PGA Golf Management University Programs.

The data set included all undergraduate students enrolled in the nation’s PGA Golf Management University Programs while on campus during the 2012/13 academic year; cohorts were defined by the students’ standing in the program (e.g., first year, second year, third year, and fourth year). The student population among the PGA Golf Management University Programs range from a low of 39 at the University of Maryland Eastern Shore to a high of 240 at Methodist University with a total population of 1,938 students (PGA, 2011).

The PGA Golf Management University Directors were utilized as the point of survey distribution to each program’s respective students. The survey development, circulation, and collection were guided by recommendations from Dillman (2000). These recommendations guided the visual design and layout of the survey, and provided a system for increasing response rates by: 1) in the beginning of the spring semester 2013 a phone call to each PGA Golf Management University Director was made with a follow-up email a few days prior to the distribution of the survey; 2) sending an email to each program director with a link to the survey for circulation to their program students; 3) placing an identification code on each questionnaire so program response rates can be tracked; and 4) two weeks after the initial circulation of the survey a phone call was made to each program director and the distribution of a second email with the program student response rate accompanied the survey to encourage survey completion rates. The survey was circulated and responses were collected through Survey Monkey, a commercial online survey tool.
The employment of regression analysis in this study was ideal due to the categorical and continuous independent variables associated with student, program, and institutional support characteristics, and the categorical dependent variable associated with the intent to persist. Regression analysis was made popular through the work of Yule (1897) and Pearson Yule, Blanchard, and Lee (1903), and current applications of the technique are often used to study college student persistence (Dey & Astin, 1993).

Definitions

The following definitions clarify terms used throughout the study.

*Cohort*: A group of students within the same year of study matriculating through the PGA Golf Management University Program.

*Learning Community*: The term learning community has many variations in definition. They include freshman interest groups, linked courses, block scheduling and registration for groups of students, and curriculum that is systematically linked (Pascarella & Terenzini, 1991). PGA Golf Management Programs can be viewed as a built in learning community due to the similar interests of students entering the program, and the cohort matriculation policy that encourages block scheduling with curriculum that is systematically linked. Therefore, student involvement levels in the program’s student association (student interest group) and student matriculation progress with their initial cohort will be used to differentiate levels of learning community involvement.

*PGA Apprentice Program*: The PGA Apprentice Program requires an individual to matriculate through the PGA Professional Golf Management Program as a full-time employee under a supervising professional (PGA, n.d.b.).
**PGA Golf Management University Program**: An undergraduate program offered at 4-year public or private universities accredited by the Professional Golfers’ Association (PGA) of America designed to produce members with a four-year bachelor’s degree in the study of Business, Hospitality, or Recreation.

**PGA Professional Golf Management Program**: The educational curriculum offered through the PGA of America in two distinct pathways including 1) PGA Apprentice, and 2) PGA Golf Management University Program, both consisting of the following requirements to achieve membership into the association: knowledge exams; work experience requirements; playing ability exam; background check; United States citizenship or Resident Alien status; and eligible employment in the golf industry.

**Professional Golfers’ Association (PGA) of America**: The world’s largest working organized sport management association with the following business objectives: promote the game of golf; elevate the standards of the golf profession; protect the mutual interests of its members; provide association meetings and tournaments for the membership; provide unemployment assistance for its members; establish a benevolent relief fund for its membership; and to accomplish relevant objectives determined by the Association to be in the best interest of the game

**Limitations of the Study**

There are several limitations to the study. The population studied was comprised of students from all undergraduate students within PGA Golf Management University Programs during this one academic year. The data from this study may be useful to students and administrators of these programs and other programs that have cohort matriculation policies, but is not generalizable to all undergraduate programs. The study
aimed its examination of persistence factors to three distinct themes (e.g., student, program, and institutional support characteristics). With this being said, there are many other persistence factors that could have been examined. The researcher chose to use recommendations from Tinto (1975, 1988, 1993), and Pascarella and Terenzini (1991, 2005) to frame these noted themes focusing on entry and within college characteristics said to have the largest effect on persistence influence (Pascarella & Terenzini, 2005).

The researcher paid careful attention to the development of the survey instrument, prior to the circulation of the survey a pilot study to gain insight on survey design, flow, validity, and reliability of questions. The pilot study was conducted by an expert review of five people including those familiar with survey design, industry professionals, and alumni of PGA Golf Management University Programs. While attention was given to develop a survey instrument aimed to measure the researcher’s intentions this standardization forces the design of questions to be appropriate to all respondents. With this being said, the survey instrument has an element of inflexibility, which could lead to responses that do not accurately portray the respondents’ true feelings (Babbie, 2007).

**Significance of the Study**

According to a 2010 attrition report (PGA, 2011) PGA Golf Management University Programs collectively experience a 46% rate of attrition. Individual university programs vary in their attrition rates from 24% to 62%, suggesting that a great deal of variation related to student persistence exists among the university programs.

With cohort matriculation being a requirement for students enrolled in the PGA Golf Management University Programs, this policy provides a unique opportunity to examine factors that relate to cohort persistence. Ackerman and Schibrowsky (2007)
suggested that the examination of student persistence factors specific to class standing (similar to cohorts) can contribute to the body of knowledge already present in student persistence literature. Tinto (1988) and Graunke and Woosley (2005), explained that previous student persistence research has focused primarily on the student’s first year, and more evidence is therefore needed regarding factors pertaining to students at the sophomore level and beyond. In addition, Adelman (2004) offered a rationale for the exploration of factors beyond the first year by stating, “degree completion is the true bottom line for college administrators, state legislators, parents, and most importantly students - not retention to the second year, not persistence without a degree, but completion” (p.1). Adelman’s comments support the examination of student persistence factors that are unique to cohorts for the findings may help administrators and faculty better understand how to apply already limited resources most efficiently to improve persistence and ultimately degree attainment. Ackerman and Schibrowsky (2007) shared a similar long term view of the benefits of persistence when they concluded, 1) the improvement of persistence is important for improving the efficiency and effectiveness of higher education ultimately increasing the number of individuals that graduate, 2) it is financially prudent to invest in persistence, and 3) building strong relationships with students while in college help convince graduates to become loyal alumni and donors.

Tinto’s (1975) internationalist theory of student dropout included various individual characteristics that play a role in the college student departure process. Such student entry characteristics (e.g., family background, individual attributes, and precollege schooling experience) directly influence the student’s initial commitment to an institution and to the goal of college graduation (Braxton, 2000). While student entry
characteristics influence persistence it is also important to note that Tinto (1988) reinforced the notion that different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress toward degree completion. Therefore, this study’s exploration of persistence factors that relate to the intent for cohorts to persist extends past student entry characteristics and introduces those factors that influence student involvement (e.g., interaction with peers and faculty, programmatic interventions, learning communities, work-study programs as a form of financial aid, and campus residence) (Astin, 1984).

Results from this analysis could offer insight into which persistence factors lead to students’ matriculation to the next cohort, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics could help guide PGA Golf Management University Programs by: recruiting the student with the characteristics that are likely to persist in the program; developing program characteristics that optimize cohort matriculation; and utilizing and or promoting the university characteristics that support program completion.

Summary

Tinto’s (1975) internationalist theory of student dropout included various individual characteristics that play a role in the college student departure process. While student entry characteristics influence persistence it is also important to note that Tinto (1988) reinforced the notion that different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress toward degree completion. With cohort matriculation being a requirement for students enrolled in the PGA Golf Management University Programs,
this policy provides a unique opportunity to examine factors that relate to cohort intent to persist. Results from this analysis could offer insight into which persistence factors lead to students’ matriculation to the next cohort with the ultimate goal of program completion, and implications that can guide recruiting practices, optimization of program characteristics, and promotion of university characteristics that support program completion.

The researcher utilized primary data through a survey instrument to collect responses from students enrolled in PGA Golf Management University Programs to identify persistence factors that relate to their cohort’s intent to persist to the next year of study. This chapter provided an overview of relevant literature and introduced the theoretical framework, purpose, research design and questions, definitions of terms, limitations, and the significance of the study. The next chapter presents an extensive review of relevant literature and connection to the theoretical framework of the study.
CHAPTER 2
LITERATURE REVIEW

History of the PGA of America

The Professional Golfers’ Association (PGA) of America can trace its origins to January 17, 1916, when New York area golf professionals and prominent amateur golfers gathered to discuss forming a national organization aimed to promote interest and profession of the game. Since 1916, the PGA of America has focused on the following objectives: promote the game of golf; elevate the standards of the golf profession; protect the mutual interests of its members; provide association meetings and tournaments for the membership; provide unemployment assistance for its members; establish a benevolent relief fund for its membership; and to accomplish relevant objectives determined by the Association to be in the best interest of the game (PGA, n.d.b.).

Pathways to Membership Requirements

To achieve membership into the PGA of America, an individual must complete the PGA Professional Golf Management Program consisting of: knowledge exams; work experience requirements; playing ability exam; background check; United States citizenship or Resident Alien status; and eligible employment in the golf industry. The PGA has developed two paths in which to satisfy these noted membership requirements: 1) the PGA Apprentice Program; and 2) the PGA Golf Management University Program. While the apprentice and university programs differ in their delivery methods both require completion of the same PGA Professional Golf Management Program requirements (PGA, n.d.a.).
The PGA Apprentice Program requires individuals to be employed fulltime in the golf industry under the supervision of a PGA Professional. The apprentice matriculates through the PGA Professional Golf Management Program consisting of: knowledge exams; work experience requirements; and playing ability exam through a self-study approach guided by the acceptable progress policy established by the PGA Department of Education.

The PGA Golf Management University Program requires the student to be enrolled fulltime in a PGA accredited university program, in which credit bearing courses within the students’ major area of study delivers the PGA learning objectives. The university program employs a full time Internship Coordinator to support the students’ matriculation of 16 months of required internship at PGA approved facilities to satisfy work experience requirements. The program also administers a Player Development Program to support the students’ development of playing ability to successfully complete the playing ability exam. Testing of the PGA learning objectives are scheduled each semester and are assessed through course exams and independent assessments from the PGA through an on-line proctored exam. University students are required to matriculate in cohorts, similar to the acceptable progress timeline established for the Apprentice Program.

History and Growth of PGA Golf Management University Programs

In 1975, the first PGA Golf Management University Program started at Ferris State University, located in Michigan. The 4.5-year undergraduate degree program prepared students for careers in the golf industry. From 1975 to 1984 the PGA Golf Management University Program at Ferris State accepted 886 students. In the fall of
1985, Mississippi State University became the second PGA Golf Management University Program with an entering class of 26 students. By 1990, the PGA accredited New Mexico State University and Penn State University as the first four PGA Golf Management University Programs in the United States with a total of 4,116 incoming students since 1975 (PGA of America, 2012).

To meet the increased demand for qualified golf operation managers and instructors, in 1999 the PGA accredited five additional golf management programs forecasting the need of PGA Golf Professionals to manage the game and business of golf in the United States. By 2008, twenty PGA Golf Management University Programs were accredited in the United States, enrolling 11,049 students since 1975. In 2010, the University of Arizona due to unprecedented budget shortfalls was forced to eliminate the PGA Golf Management University Program.

**Attrition Rates of PGA Golf Management University Program Students**

As the programs matured, the PGA of America Department of Education began to focus their attention on student attrition rates. According to a 2010 attrition report conducted by the PGA Department of Education, PGA Golf Management University Programs collectively experienced a 46% rate of attrition. Individual university programs varied in their attrition rates from 24% to 62%, suggesting that a great deal of variation in student persistence existed among the university programs (PGA of America, 2011). These now 19 unique undergraduate programs vary with respect to student, program, and institutional support characteristics. The following depicts known variations shared by the expert review of the PGA of America Director of Accreditation and University Programming.
Characteristics of PGA Golf Management University Program Students

The percentage of students at each university program that represents diversity as defined by the PGA of America (African American, Hispanic American, Asian American, American Indian, Multi-Racial and Female) vary between the low of 1% to the high of 25.9%, with the average percentage of diversity among all university programs at 10.56%. Since playing the game of golf at a high level of proficiency is an entrance requirement to PGA Golf Management University programs, diversity among the programs will remain low until more diverse junior golfers are introduced into the game and have the opportunity to become proficient golfers at the time of entering college.

When examining gender differences among the university programs, 1.3% represented the lowest percentage and 11.4% represented the highest percentage of females in a particular program, with the average percentage of females among all university programs at 4.7% (PGA of America, 2011). Since playing ability entrance requirements for females at PGA Golf Management University programs are comparative to division 1 or 2 collegiate women golf team entrance requirements, many females opt to participate in golf athletic scholarship programs. The absence of scholarship programs at PGA Golf Management University programs for playing ability plays a significant role in limiting female enrollment. Furthermore, beyond the noted differences in diversity and gender each university program has different costs and entrance requirements leading to differences in students’ socioeconomic status and preparedness for college.
Characteristics of PGA Golf Management University Programs

Program characteristics also vary among each university program. While all PGA Golf Management University Programs are required to be aligned with a Bachelor of Science Degree, the discipline and majors in which the program is housed varies. Twelve out of the nineteen PGA Golf Management University Programs are delivered through a major related to business administration with a focus in management, marketing, finance, accounting, or economics. Out of the remaining seven PGA Golf Management University Programs: three are delivered through a major related to Park, Recreation, and Tourism Management; three are delivered through a major related to Hospitality Management; and the remaining university program offers a major in PGA Golf Management.

Program characteristics also vary by the services provided to students. While PGA Accreditation Standards require the establishment of a PGA Golf Management Student Association, a player development program, a cohort matriculation policy, a minimum staffing level, and an entrance requirement for golfing ability each program’s support of these requirements vary. For example each program varies within: student engagement levels within the student association; rigor and frequency of sessions within the player development program; levels of academic advisement to support cohort matriculation; staffing levels; and golfing ability entrance requirements.

Characteristics of PGA Golf Management Universities

University characteristics vary in the following ways: academic entrance requirements; the time the university and program have existed; climate affecting the ability to play golf year round; the number of golf courses available to the student for play, practice, and work; cost to attend; number of degrees and majors offered at the
university; accessibility to fraternity or sorority involvement; and the size, and type (public or private) of the university.

While these noted variations among student, program, and university characteristics exist, the cohort matriculation requirement is common ground. Each student entering one of the PGA Golf Management University Programs is required to matriculate as a cohort, failure to do so results in an administrative drop from the program. Students leaving the program often do so after the first round of external exams administered by the PGA of America targeted during the first or second year of the program. One could only speculate as to why students’ fall out of cohort, some initial thoughts could include: the extra financial costs above tuition, room, and board that is associated with the program; the academic rigor of the simultaneous requirements of the degree program and the PGA Golf Management curriculum; experiences while on internship; or a student’s change of heart for their program of study.

However it is this cohort matriculation requirement that provides a unique opportunity to examine factors that relate to cohort persistence. Results from this analysis could offer insight into which persistence factors lead to students’ matriculation to the next cohort, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics could help guide PGA Golf Management University Programs by: recruiting the student with the characteristics that are likely to persist in the program; develop program characteristics that optimize cohort matriculation; and utilize and or promote the university characteristics that support program completion.
Overview of Topic

Tinto (1993) suggested that the investigation of student departure should begin by exploring the first year of college. Adelman (2004) shared a quite different perspective, offering a rationale for the exploration of factors beyond the first year by supporting the examination of student persistence factors that are unique to cohorts for the findings may help administrators and faculty better understand how to apply already limited resources most efficiently to improve persistence and ultimately degree attainment. Ackerman and Schibrowsky (2007) shared a similar long term view of the benefits of persistence when concluding: 1) the improvement of persistence is important for improving the efficiency and effectiveness of higher education ultimately increasing the number of individuals that graduate; 2) it is financially prudent to invest in persistence; and 3) building strong relationships with students while in college help convince graduates to become loyal alumni and donors.

In addition to the findings of Ackerman and Schibrowsky (2007), the examination of student persistence factors specific to class standing (similar to cohorts) can contribute to the body of knowledge already present in student persistence literature. Tinto (1988) and Graunke and Woosley (2005), explained that previous student persistence research has focused primarily on the student’s first year, and more evidence is therefore needed regarding factors pertaining to students at the sophomore level and beyond. These comments and findings by leading researchers in the study of persistence support further investigation into cohort specific factors that lead to persistence and ultimately degree attainment.
Research of Persistence Factors

This section will provide an overview of factors used to predict persistence and educational attainment found in text and peer reviewed articles. Tinto’s (1975) theoretical model of student persistence and withdrawal behavior (a.k.a. the interactional theory of student dropout) is one of the most cited models aimed to explain student dropout. Tinto’s (1975) theoretical model and Astin’s (1984) student involvement theory will receive greater attention toward the end of the literature review as they provided the conceptual frameworks for this study. Prior to the explanation of these noted theories is the review of widely supported student persistence factors examined before college entrance and while the student is enrolled.

Tinto’s (1975) internationalist theory of student dropout included various individual characteristics that play a role in the college student departure process. Such student entry characteristics directly influence the student’s initial commitment to an institution and to the goal of college graduation (Braxton, 2000). Tinto’s (1975) entry characteristics included: family background (family socioeconomic status, parental educational level, and parental expectations); individual attributes (race, and gender); and precollege schooling experience (characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability). Supporting the use of these entry characteristics were Anonymous (1997) and Murtaugh, Burns, and Schuster (1999) in their examination of the relationship between student precollege characteristics (e.g. high school GPA, SAT score) and relevant demographic information (e.g. ethnicity/race, sex) to their success at a college or university.
Pascarella and Terenzini (2005) compiled a collection of studies over a ten-year period resulting in categorizing factors that influence persistence and educational attainment into two distinct themes, 1) between-college effects and 2) within-college effects. Between college effects included the consideration of factors such as: two-year versus four-year institutions; state policies and system structures; interruptions in attendance; institutional control (public vs. private); and institutional size, quality, gender, and racial-ethnic composition. Pascarella and Terenzini (2005) noted “as a whole, the research reviewed in the previous section (between-college effects) suggests that the impact of various institutional characteristics on persistence and educational attainment, although statistically significant and independent of other factors, tends to be small” (p. 395). This notion suggested that greater forces are in play within the institutions that can help explain persistence and degree attainment in a more profound way.

Pascarella and Terenzini (2005) within-college effects identified factors that influence student persistence and degree attainment and will be used to outline this study’s review of literature. The within-college effects used to outline the literature review includes; 1) academic performance, 2) career goals, 3) interaction with peers and faculty, 4) programmatic interventions, 5) academic major, 6) learning communities, 7) financial aid, 8) and residence. These within-college effects identified by Pascarella and Terenzini (2005) help explain the connectedness between persistence and educational attainment. This connection is noted by the following statement, “persistence, whether at a particular educational institution or in the postsecondary system generally, is obviously an important determinant of a student’s eventual attainment levels. Indeed, individual
persistence can legitimately be considered necessary, if not sufficient, condition for degree attainment” (p. 370).

Since this study examines undergraduate student, program, and institutional support characteristics that relate to cohort persistence of PGA Golf Management University Students the outline of these persistence factors provided by Tinto and Pascarella and Terenzini are presented in three characteristic themes: 1) student, 2) program, and 3) institution. Each characteristic theme includes a description of the related persistence factors supported by peer reviewed studies that illustrates the relatedness of the factor to persistence and or degree attainment. The student characteristic theme is organized by the review of the following persistence factors: entry characteristics (family background, individual attributes, and precollege schooling experience); academic performance; career goals; and interaction with peers and faculty. The program characteristic theme will be organized by a review of the following; programmatic interventions, academic major and learning communities. Finally, the institutional characteristic theme is organized by a review of financial aid and residence.

**Persistence Factors Related to Student Characteristics**

Student entry characteristics, also referred to as pre-college characteristics, are well documented in persistence literature as influencing student persistence in college. The following section illustrates through peer-reviewed publications the influence of entry characteristics have on persistence. Entry characteristics are discussed in three parts: 1) family background (family socioeconomic status, parental educational level, and parental expectations); 2) individual attributes (race, and gender); 3) precollege schooling.
experience (characteristics of the student’s secondary school, and record of high school academic achievement, academic ability).

**Entry Characteristics- Family Background**

The likelihood of an individual’s dropping out from college is related to the characteristics of the individual’s family (Tinto, 1975). Supporting this, Tinto sited numerous studies (Astin, 1964; Eckland, 1964; Lembesis, 1965; McMannon, 1965; Panos & Astin, 1968; Sewell & Shah, 1967; Wegner, 1967; Wolford, 1964) that suggested that family’s socioeconomic status appears to be inversely related to dropout. Furthermore, even when controlling for intelligence, individuals from lower status families were found to exhibit higher rates of dropout than individuals coming from higher status families (Sewell & Shah, 1967). Chase (1970) noted that college students that persist are more likely to come from families whose parents have more education, and are more affluent (Eckland, 1964). Tinto (1975) emphasized the importance of family background characteristics and its influence on student dropout, suggesting that the most important factor is the quality of the relationship within the family and the interest and expectations parents have for their children’s education. Additionally, college students that persist receive more parental advice, praise, and interest in their college experience from their parents (Trent & Ruyle, 1965), and parents who have greater expectations for their children’s further education (Hackman & Dysinger, 1970).

When looking into a more recent study, McGrath and Braunstein (1997) examined the importance of certain demographic, academic, financial, and social factors in predicting freshman attrition. The purpose of their study was to support a presidential strategic planning process at Iona College, New York, to address concerns and issues
related to freshman retention. The participants in the study were freshman enrolled in the 1994-95 academic year (N=322). The College Student Inventory (CSI), a 194-item multidimensional questionnaire, was used to improve retention by accurately identifying at-risk students (Cairns, 1992; Schreiner, 1991). The CSI consists of five scales: academic motivation; social motivation; general coping skills; receptivity to support services; and initial impressions of the institution. Results of the chi-square tests showed no significant differences between age, gender, and race and ethnicity and retention; this included no significant differences between Caucasian and Non-Caucasian students. In addition, no significant differences were found between students’ present marital status, students’ parental educational backgrounds, students’ family native language, participation in the residential life program, and retention. Supporting Tinto’s (1975) findings, data obtained from financial records found a significant difference between socioeconomic background and retention (t=1.99, p<.05) (McGrath & Braunstein, 1997).

Entry Characteristics- Individual Attributes

Prior to Tinto’s (1975) findings, and offering insight on the way gender influences the relationship between socioeconomic status and intelligence on persistence, Sewell and Shah (1967) found that the student’s own ability was nearly twice as important in accounting for dropout as was the social status of the family. The study randomly selected a cohort of Wisconsin high school seniors. The relative influences of socioeconomic status and intelligence were examined at successive stages (planning to attend college, college attendance, and graduation) during the student’s progression in higher education. It was determined that both socioeconomic status and intelligence have direct effects on planning on college, attending college, and graduation. However, when
gender was examined specifically the relative effect for females on socioeconomic status on college plan, attending college, and graduation was greater than the effect of intelligence.

Current literature has revealed a distinct disparity in the number of college diplomas awarded to men and women (Ewert, 2012). Women have been overwhelmingly more likely to obtain a bachelor’s degree across the majority of ethnic and racial groups, and across all levels of the socioeconomic scale (Buchman & DiPrete, 2006; Ewert, 2012; Goldin Katz, & Kuziemko, 2006). Research revealed several factors that positively influence and enhance persistence and affect men and women differently, including college experiences, high-school performance, academic integration, attendance, and choice of major.

Cabrera, Castaneda, Nora, and Hengstler (1992) recognized the pivotal role that college experiences have in facilitating graduation, and highlight the potential role those experiences may play in gender disparity at graduation. Additional research found that high performing high-school students (the overwhelming majority of which are female) could stand to benefit from the proper academic preparation, the cultivation of appropriate study habits, and a greater dedication to school in general (Allen, 1999; Goldrick-Rab, 2006). Because students who are academically integrated are better equipped to handle the rigors and demands of academia and persist, it stands to reason that women may be more likely to graduate than their male counterparts due to the fact that they consistently achieve higher grades than men in college (Bae, Choy, Geddes, Sable, & Snyder, 2000).
Gender disparities with regard to attendance have also been documented in prior research, as it was found the men were more likely than women to either take time off or attend college part-time (Ewert, 2010; Goldrick-Rab, 2006). Finally, prior research has shown that men are more inclined to choose a major that has documented lower persistence rates than are women (Conger & Long, 2010). The separation of genders based on majors may account for some of the gender disparity in college completion due to these choices.

When examining the impact ethnicity/race has on persistence, Murtaugh et al (1999) findings provided perspective on the controlling effects of age, GPA, and residence. The study employed survival analysis to model the retention of 8,867 undergraduate students at Oregon State University between 1991 and 1996. While statistically significant associations of retention with ethnicity/race and college at first enrollment were noted, multivariate analysis further explained the association. The univariate analysis suggested that African American, Hispanics, and American Indians are at a higher risk of withdrawing than Caucasians. However when employing a multivariate analysis the differences for Hispanics and American Indians disappear, furthermore African Americans were shown to have reduced risk when compared to Caucasians. The findings of this multivariate analysis suggested the average African America student is more likely to withdraw than the average Caucasian student, but when controlling for age, GPA, and residency, the African America student is actually less likely to withdraw.
**Entry Characteristics- Precollege Schooling Experience**

Tinto (1975) defined past educational experiences as being inclusive of both the characteristics of the student’s secondary school and the record of high school academic achievement. It is this precollege schooling experience as noted by Davis (1966) and later by Nelson (1972) and St. John (1971) that influences both the social status of the school and the ability level of the students’ consequently affecting the levels of future college education.

Adelman (2004) distinguished two important variables explaining bachelor’s degree attainment. The study collected data from high school and college transcript records, test scores, and surveys of a national cohort from the participant’s 10th grade in 1980 until 1993, roughly to the participant age of 30. The analysis worked toward six ordinary least square regression equations following the progress of students from high school through their first year of attendance. Blocks of key variables were progressively added to each regression analysis, the fifth in the series accounted for about 43% of the variance in bachelor’s degree completion. The two most important variables accounting for the bulk of the model’s explanatory power were: 1) academic resources (defined by a composite measure of the academic content and student performance from secondary school dominated by the intensity and quality of curriculum); and 2) continuous enrollment after a true start in higher education.

Select findings of the Adelman (2004) study further support the precollege schooling experience as noted by Tinto (1975). In Adelman’s (2004) assessment of variables explaining bachelor’s degree attainment related to high school background, a number of interesting findings emerged. With respect the academic resources students
bring to college (high school curriculum, test scores, and class rank/GPA) there was no higher resource than high school curriculum when examining the correlation with bachelor’s degree attainment. The correlation of curriculum with bachelor’s degree attainment was highest (.54) followed by test scores (.48) and then class rank/GPA (.44). In addition, the impact of a high school curriculum of high academic intensity and quality on degree completion was far more positively pronounced for African-American and Latino students. Regarding the curricula specifically, the strongest continuing influence on bachelor’s degree completion was the highest level of mathematics one studies in secondary school. Interestingly academic resources (defined by the composite of high school curriculum, test scores, and class rank) have a stronger correlation to bachelor’s degree completions that socioeconomic status. “Students from the lowest two socioeconomic status quintiles who are in the highest Academic Resources quintile earn bachelor’s degrees at a higher rate that a majority of students from the top socioeconomic quintile” (Adelman, 2004, p.3). Furthermore, advanced placement courses taken while enrolled in high school was found to be more strongly correlated with bachelor’s degree completion than with college success, and finally, graduating from high school later than normal does not affect bachelor’s degree attainment (Adelman, 2004).

When examining the results of the McGrath and Braunstein (1997) study further, the findings from Sewell and Shah (1967) that the student’s own ability was nearly twice as important in accounting for dropout as was the social status of the family, was supported. While supporting Sewell and Shah (1967) it is also important to note that the findings of the McGrath and Braunstein (1997) study added the importance of student’s impressions of other students in predicting retention. McGrath and Braunstein (1997)
used T-tests to determine whether a relationship existed between initial impressions of the college and freshman retention. Initial impressions of the college were defined by: academic offerings, adequacy of financial aid, buildings and grounds, cost of tuition, housing and food, entertainment, faculty, quality of food, inter-collegiate athletics, living arrangements, location, shopping facilities, social life, and student body. No significant differences were found for 12 of the 14 categories, but significant differences were found for overall impressions of the institution (t=2.21, p<.05), and impressions of other students (t=2.64, p<.01). A follow up logistic regression analysis was used to predict probability of retention for each individual student in the study. As noted earlier, the single most important variable in predicting persistence between the first and second years is the first semester grade point average, followed by students’ impressions of other students. The logistic regression equation utilizing only the first semester grade point average and the student’s impressions of other students made correct predictions in approximately 80 percent of the analyzed cases (McGrath & Braunstein, 1997).

**Academic Performance**

Noted by Astin (1993) grades alone are not the ideal measures of learning and intellectual development, but rather a reflection of student performance relative to other students, placing less validity to grades representing what the student actually learned. Furthermore the method of grade calculation can vary across academic departments and institutions clouding the value of grade point average. However, grade point averages are the means: to students’ standing and continued enrollment; to admission to undergraduate and graduate programs; to degree completion; and to employment opportunities (Pascarella & Terenzini, 1991). Murtaugh et al (1999) also supported these sentiments
from Pascarella and Terenzini. As a result of a survival analysis method using to model retention of 8,867 undergraduate students at Oregon State University, attrition was found to increase with age, and decrease with increasing high school GPA and first-quarter GPA (Murtaugh et al, 1999). Ullah and Wilson (2007) recognized the work of Lufi et al (2003) and concluded that academic persistence was positively associated with college grades. Similarly, DeBerard, Spieimans, and Julka (2004) were also noted in their examination of predictors of first-year academic achievement by concluding that GPA and SAT scores accounted for a substantial variation in academic achievement.

As referenced earlier, Adelman (2004) noted the two most important variables accounting for the bulk of the explanatory power were: 1) “Academic Resources,” a composite measure of academic content and the performance of the student from secondary school into higher college education; and 2) the student’s continuous enrollment in higher education. The relationship between academic performance in high school and college, and retention continues to be supported by McGrath and Braunstein (1997). The analysis of the 353 undergraduate freshman who began their 1994 fall semester at Iona College reported a significant relationship ($t=3.87, p<.001$) between high school GPA and retention. Furthermore, the analysis also reported a significant relationship ($t=3.03, p<.005$) between combined SAT scores and retention, and with regards to first semester grade point averages for freshman who were retained vs. those who were not retained ($t=8.9, p<001$). A follow up logistic regression analysis was used to predict probability of retention for each individual student in the study. Results of the logistic regression accounted for the following variables: socioeconomic background, high school grade point average, combined SAT scores, first semester grade point
averages, participation in the financial aid program, and initial impressions of the institution as they related to the college in general and to other students. The single most important variable in predicting persistence between the first and second years was found to be the first semester grade point average, followed by students’ impressions of other students. When the predicted probability of retention was greater than 50 percent these students were defined as “retained”, others were placed in a “non-retained group”. With this coding in place and application to the final sample of 322 freshmen, the logistic regression equation utilizing only the first semester grade point average and the student’s impressions of other students made correct predictions in approximately 80 percent of the analyzed cases (McGrath & Braunstein, 1997).

**Career Goals**

Prior research has indicated that students’ goals strongly influence decisions to remain in school (Tinto, 1993), and the presence of long term goals significantly predict academic performance (Ting, 1997). More specifically, long-term, specific, high-level, learning-oriented, and/or attainable goals appear to be significant for retention-related factors (Claypool & Cangemi, 1983; Emerick, 1992; Fore, 1998; Mau, Dominick, & Ellsworth 1995; Silver, 1999). When focusing specifically on career-oriented goals, Altmaier, Raraport, and Seeman (1983) discovered that uncertainty about career goals strongly influenced poor academic performance. Furthermore, Emerick (1992) reported that gifted underachievers who developed future career goals associated with higher achievement improved their school performance.

Hull-Banks et al (2005) examined the relationships of value, job, school, and unknown career goals with retention decisions, academic performance, self-beliefs, and
school and career commitment. The researchers hypothesized that: 1) freshman student types of career goals would differ in persistence decision making and continued enrollment in school; 2) freshman student types of career goals would differ in academic performance, self beliefs, and school and career commitment; and 3) freshman male and female students would not differ on types of career goals chosen.

The sample for the study was derived from 23 sections of a 100-level class designed to nurture academic success. Four-hundred and thirty-three students completed surveys, with 401 including career information for purpose of the study. Student consent was obtained by 305 participants enabling the researchers to access academic records for enrollment and grade point average information. Of the 401 students, 147 were male and 254 were female. Self-reported ethnicity was also collected resulting in 315 Euro-America, 38 Latino, 12 Asian American, 17 African American, 6 international, 2 Native American, and 3 other. Ages ranged from 17 to 32, with a mean age of 18.33 (SD = 1.15).

Measures for the study included: demographic characteristics, students’ response to career goals (school related, job related, value related, and unknown); academic retention (assessed by the Persistence/Voluntary Dropout Decision Scale and through data from university records); academic performance (GPA was used as a behavioral indicator of academic performance); self-esteem (assessed by the Rosenberg Self Esteem Scale consisting of 10 statements that evaluate individuals’ subjective views of themselves), educational self-efficacy (assessed by a modified version of the College Self-Efficacy Inventory and the Educational Degree Behaviors Self-Efficacy Scale); and school and career commitment (assessed by an eight item scale developed specifically for this study). Three independent variables were investigated including four levels of career
goals (school related, job related, value related, and unknown), gender of the student, and continued enrollment.

A chi-square analysis was used to suggest that students with job, value, school, and unknown goals would differ with enrollment and persistence decisions; however, no significant enrollment differences across goal types were found ($p < .12$). A one-way analysis of variance was used to determine whether goal types were related to students’ academic persistence decisions; a significant difference were found across goal types, $F(3, 206) = 2.69, p < .05, \varepsilon^2 = .04$. In summary, Scheffe multiple comparisons indicated that students with unknown career goals ($M = 3.21, SD = .48$) made fewer persistence decisions ($p < .02$) than students with job-related career goals ($M = 3.52, SD = .44$). Students with value and school related goals did not differ from the other groups in persistence decisions. Furthermore, a multivariate analysis of variance was used to determine that no significant differences were found between students who reported career goals (job, value, school, or unknown) in academic performance, self-beliefs, or school and career commitment ($p = .35, \varepsilon^2 = .03$). When examining the relationship between gender and goal type, differences were found, $\chi^2 (3) = 8.19, p < .04$. Fewer women reported value-related goals than expected (observed = 71, expected = 81.7), more women reported job-related goals than was expected (observed = 132, expected = 128.6), more men reported value-related goals than was expected (observed = 58, expected = 47.3), and fewer men reported job-related goals than was expected (observed = 61, expected = 74.4).
**Interaction with Peers and Faculty**

Student interaction with peers and faculty and its influence on persistence and degree attainment has been well documented. Pascarella and Terenzini (2005) claimed the relationship students have with their peers is a powerful socializing agent in shaping persistence and degree completion, and this influence is a statistically significant and positive force in students’ persistence decisions. Astin (1993) supported this assertion by stating that “the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years” (p. 398).

When examining the influence student interactions with faculty members have on persistence Pascarella and Terenzini (2005) indicated the contact students have with faculty members outside the classroom promotes student persistence, educational aspirations, and degree completions, even when relevant factors are controlled. They explained this influence derives from two processes: “One is the socialization of students to the normative values and attitudes of the academy, and the second is the bond between student and institution that appears to be facilitated and promoted by positive interactions with faculty members as well as with peers” (p. 417). Furthermore, studies indicated students’ perceptions of faculty members’ availability and concern for their development and teaching, had positive and statistically significant effects on persistence when other relevant factors were controlled (Halpin, 1990; Johnson, 1994; Mallette & Cabrera, 1991). Additionally, Graunke and Woosley (2005) highlighted the issues of commitment to academic major and satisfaction with faculty interaction as being significant predictors of sophomore academic success.
Kuh and Hu (2001) brought up an interesting perspective when exploring the cause and effect relationship between interaction with faculty and the benefits associated with this influence; as a result the following two questions were posed. Does the connection between faculty and student lead to greater levels of persistence and degree aspirations? Or, do students persisting with greater degree aspirations gravitate toward faculty interaction? In a study of more than 5,000 students within 126 four-year institutions it was determined that students who were better prepared than their peers and spent more time studying than their peers were also more likely to interact with faculty members.

Ullah and Wilson (2007) suggested that student and faculty interaction, student to student interaction, institutional emphasis on diversity, participation in extracurricular activities, student interaction with faculty outside the classroom and peer interactions are positively associated with student persistence and educational attainment. Ullah and Wilson (2007) examined undergraduate students’ academic achievement and its association with students’ involvement with learning, students’ relationships with faculty and students’ relationships with peers at a Midwestern public University. The study concluded that students’ active involvement with learning positively influences their academic achievement, students’ relationships with faculty influence their academic achievement significantly, female students’ relationships with peers influence academic achievement positively, and surprisingly male students’ relationships with peers influence their academic achievement negatively.

The data from the study were collected from the use of the National Survey of Student Engagement (NSSE) annually administered at a Midwestern public university.
from 2003-2005. First-year and senior students in the spring semesters of 2003, 2004, and 2005 were used for the sampling of the study. The sample for the study included: 500 students from each group (first-year and senior) in 2003; 1,000 students from each group in 2004; and 2,000 students from each group in 2005. The response rate was 44% for the first-year students and 35.4% for seniors in 2003, 36.5% and 34.4% in 2004, and 50.8% and 49.2% in 2005 for first-year and senior students respectively.

The National Survey of Student Engagement, developed by Indiana University, was designed to evaluate undergraduate students’ engagement with learning in higher education institutions (Kuh, 2001). Academic achievement was defined by the students’ cumulative grade point average (ranging from 0.0 to 4.0) obtained from the fall term record prior to the administration of NSSE the following spring semester. Students’ ACT scores were obtained from their admission record maintained by the university. The student’s age and gender were computed from the birth year provided by the students in the NSSE survey. The following three items were utilized from the NSSE survey (Ullah & Wilson, 2007): 1) students asked questions or contributed to class discussion (measured on a four-point scale, where 1=never, 2=sometimes, 3=often, and 4=very often); 2) quality of students’ relationship with faculty (measured on a seven point scale, where 1=unavailable/unhelpful, and 7 =available /helpful); and 3) quality of students’ relationship with peers (measured on a seven-point scale where 1=unavailable/unhelpful, and 7= available/helpful).

The study sample included 2,160 cases in which 1,474 (68.2%) were female and 686 (31.8%) were male. Results of the study indicated that students’ ACT scores and age were important predictors of academic achievement ($\beta=0.05$, $t=3.35$, $p<0.05$), a 1%
change in ACT scores resulted in a 5% change in students’ academic achievement supporting the work of DeBerard et al (2004) and Johnson (2005) indicating that GPA and age are significant predictors of students’ college achievement.

Supported by Astin (1984) and Kember and Leung’s (2005), the study found that students’ active involvement with learning had the greatest effect on their academic achievement ($\beta=0.06$, $t=3.35$, $p<0.05$), a 1.0 positive change in active involvement with learning was associated with a positive 6% change in academic achievement measured by GPA (Ullah & Wilson, 2007). Similarly, Graunke and Woosley (2005), results of the study showed the students’ relationships with faculty have a positive effect on their overall academic achievement as measured by GPA ($\beta=0.06$, $t=4.66$, $p<0.05$), a 1.0 positive change in the quality of students’ relationships with faculty was associated with a 6% positive change in their academic achievement. Furthermore, Chee, Pino, and Smith (2005) the results of the study found that gender was moderating the effects of students’ relationships with peers on their academic achievement ($\beta=0.02$, $t=4.81$, $p<0.05$). Male student academic achievement decreased with improvement in the relationship with their peers, whereas female students’ academic achievement was positively associated with the quality of their relationships with peers as measured by the NSSE. Ullah and Wilson (2007) inferred that it is likely that female students benefit from their peer relationships more than male students, which ultimately influences their overall achievement.

**Persistence Factors Related to Program Characteristics**

Persistence factors related to program characteristics will be organized by the review of literature within: programmatic interventions, academic major, and learning
communities. PGA Golf Management University Programs vary in their offerings of programmatic interventions, academic major, and function as a learning community.

**Programmatic Interventions**

Pascarella and Terenzini (2005) recognized the pressures placed on institutions of higher education to increase retention and degree completions. Consequently research in this area of study has gained traction leading to the effectiveness of programmatic interventions designed to promote retention and degree completion. Pascarella and Terenzini (2005) noted the work of Kulik, Kulik, and Shwalb (1983) which helped provide a framework for the review of literature related to programmatic interventions influencing retention and degree completion. As such, this review will focus on the developmental studies, other remedial programs, and support systems that can impact persistence. A review of a study from Allen and Lester (2012) that spoke to the influence of instruction in academic skills, first-year seminars, and advising will be used to support previous research findings.

Developmental studies and other special or remedial programs are the university’s effort to help prepare underprepared students for higher levels of academic performance with hopes this leads to greater levels of persistence and degree attainment. As noted by Tinto (1993) not all students have the skills needed to participate in regular course work. Some require developmental educational support or some sort of remediation that is designed to assist students in acquiring the skills needed for full college participation. These programs typically combine an array of effort, from special coursework, to advising, and mentoring that most frequently follows the student throughout their matriculation at the university (Tomlinson, 1989). Supporting the work of Tomlinson
(1989), Nealy (2005) spoke to the importance of advising as a factor influencing student persistence and similarly, Coll and Stewart (2008) recognized that a collaborative relationship between counseling services and faculty could help support assessments of professional program course work, extra-curricular activities, and custom tailored counseling services or faculty interactions designed to impact variables leading to persistence factors. Codjoe and Helms (2005) concluded that instructional methods, times of course offerings, co-curricular involvement, faculty skills, and advising were all primary factors that influenced student persistence. Porter and Swing (2006) concluded that study skills and academic engagement have substantial impact on early intentions to persist. All of these programmatic interventions lead to increased levels of academic engagement in which Murtaugh et al (1999), after employing a survival analysis method used to model retention of 8,867 undergraduate students at Oregon State University determined that students taking the Freshman Orientation Course appeared to be at reduced risk of dropping out.

However, while there are noted benefits supporting the use of remediation in the influence of persistence, there also comes a cost. The Higher Education Policy Institute report, conducted by the Texas Higher Education Coordinating Board, identified many alarming statistics related to the cost and degree of unpreparedness of students attending public four-year institutions (Holcombe & Alexander, 2009). Within the report, the Strong American Schools (2008) estimated that college remediation costs about $2.5 billion annually and that 29 percent of all students at public four-year institutions enroll in a remedial course.
Despite assistance offered through remediation, students enrolled in remediation are less likely to earn a degree or certificate. Regardless of the combination of remedial coursework, students who completed any remedial courses were less likely to earn a degree or certificate than students who had no remediation. While 69 percent of 1992 12th-graders who had not enrolled in any postsecondary remedial courses earned a degree or certificate by 2000, only 30 to 57 percent of those who had enrolled in one or more remedial courses had earned a formal award (U.S. Department of Education, 2004, p. 63).

To synthesize the efforts of remedial course work, faculty advisement, and developmental studies Allen and Lester (2012) studied the impact of a college survival skills course and a success coach on retention and academic performance. The study was at a two-year technical college in Georgia aimed to measure the influence of a college survival skills course and a success coach had upon students matriculating in remedial math courses which was linked to the students’ overall persistence and academic performance at the school. Within the fall semester 2011: 359 students (12%) of the student body enrolled in a learning support class; 63 enrolled in two support classes; and 21 enrolled in three learning support classes. Of the 359 students, 249 were enrolled in a remedial math course.

The first variable examined to influence students’ success in the remedial math course was the role of the Success Coach, which was there to encourage students to be self-motivated, responsible, and self-managed. Responsibilities of the Success Coach include: creating a connection between the student and the college; monitoring academic progress regularly; establishing connections between the learning support students and their program faculty; creating a sense of accountability within the student; establishing milestones for the student; teaching student success skills; and open dialog regarding the students experience at college.
The second variable examined to influence students’ success in the remedial math course was the role of the COLL 1001 course entitled, College Survival Skills, instructed by the Success Coach. The students enrolled in the remedial math course were strongly encouraged to take COLL 1001 during the same semester. A survey was developed for use in the course to determine what affect the experience in the course may have on the connection a student feels with his/her enrolled program and the awareness of the use of math in the program. This motivation for this survey was to see an increase in the students’ engagement with the program and overall college experience. As noted by Astin (1984) regarding the benefits of the Student Involvement Theory, “students who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of courses, intellectual environment, and even the administration of the institution” (p.525).

There was a pre/post-test instrument containing a series of eight statements relating to the students’ perceived knowledge of the people and places of their program and their perceived use of math in their program with a force-ranking Likert scale from 1 to 4. The sample size for the pre test was 88 and the post 82. Improvement was seen in each of the eight statements, indicating that a positive connection was developed with the program and the use of math in the program. The pre test overall mean score was 2.96 and post 3.49, representing an increase of more than half a point, 0.53. The specific math statement responses increased by .39, while the specific statements related to people and places associated with the program increased by .62.
The increase in the connection the students had with the program through the COLL 1001 course and the Success Coach also had improvements to semester retention. To determine the impact the COLL 1001 course and Success Coach had on semester retention, students in the remedial math courses were divided into two groups; those enrolled in COLL 1001 and those not enrolled in COLL 1001. The results of the study proved clear benefits for the student enrolled in remedial math courses taking the COLL 1001 course with regards to retention. Students enrolled (N=406) in remedial math courses while taking COLL 1001 were retained at a rate of 79%, students (N=373) who chose not to take COLL 1001 were retained at a rate of 63%.

There were also improvements shown in the academic performance of students taking remedial math courses who took COLL 1001. Students enrolled (N=97) in COLL 1001 had a math remedial course GPA of 2.54, compared to those students (N=81) who were not enrolled in COLL 1001 with a remedial math course GPA of 2.49.

Allen and Lester (2012) reported that the combination of a Success Coach and the COLL 1001 course appears to have a meaningful impact on student persistence and academic performance. Additionally, the findings of increased student engagement supported past research, which suggests that increased levels of student involvement and engagement leads to improved academic performance and retention especially with learning support students, i.e. those enrolled in remedial math courses (Kuh, et. al., 2008; Cruce, et. al., 2006).

**Academic Major**

Suhre, Jansen, and Harskamp (2007) revealed that: academic ability; satisfaction with degree program; motivation; and regular study habits all had positive effects on
academic accomplishment. Satisfaction with degree program or major can be related to work conducted by Robst (2006). Robst stated that students should also consider the potential for finding employment in a job related to that major. Being unable to find employment reduces the returns to schooling for many majors. As such, before choosing a major that focuses on occupation specific skills, students should be advised to make sure it is what they wish to pursue in their career. The cost to changing careers after getting the degree can be high. Befort, Sollenberger, Nicpon and Huser (2005), found that students reporting job related goals are more likely to make positive persistence decisions than students reporting unknown goals.

Furthermore, prior research has shown that students should consider the likelihood that they will be able to finish the degree in their major of choice (Montmarquette, Cannings, & Mahseredjian, 2002). The results were robust and show that the choice of college concentration depends decisively on the expected earnings in a particular concentration. However, differences in the impact of the expected earnings variable emerged by gender and race. Women were less influenced by this variable compared to men and nonwhites more than whites (Montmarquette et al., 2002).

Leppel (2001) stated that students can persist in college in a variety of different ways, 1) they can continue in a particular major at a given university, 2) they can change majors but continue within a given university, and 3) they can transfer from one university to another remaining in the educational system. Leppel’s study employed a national-level data set and uses the three different ways students persist from their freshman year to the following year. Additionally, the study examined how persistence behaviors of men and women are related to choice of major.
The data used in the study were based on the 1990 survey of Beginning Postsecondary Students conducted by the National Center for Education Statistics of the U.S. Department of Education. A group of students (2,426 men and 2,521 women) from the 1989-1990 academic year was used for the study. Six categories of majors were used: 1) business, 2) engineering, 3) education, 4) health, 5) undecided, and 6) arts and sciences. The sample was classified in the following manner for women: 19.5% were business majors; 3.1% were engineering majors; 12.7% were education majors; 9.4% were health majors; 6.5% were undecided; and 48.9% were arts and science majors. The sample of men was classified in the following manner: 22.8% were business majors; 20.7% were engineering majors; 5.5% were education majors; 3.4% were health majors; 6.2% were undecided, and 41.4% were from the arts and science majors.

The overall rate of persistence from the students first year to the second year was 92.7% for men and 93.65% for women. Students with undecided majors had both low academic performance and low persistence rates. Among women, education and health majors are more likely to persist in the second year with business majors representing the least likely to persist. While female business majors were among the lowest predicted persistence rates, they had the highest predicted performance levels. Similarly, male education majors, having low predicted persistence rates, also were among the highest predicted performance levels. Leppel noted that these findings are consistent with Tinto’s findings that most students leaving college prior to degree completions are not due to academic failure (Leppel, 2001).

Leppel concluded with a recommendation to help increase persistence rate for students in non-traditional majors adversely affected by negative social forces.
Administrators are to be aware of individual instructors and advisors reinforcing biases of social stereotypes discouraging students in nontraditional fields. Training for instructors and advisors should be available to provide more support and encourage to all students. In addition, Leppel recommended college and departments to establish mentoring programs with students and faculty, and community members where appropriate. Finally, to reinforce the powerful influence associated with parental support, programs could inform parents of job opportunities available to their sons and daughters who plan to major in a particular field of study. Leppel concluded that the findings support the hypothesis that students’ persistence rates are affected by negative social forces. Furthermore, there are steps that colleges can take to raise persistence rates of students in nontraditional majors (Leppel, 2001).

**Learning Communities**

PGA Golf Management Programs can be viewed as a built in learning community due to the similar interests of students entering the program, the cohort matriculation policy that encourages block scheduling with curriculum that is systematically linked, the students’ involvement in the program’s student association, and the students’ choice to live with other PGA Golf Management students within segregated areas on campus or within off campus dwellings. While all PGA Golf Management University Programs have these components each program varies in their students’ level of involvement.

It is noted within the literature that a popular method for improving the quality of the undergraduate experience is the development and implementation of learning communities. The term learning communities has many variations in its definition. They include freshman interest groups, linked courses, block scheduling and registration for
groups of students, and curriculum that is systematically linked (Pascarella & Terenzini, 1991). Evidence indicated that learning communities have statistically positive effects on student persistence into the second semester (Tinto & Russo, 1994) and into the second year (Stassen, 2003; Tinto, 1997).

The birth of the learning community dates back to the 1920s. Introduced by Alexander Meiklejohn at the University of Wisconsin, his annual report to the Faculty of the College of Letters and Science of the University of Wisconsin, explained the purpose of the experiment was to “formulate and to test under experimental conditions, suggestions for the improvement of methods of teaching, the content of study, and the determining conditions of undergraduate liberal education” (Meiklejohn, 1932, p.485). Smith (2001) reported the Alexander Meiklejohn’s introduction to the “Experimental College” at the University of Wisconsin was in reaction against the increased disciplinary specialization and fragmentation of the undergraduate curriculum. The integrated curriculum was designed to facilitate faculty-student interaction. Emphasizing the importance of this integration, Ullah and Wilson (2007) reported that student interaction with faculty outside the classroom and peer interactions are positively associated with student persistence and educational attainment.

Typical learning communities are organized around a central theme that links courses and curriculum to promote a deeper type of learning than is possible in standalone courses. Nearly all learning communities have three things in common: shared knowledge; shared knowing; and shared responsibility. Shared knowledge requires students to take courses together in which these courses are organized around themes to promote higher levels of cognitive complexity that cannot be obtained by participation in
unrelated courses. Shared knowing requires the same students enrolled in several classes so the students are able to get to know each other and promote the opportunity for academic and social integration. This integration promotes cognitive development and appreciation for knowing that one’s own voice is part of the learning experience. Shared responsibility is achieved when students within the learning community become responsible for each other’s process for gaining knowledge, in so much that the group requires students become mutually dependent and learning does not persist unless each member of the group does his/her own part (Braxton, 2000).

Braxton (2000) referred to the work of Tinto, Goodsell, and Russo (1993), later reinforced by Tinto, Goodsell, and Russo (1994), in their study that recognized the important role first year learning community programs have on student academic and social involvement, in turn, on student persistence. The learning community framed by experiences in the classroom, revealed something about the forces that linked these experiences to persistence. These forces are: building supportive peers groups; shared learning by bridging the academic and social divide; and increased involvement, effort, learning, and persistence.

Participation in first-year learning communities build supportive peer groups that aids in the students transition into college and were noted by students as an important and valued part of the first year experience (Braxton, 2000). Before the benefits of learning communities were shared, Van Gennep (1960) summarized this process of transitioning membership from one group to the next in three stages; separation, transition, and incorporation. To demonstrate a comparison, the building of supportive peer groups helps students manage the many struggles they face getting into and participating in class. The
development of supportive peer groups also helps students balance the many struggles they face in attending college. It appears that the evidence of the benefits of learning communities in building supportive peer groups assists with the transition and ultimately membership into the incorporation stages in which Tinto (1975) used as a framework for his theory of student departure. To add clarity to this association, a student quote from Braxton’s (2000) findings is shared;

In the cluster (learning community) we knew each other, we were friends, and we discussed and studied everything from all the classes. We knew things very, very well because we discussed it all so much. We had discussions about everything. Now it’s more difficult because there are different people in each class. There’s not so much …togetherness. In the cluster if we needed help or if we had questions, we could help each other” (p. 86).

This excerpt illustrates the important role the cluster had on the student’s process of transitioning from one group membership to another. As depicted by Van Gennep (1960), the transition stage is a period during which the person begins to interact in new ways with members of the new group into which membership is sought with an ultimate goal of incorporation into the group as a member.

Learning communities also influence shared learning by bridging the academic and social divide. Often social and academic concerns compete, but learning communities help students bring these two words together (Braxton, 2000). Learning communities have also resulted in increased involvement, effort, learning and persistence (Braxton, 2000; Pace, 1984; Tinto, 1997). Students in learning communities have higher peer and learning activity scores, their engagement with their peers serve to involve them more in the academic matters of the classroom as a result spending more time studying, and students saw their peers and faculty as more supportive of their needs. The product
of this engagement increased persistence as noted by Pace (1984) and supported by Ullah and Wilson (2007). Literature supporting the student engagement with learning brings attention to the work of Astin (1984) with his proclamation that students’ learning and development outcomes are directly proportional to student involvement in the college experience, and the quantity and quality of involvement that the students invest make a difference in the learning and development outcomes. Ullah and Wilson (2007) made reference to Astin (1993) by reiterating that although information shared in the classroom is important, the most important factor is what students do in college, “how motivated they are and how much time and energy that are devoting to the learning process (p. 305).”

Pascarella and Terenzini (1983) employed a path analysis to test the validity of Tinto (1975) theoretical model of student dropout behavior on a sample of 763 residential university freshman. It was interesting to note that the influence of students’ pre enrollment characteristics, including: family background; individual attributes; precollege schooling; and commitment levels, were indirect, suggesting the effects on persistence was largely mediated by the freshman year experience. Later, Tinto (1997) shared the impact of learning communities on persistence remain even after accounting for individual and contextual data. While it was noted that the pre enrollment characteristics influenced social and academic integration within the institution, it was the level of this integration that directly affected persistence/withdrawal behavior. Even students who enrolled late in the learning community showed similar outcomes and expressed similar views of their experiences (Braxton, 2000).
Persistence Factors Related to Institutional Support Characteristics

The institutional support characteristic theme is organized by a review of the influence financial aid and residence has on student persistence. The PGA Golf Management University Programs exist within nineteen different universities all offering various levels of grants, scholarships, loans, work study programs, and other forms of aid to the students. Additionally, each university campus has various levels of participation of their students in campus housing. These two institutional support characteristics influence student persistence and are discussed further with support of peer-reviewed articles.

Financial Aid

While a large body of studies focused on the impact financial aid has on students’ decisions to attend college or where to attend, limited studies have honed in on the effects financial aid has on the students’ decisions to persist and graduate (Herzog, 2005; Pascarella & Terenzini, 2005). Given that from 1999-2000, 73% of all undergraduates attending postsecondary schools received on average $8,500 in aid per academic year, therefore further studies supporting the examination of the influence financial aid has on persistence could be beneficial (Berkner, Berker, Rooney, & Peter, 2002). Financial aid takes on many forms and sources. Examples of aid from which students benefit come from grants, scholarships, loans, and work study as well as through family support, personal savings, and non-school related work. Estimating the impact of these types of financial aid is anything but straightforward (Heller, 2003).

Since 1990 more studies have resulted in consistent findings that students receiving financial aid are as likely as those who do not to persist in college from one
year to the next and graduate (Pascarella & Terenzini, 1991). However, when examining through the lens of a four-year baccalaureate degree seeking student these aided students completed their programs faster (Cuccaro-Alamin, 1997). While the Cuccaro-Alamin study did not take into account differences in students’ academic ability or other relevant characteristics, Astin (1993) indicated that financial aid enhanced persistence and degree completion particularly among low-income students. Furthermore, studies that found financial aid produced a negative impact to persistence suggest that it is less of a case for ineffectiveness, but more likely a negative association due to the insufficiency of the funds (Cofer & Somers, 1999).

Adelman (1999) noted the only form of financial aid that bears a positive relationship to degree completion after the student’s first year of college attendance is employment within a college work-study program or other campus-related work while the student is enrolled or for the purpose of covering the costs of education for students who attend a four-year college. McGrath and Braunstein (1997) examined student participation in the financial aid program at Iona College, New York, and the relationship to retention. Results showed significant difference between participation and retention ($X^2=6.39, p<.025$), however no significant difference between student participation in the college work study program and retention was found contrary to Adelman’s (1999) findings.

When focusing on the impact grants and scholarships have on persistence and graduation, results are mixed. Controlling for other relevant variables, need based grants had no impact on persistence over a seven year period, where as merit base scholarships had the largest impact in each year (DesJardins, Ahlburg, & McCall, 2002). While
studies indicated grant aid has a modest effect on persistence and degree completion, grants may be especially beneficial for low-income students within the first year. It was estimated by the U.S. General Accounting Office in 1995 that an additional $1,000 in grant aid directed to low-income students reduced the likelihood of drop out in the first year by 23 percent. When following this impact to the second year the impact reduced to 8 percent (Pascarella & Terenzini, 2005).

Research related to work-study programs is fairly consistent in finding positive benefits related to persistence. Many researchers believe the cause of this positive influence is associated with the opportunity a work-study position provides the student to interact with administration, faculty, and enhancing the student’s social and academic integration. The overall weight of evidence suggested that work-study programs are positively related to persistence and degree completion even when controlling for student characteristics and other forms of financial aid (Pascarella & Terenzini, 2005). However, Desjardins et al (1997) found these positive effects to be limited to the first two years of enrollment.

Since the 1992 Reauthorization of the Higher Education Act, federal and state financial aid policies shifted significantly away from grants toward loans. As a result of this shift, loan polices are allowing for greater borrowing to accommodate higher tuition and fees resulting in higher levels of student debt. These forces have potentially negative effects on persistence, graduation, and student’s decisions about graduate school enrollment (Pascarella & Terenzini, 2005). Supporting this, St. John (1991) reported that borrowing reduces the chances of persistence in the later years. Additionally, Cofer and Somers (1999) found loans to have a positive influence on persistence only when
included with grants, work or both. Tinto (1993) summed up the comparison of the influence of loans with other forms of financial aid on persistence by the following:

“Generally, the growing consensus among researchers is that grants and work-study are more effective in promoting persistence than are loans and other forms of aid… the impact of work-study as a form of financial assistance upon persistence is two fold. On one hand it provides much needed financial aid. On the other, it leads students to make contact with other people on campus, in particular faculty and staff. As a result, work-study alters both the cost and benefit side of the economic equation (p. 68).”

**Residence**

When looking at the relationship campus residence has on persistence, we first look to Gohn and Albin (2006) to provide a perspective of the colleges’ jurisdiction of students residing on campus. Pre WWII in general, dormitories were not tolerant of behavior that allowed students to be out late or have visitations. The passage of the GI Bill provided an influx of students that were less tolerant of residence housing rules (Horowitz, 1987). The movement away from in loco parentis in the 1960s to 1970s was a response to the colleges’ lack of control due to an increasingly difficult population to supervise. This effect along with federal actions, more specifically the Family Educational Rights and Privacy Act of 1974, caused institutions to take themselves out of the area of supervision. Through time a middle ground of the laissez-faire approach can be found in the modern management of the residence halls.

Bean and Metzner (1985) shared a conceptual model of nontraditional undergraduate student attrition in which campus residence is one of the three defining variables expected to influence how nontraditional students interact with the institution. According to Bean and Metzner (1985) the commuter student appears to be dissimilar to residential students in ways that are important to retention decisions. When drawing
comparisons between commuter and residential, commuter students spend less time on campus outside of class time (Chickering & Kuper, 1971), generally have fewer friends at college and are in less contact with faculty outside of class time, are less involved in extracurricular activities, and more concerned for financing their education (Chickering, 1974). In addition Dressel and Nisula (1966) determined that commuters often work and are more likely to have family responsibilities conflicting their priorities.

According to Pascarella and Terenzini (2005) students living on campus were more likely to persist and graduate than commuters even when precollege characteristics associated with retention and educational attainment are controlled. Pascarella and Terenzini also referred to the work of Blimling (1993) who reported that the benefits of residential life on campus enable the students to participate more in extracurricular activities, have more positive perceptions of the social climate on campus, have increased satisfaction of the college experience, report more personal development and growth, and have increased engagement with peers and faculty members. Huesman, Brown, Lee, Kellogg, and Radcliffe (2007) modeling of student academic success emphasized the important role living in residence halls play for students in their first semester in relation to their academic success.

Lowther and Langley (2005) conducted a study at a large public university to examine the effect on campus housing had on first-year retention. The university was considering the possibility of building new on-campus housing with the goal to require all first year students to live on campus. The intent of this initiative was to increase the opportunity for campus support service to reach students and by doing so create a stronger connection to academic and social integration. Two research questions guiding
the study examined the relationship between first-time freshman living on campus and first year retention; and after controlling for ACT scores and gender examining the relationship for first time freshman between on-campus housing and first year retention.

The sample included entering freshmen from year 2000 through 2003, 15,466 students in total with a makeup of 47.6% male and 52.4% female. Students living on campus for their first year represented 45.6% of the total sample. A Chi-square analysis was used to evaluate the relationship for first-time freshmen between living on campus and first year retention. The results suggested that female entering freshman who lived on campus tend to return for the second year at a higher expected rate, while those not living on campus tend not to return for the second year with a higher than expected rate. With regards to males, those who chose to live on campus fail to return at a lower than expected rate. A second Chi-square analysis was used to evaluate the relationship for first time freshmen between on-campus housing and first year retention after controlling for ACT scores and gender. The results showed a strong statistical relationship between housing choice and first year retention, even after controlling for ability (ACT scores). The relationship was only significant for female students.

**Theoretical Frameworks**

The belief that the influence of noted persistence factors (Tinto, 1975, Pascarella & Terenzini, 2005) within the literature review (family background; individual attributes; precollege schooling experience; academic performance; career goals; interaction with peers and faculty; programmatic interventions; academic major; learning communities; financial aid; and residence) help explain the connectedness between persistence and educational attainment is grounded in both Tinto’s theory of student departure (1975) and
Astin’s (1984) student involvement theory. These two theories will help guide the study conceptually which aims to identify factors most important to persistence through the lens of cohort matriculation.

**Tinto’s Theoretical Synthesis of Student Departure**

Tinto’s theoretical synthesis was grounded by two theories outside the discipline of education. Durkheim’s (1951) theory of suicide used the principles of sociology to help explain rates of suicide between and within countries over time; and Tinto explored the field of social anthropology with Van Gennep’s (1960) work in *The Rites of Passage*. Tinto made the comparison of the process of student departure in higher education to the process of establishing membership in traditional societies noted by Van Gennep (1960).

Tinto (1993) used the theoretical underpinnings of Van Gennep’s (1960) study entitled *The Rites of Passage*, to elaborate the comparison of student departure within higher education and the process of establishing membership in traditional societies. Van Gennep’s (1960) work examined the process of transitioning relationships as one moves to different groups marked by ceremonies and rituals. Examples of this from a sociological perspective include birth, death, marriage, and entrance into adulthood. Van Gennep summarized this process of transitioning membership from one group to the next in three stages; separation, transition, and incorporation.

The separation stage involves the departure of the individual from past associations characterized by marked decline in interaction with members of the group from which the person has come. The transition stage is a period during which the person begins to interact in new ways with members of the new group into which membership is sought. The third and final phase, incorporation, involves the taking of new patterns of
interaction with members of the new group and the establishment of competent membership in that group as a particular member.

Tinto (1975) sought to create a theoretical synthesis of research to explain dropout from higher education. More specifically the purpose of this classical piece attempted to formulate a model explaining the processes of interaction between the individual and the institution that lead differing individuals to drop out from institutions of higher education. Furthermore, Tinto was interested in identifying processes that result in various forms of dropout behavior.

Tinto (1975) described a weakness in past literature that explained dropout from higher education. Two major shortcomings emerged from his analysis: inadequate attention to the use of definitions describing dropout, and the development of a model not to simply describe but to explain the processes that cause individuals to leave institutions of higher education.

As described by Tinto, the inadequate attention given to the definition of dropout within past research could significantly impact decisions made by policy makers in higher education. With this being said, Tinto (1975) recognized that failure to distinguish dropout behavior as a result from academic failure or voluntary withdrawal frequently led to contradictory findings that indicate ability to be inversely related, unrelated, and directly related to dropout. The failure to distinguish between permanent departure and one that may be temporary in nature or may lead to transfer to other institutions of higher education, has often led institutional and state planners to overestimate substantially the extent of dropout from higher education.
In addition to the challenges noted by inadequate attention of how dropout is defined within past research, Tinto (1975) further explained the need for the development of a longitudinal model leading to the understanding of the processes of interaction which over time produce varying levels of persistence and forms of dropout behavior among individuals. Tinto recognized the limited descriptive statement of how various individual and institutional characteristics relate to dropout does not explain how these attributes affect the process of dropping out from college. Therefore, Tinto (1975) exposed the need for research on dropout to develop a theoretical longitudinal model that links various individual and institutional characteristics to the process of dropping out from college. This institutionally oriented model reviewed and synthesized past research to gain a better understanding of the social process of dropout from higher education.

Tinto (1975) “argues that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person’s experiences in those systems continually modify his goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout” (p. 94). Tinto (1988) reinforced the notion that different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress through the three stages toward degree completion. With this being said, a closer look into factors influencing persistence specific to cohorts (i.e. first year, second year, third year, and fourth year) may provide institutions greater insight on the type of timely actions necessary to implement to improve a student’s transition through these stages with the ultimate goal of increasing persistence to degree attainment.
Revising Tinto’s Theory of Student Departure

Tinto’s (1975) Internationalist Theory has been the focus of much empirical research in the study of college student departure. Berger and Braxton (1998) attempted to revise Tinto’s theory by estimating the effects of organizational attributes on social integration, and furthermore students’ intent to persist. With empirical evidence supporting the importance of organizational attributes in the persistence process, previous research (Pascarella, 1985; Spady, 1971) has focused on organizational characteristics as defined by structural demographics of the institution (size, selectivity, control, etc.).

Supporting Berger and Braxton (1998) inquiry, Kamens (1971) and Astin and Scherrein (1980) revealed organizational environments beyond the structural demographics effect on social integration as a potential source for elaboration of Tinto’s theory. The campus’s organizational environments affecting social integration and ultimately student departure decisions are measured by three constructs: 1) participation in organizational decision-making; 2) fairness in the administration policies and rules; 3) communication (Bean, 1980, 1983; Braxton & Brier, 1989).

Berger and Braxton (1998) collected data at three points in time: 1) in August 1995 using the Cooperative Institutional Research Program’s (CIRP) Student Information Form (SIF) at the end of freshman orientation; 2) midway through the Fall semester in late October 1995; and 3) later that academic year in March 1996. Data from all three collection points were merged into one data set resulting in a longitudinal panel consisting of 718 individuals with data in each of the three time points.

The independent variables used for the study included, 1) student background characteristics (income, high school grade-point average, gender, race, and political
view), 2) initial institutional commitment, 3) organizational attributes (institutional communication, fairness in policy and rule enforcement, and participating in decision making), 4) two subscales measuring social integration (peer relations, and faculty relations), 5) subsequent institutional commitment, and 6) departure decisions. The dependent variable in this study was a three-item measure of students’ intent to return, a measure of persistence demonstrating strong correlational connections between the intent to persist and actual measures of persistence (Bean & Metzner, 1985; Cabrera et al., 1992). A path analysis was used to test causality.

In terms of direct effects, white students were more likely to report feelings that they participated in decision making than nonwhite students ($\beta = .49$), and more likely to relate to their peers ($\beta = .11$) but less likely to feel a relation to faculty ($\beta = -.20$). Race was the only entry characteristic that had a direct effect on the students’ intent to persist. Furthermore, all three organizational attributes had a direct effect on social integration. Institutional communication had a direct positive effect on peer relations ($\beta = .20$), fairness in enforcing policies and rules had positive effects on both peer and faculty relations ($\beta = .12$ and $\beta = .08$), and participation in decision making positively affected faculty relations ($\beta = .41$). Furthermore, social integration subscales defined by peer interactions ($\beta = .50$) and faculty interactions ($\beta = .09$) positively predicted subsequent institutional commitment, leading to positively predicting students’ intent to return ($\beta = .49$).

Indirectly, all three organizational attributes had significant effects on students’ intent to persist. Communication ($\beta = .14$) and fairness ($\beta = .12$) both had positive effects,
in contrast participation ($\beta = .06$) had a negative effect. Additionally, communication ($\beta = .11$) and fairness ($\beta = .07$) also had effects on subsequent institutional commitment.

All three organizational attributes were determined to be important predictors of social integration, and also demonstrated statistically significant indirect effects on persistence. The findings played a role in the elaboration of Tinto’s theory since organizational attributes helped account for social integration, subsequent institutional commitment, and intent to persist. Furthermore, as noted by Berger and Braxton (1998), revising Tinto’s model using organizational attributes should be used to test persistence throughout the undergraduate experience to determine if the effects change with persistence patterns through graduation.

Tinto (1975) argued that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the institution. Astin’s (1984) student involvement theory aimed to explain how these environmental influences play a role in student persistence.

**Astin’s Student Involvement Theory**

As noted by Pascarella and Terenzini (2005) Tinto’s theory of departure (students’ integration into the academic and social systems of the institution) is quite similar to Astin’s (1984) student involvement theory, with the exception that the importance of the investment of physical and psychological energy postulated by Astin is only implied in Tinto’s concept of integration. Astin’s (1984) theory of student involvement can explain most of the empirical knowledge about the environmental influences on student development that researchers have gained over the years in a simple form of understanding. Ultimately, the theory can be used by researchers to guide
investigation of student development and college administrators and faculty to help design more effective learning environments.

Astin’s (1984) developmental theory for higher education is defined simply by concluding that students learn by becoming involved. This involvement theory has five basic postulates (p. 519):

1) Involvement refers to the investment of physical and psychological energy in various objects. The objects may be highly generalized (the student experience) or highly specific (preparing for a chemistry examination).

2) Regardless of its object, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times.

3) Involvement has both quantitative and qualitative features. The extent of a student’s involvement in academic work, for instance, can be measured quantitatively (how many hours the student spends studying) and qualitatively (whether the student reviews and comprehends reading assignments or simply stares at the textbook and day dreams).

4) The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.

5) The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement.

Astin (1984) noted that the theory of student involvement resembles a common construct in psychology, more specifically motivation. Suhre, Jansen and Harskamp (2007) stated that motivation has positive effects on academic accomplishment. When we explore literature related to motivation and education, Deci and Ryan (1991) concluded that it has become ever more apparent that self-determination, in the forms of intrinsic motivation and autonomous internalization, leads to the types of outcomes that are beneficial both to individuals and to society. They continued by stating:
We believe that promoting self-determined motivation in students should be given high priority in educational endeavors, and we have focused much of this article on the important elements for doing that. The key elements are what we refer to as autonomy support and interpersonal involvement. When significant adults — most notably, teachers and parents — are involved with students in an autonomy-supportive way, the students will be more likely to retain their natural curiosity (their intrinsic motivation for learning) and to develop autonomous forms of self-regulation through the process of internalization and integration (Deci & Ryan, 1991, p. 250).

Astin’s (1984) student involvement theory recognized that the most precious institutional resource may be student time. As a result, this theory calls for focus by college administrators and faculty to create environments that capitalizes on the time the university has with students both in and out of the classroom. Astin (1984) shared some support for research he feels supports the student involvement theory. Students who decide to leave home and live in campus residence increase the student’s chances of persisting and of aspiring to a graduate or professional degree. Students who participate in honors programs gain substantially in interpersonal and intellectual self-esteem, while enhancing faculty and student relationships. Furthermore, being academically involved is strongly related to satisfaction with all aspects of college life, with the exception of friendships with other students. Astin also noted, “students who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of courses, intellectual environment, and even the administration of the institution” (Astin, 1984, p. 525). Athletic involvement has been noted to be associated with four areas; the institution’s academic reputation, the intellectual environment, student friendships, and institutional administration. Without a surprise, active involvement in student government produces frequent interaction with peers, which seems to accentuate the
changes normally resulting from the college experience. Astin (1984) also recognized that research on cognitive development supports the concept of student involvement as a critical element in the learning process.

Pascarella and Terenzini (2005) noted, “taken as a whole, the research reviewed in the previous section (between-college effects) suggests that the impact of various institutional characteristics on persistence and educational attainment, although statistically significant and independent of other factors, tends to be small” (p. 395). This notion suggested that greater forces are in play within the institutions that can help explain persistence and degree attainment in a more profound way.

The Connection of Tinto’s and Astin’s Theories to this Study

The purpose of this study is to examine undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University student cohort intent to persist. Results from this analysis could offer insight into which persistence factors lead to students’ matriculation to the next cohort, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics could help guide PGA Golf Management University Programs by: recruiting the student with the characteristics that are likely to persist in the program; develop program characteristics that optimize cohort matriculation; and utilize and or promote the institutional support characteristics that lead to program completion.

Tinto’s (1975) internationalist theory of student dropout included various individual characteristics that play a role in the college student departure process. Such student entry characteristics directly influence the student’s initial commitment to an
institution and to the goal of college graduation (Braxton, 2000). The entry characteristics
Tinto (1975) referred to which are used in this study include: family background (family
socioeconomic status, parental educational level, and parental expectations); individual
attributes (race, and gender); and precollege schooling experience (characteristics of the
student’s secondary school, and record of high school academic achievement, and
academic ability). While student entry characteristics influence persistence, it is also
important to note that Tinto (1988) reinforced the notion that different forms of
institutional actions for student persistence must be carefully timed to meet the changing
situations and needs of students as they progress toward degree completion. This notion
paired with the attempt of Berger and Braxton (1998) to revise Tinto’s theory by
estimating the effects of organizational attributes on social integration, and furthermore
students’ intent to persist provided the support for Astin’s student involvement theory.
Additionally, Tinto (1975) exposed the need for research on dropout to develop a
theoretical longitudinal model that links various individual and institutional
characteristics to the process of dropping out from college.

Therefore, this study’s exploration of persistence factors that relate to cohort
persistence extends past student entry characteristics and introduces those factors that
influence student involvement. Astin (1984) recognized that the most precious
institutional resource may be student time. As a result, this theory calls for focus by
college administrators and faculty to create environments that capitalizes on the time the
university has with students both in and out of the classroom. When we look to this
study’s literature review of persistence factors outside the students’ entry characteristics
the connection these factors have on student involvement becomes clear.
Within the student characteristic theme, interaction with peers and faculty and its influence on persistence and degree attainment has been well documented. Pascarella and Terenzini (2005) claimed the relationship students have with their peers is a powerful socializing agent in shaping persistence and degree completion, and this influence is a statistically significant and positive force in students’ persistence decisions. Astin supported this assertion by stating “the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years” (Astin, 1993, p. 398). Ullah and Wilson (2007) concluded that students’ active involvement with learning positively influences their academic achievement and students’ relationships with faculty influence their academic achievement significantly.

When referring to the literature review of program characteristics, programmatic interventions and learning communities are noted to influence student involvement. Programmatic interventions include efforts such as: special coursework; advising; and mentoring that most frequently follows the student throughout their matriculation at the university. As noted by Astin (1984) regarding the benefits of the Student Involvement Theory, “students who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of courses, intellectual environment, and even the administration of the institution” (p.525). When examining the influence of learning communities, Braxton (2000) referred to the work of Tinto, Goodsell, and Russo (1993), which recognized the important role first year learning community programs have on student academic and social involvement, in turn, on student persistence. Similarly, Braxton (2000), Pace (1984), and Tinto (1984) concluded that learning communities have
also resulted in increased involvement, effort, learning and persistence. Students in learning communities were found to have higher peer and learning activity scores, their engagement with their peers serve to involve them more in the academic matters of the classroom as a result spending more time studying, and students saw their peers and faculty as more supportive of their needs (Braxton 2000).

When referring to the literature review of institutional characteristics, research related to work-study programs is fairly consistent in finding positive benefits related to persistence. Many researchers believe the cause of this positive influence is associated with the opportunity a work-study position provides the student to interact with administration, faculty, and enhancing the student’s social and academic integration. The overall weight of evidence suggests that work-study programs are positively related to persistence and degree completion even when controlling for student characteristics and other forms of financial aid (Pascarella & Terenzini, 2005). In addition, Pascarella and Terenzini (2005) found that students living on campus are more likely to persist and graduate even when precollege characteristics associated with retention and educational attainment are controlled. Blimling (1993) supported Astin’s student involvement theory by reporting that the benefits of residential life on campus enable the students to participate more in extracurricular activities, have more positive perceptions of the social climate on campus, have increased satisfaction of the college experience, report more personal development and growth, and have increased engagement with peers and faculty members.
Summary

This chapter examined the history of the PGA Golf Management University Programs, the importance of examining student persistence factors beyond the first year in college, and the factors influencing persistence before and during enrollment in college organized by student, program and institutional support characteristics. The chapter concluded with a discussion of the conceptual frameworks used to guide this study and contributions the exploration of persistence factors specific to cohorts will have on the body of student persistence literature.
CHAPTER 3

RESEARCH METHOD

Introduction

Tinto (1993) suggests that the investigation of student departure should begin by exploring the first year of college. Offering a contrasting perspective, Adelman (2004) states, “degree completion is the true bottom line for college administrators, state legislators, parents, and most importantly students - not retention to the second year, not persistence without a degree, but completion” (p.1). Adelman’s comments and the findings of Ackerman and Schibrowsky (2007), suggest the examination of student persistence factors specific to class standing (similar to cohorts) can contribute to the body of knowledge already present in student persistence literature. Furthermore, Tinto (1988) and Graunke and Woosley (2005), explain that previous student persistence research has focused primarily on the student’s first year, and more evidence is therefore needed regarding factors pertaining to students at the sophomore level and beyond.

This chapter will discuss the methods used to examine undergraduate students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, academic ability), academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities), and academic (e.g., faculty activities) relationships, program characteristics (e.g., interventions, academic major, and learning communities), and institutional support characteristics (e.g., financial aid, and residency status) that relate to cohort intent to
persist in PGA Golf Management University programs. The research design, data source, population, data collection procedures, variables and instrumentation, and proposed data analysis will be addressed.

**Research Design**

Using a survey instrument, this quantitative study examined undergraduate students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, academic ability), academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities), and academic (e.g., faculty activities) relationships, program characteristics (e.g., interventions, academic major, and learning communities), and institutional support characteristics (e.g., financial aid, and residency status) that relate to cohort intent to persist in PGA Golf Management University Programs. More specifically, this study provided descriptive information as well as multiple regression models to explain which factors lead to the intent for cohorts to persist.

**Data Source**

Of the 19 PGA Golf Management University Programs, 17 in the study are four-year public institutions and 2 are four-year private institutions. The student population among the institutions ranges from a low of 2,476 at Methodist University to a high of 45,628 at Penn State’s University Park campus (U.S. News and World Report, 2013). The student population among the PGA Golf Management University Programs range from a low of 39 at the University of Maryland Eastern Shore to a high of 240 at
Methodist University (Department of Education, Professional Golfers’ Association, 2011). Students within the PGA Golf Management University Programs are to matriculate through their degree program with their entering cohort. Appendix D illustrates the numbers of students within each program at the conclusion of the 2011 academic year (PGA of America, 2011; U.S. News and World Report, 2013).

**Population**

The data set included all undergraduate students enrolled in the PGA Golf Management University Programs while on campus during the 2012/13 academic year; cohorts were defined by the students standing in the program (e.g., first year, second year, third year, and fourth year). The population was chosen for three reasons: 1) students, programs, and institutions in the population vary in characteristics; 2) all programs matriculate their students in cohorts; and 3) all students among the institutions are examined by the same assessment criteria by the PGA of America.

**Data Collection Procedures**

Data related to student, program, institutional support characteristics, and intent to persist were obtained by self-reported responses to the survey instrument. Prior to the circulation of the survey, a pilot study was conducted by an expert review of five people. The small group included those familiar with survey design, industry professionals, and alumni of PGA Golf Management Programs. The intention of the pilot study is to: 1) identify any words that were unfamiliar; 2) examine the clarity of the questions; 3) gather a sense of the flow of the survey; 4) access of the online survey and the testing of various operating systems (e.g., Internet Explorer, Firefox, Safari); and 5) a report on the actual
time needed to complete the survey (Office of Planning and Institutional Assessment, Penn State University, 2006)

The PGA Golf Management University Directors were utilized as the point of survey distribution to each program’s respective students. The survey development, circulation, and collection were guided by recommendations from Dillman (2000). These recommendations guided the visual design and layout of the survey, and provided a system for increasing response rates by: 1) in the beginning of the spring semester 2013 a phone call to each PGA Golf Management University Director was made with a follow-up email a few days prior to the distribution of the survey (Appendix A); 2) sending an email to each program director with a link to the survey for circulation to their program students (Appendix B); 3) placing an identification code on each questionnaire so program response rates can be tracked; and 4) two weeks after the initial circulation of the survey a phone call was made to each program director and the distribution of a second email with the program student response rate accompanied the survey to encourage survey completion rates (Appendix C). The survey was circulated and responses were collected through Survey Monkey, a commercial online survey tool. The cost of this method and students’ accessibility to email and the Internet were the driving forces behind the use of this data collection method. The use of an individualized student, program, and institution identifier replaced names within the statistical software (SPSS, 2011, version 20).

Protection of Human Subjects

Guidelines established by the researcher’s campus Institutional Review Board (IRB) were followed to address any harm the study could have on the participants,
informed consent, confidentiality, data storage, and reporting procedures. Participation in this study was voluntary and each participant prior to the completion of the survey were informed of any potential risks and benefits. Responses to the survey were identified by institution to track response rates; participant names were not collected at any time during the survey.

**Variables and Instrumentation in the Study**

As indicated in Chapter 2, research supports various student, program, and institutional support characteristics that can affect the persistence of college students (e.g., Astin, 1984; Braxton, 2000; Pascarella & Terenzini, 2005; Tinto, 1975). The following section will discuss the variables used in this study.

**Student Characteristics**

The Student Characteristics grouping of variables include: 1) Entry Characteristics (e.g., Adelman, 2004; Astin, 1964; Davis, 1966; McGrath & Braunstein, 1997; Murtaugh, Burns, & Schuster, 1999; Tinto, 1975); 2) Academic Performance (e.g., Astin, 1993; Murtaugh et al, 1999; Pascarella & Terenzini, 1991; Ullah & Wilson, 2007); 3) Career Goals (e.g., Claypool & Cangemi, 1983; Hull-Banks et al, 2005; Silver, 1999; Ting, 1997; Tinto 1993); and 4) Interaction with Peers and Faculty (e.g., Astin, 1984, 1993; Chee, Pino & Smith, 2005; Graunke and Woosley, 2005; Halpin, 1990; Mallette & Cabrera, 1991; Pascarella & Terenzini, 2005; Ullah & Wilson, 2007). The entry characteristics were placed in three categories each defined by subsets of: 1) family background (family socioeconomic status, parental educational level, and parental expectations); 2) individual attributes (race and gender); and 3) precollege schooling
experience (characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability).

**Family Background**

Entry Characteristics specific to family background are related to the likelihood of an individual’s dropping out from college (Tinto, 1975). The student’s family socioeconomic status was captured by self-reported data from the survey to the estimated yearly parental income. Yearly parental income was treated as a categorical variable with the following ranges: less than $50,000; $50,000 to $100,000; $100,001 to $150,000; $150,001 to $200,000; above $200,000. The student’s parental educational level (from both the mother and father if available) was captured by self-reported data from the survey and treated as a categorical variable with the following ranges: less than high school completion; high school completion, some college or associate’s degree; bachelor’s degree; graduate degree. The student’s parental expectations were captured by self-reported data from the survey and treated as a categorical variable with the following ranges: parents do not expect you to finish your college degree; parents expect you to graduate with a college degree; parents expect you to obtain a graduate degree.

**Individual Attributes**

As noted in Chapter 2, entry characteristics specific to individual attributes can be nearly twice as important in accounting for dropout as family background (Sewell & Shah, 1967). While Sewell and Shah (1967) categorize the student’s entering academic ability as an individual attribute, the researcher felt entering academic ability was a better fit within the “Precollege Schooling Experience” category. Therefore, race and gender were the only to individual attributes maintained in this category. The categorical
variable of race and the dichotomous variable of gender were collected within the survey with the following categories; race (Asian, Black, Hispanic, White, Mixed race or ethnicity, Other); gender (male, female).

**Precollege Schooling Experience**

Entry characteristics specific to precollege schooling experience as noted by Davis (1966) and later by Nelson (1972) and St. John (1971) influences both the social status of the school and the ability level of the students; consequently affecting the levels of future college education. Characteristics of the student’s secondary school were defined by a categorical variable of the student’s perception of their high school curriculum intensity (not challenging, about right, challenging). High school academic achievement was defined by self reported categorical variables of class rank with the following ranges; top 50%, top 25%, top 10%, top 5%. The student’s entering academic ability was defined by self-reported high school or transfer course work grade point average (GPA). High school and transfer course work GPA were treated as continuous variables in this study measuring entering academic ability of each student. In addition to GPA, PGA Golf Management students must also meet a playing ability requirement for program acceptance. Therefore it is appropriate to add a continuous variable of golfing proficiency measured by a golfing handicap level and years played before entering program.

**Academic Performance**

Academic performance is the means: to students’ standing and continued enrollment; to admission to undergraduate and graduate programs; to degree completion; and to employment opportunities (Pascarella & Terenzini, 1991). Ullah and Wilson
(2007) recognized the work of Lufi, Parish-Plass, and Cohen (2003) concluding that academic persistence was positively associated with college grades. Academic performance was defined by the continuous variable of self reported cumulative college grade point average. In addition to GPA as an indicator of performance, students within the PGA Golf Management University Program must pass the PGA playing ability test while enrolled in the program to graduate with the program designation. Consequently, the dichotomous variable of PGA playing ability test completion (yes/no) was added to the survey. In addition, if the PGA playing ability test was passed, the respondent was asked to report the time of completion (e.g., before entering the program, within the first year, within the second year, within the third year, within the fourth year, within the fifth year, and other).

**Career Goals**

As noted in Chapter 2 research indicates that students’ goals strongly influence decisions to remain in school (Tinto, 1993), and the presence of long term goals significantly predict academic performance (Ting, 1997). Furthermore, students with unknown career goals made fewer persistence decisions than students with job-related career goals (Hull-Banks et al, 2005). A response to four options for career goals will be provided: school related (e.g., I want to graduate); job related (e.g., I want to be a golf professional); value related (e.g., I want to be happy), and unknown (e.g., I don’t know what I want to be).

**Interaction with Peers and Faculty**

Student interaction with peers and faculty and its influence on persistence and degree attainment has been well documented. Pascarella and Terenzini (2005) claim the
relationship students have with their peers is a powerful socializing agent in shaping persistence and degree completion, and this influence is a statistically significant and positive force in students’ persistence decisions. When examining the influence student interactions with faculty members have on persistence Pascarella and Terenzini (2005) indicates the contact students have with faculty members outside the classroom promotes student persistence, educational aspirations, and degree completions, even when relevant factors are controlled. The following data were collected by the use of a social integration scale from Berger and Braxton (1998) to measure peer and faculty relations. As noted by Berger rand Braxton (1998), designed to measure peer relations a composite of the six items indicating how well the students agree (strongly disagree = 1, somewhat disagree = 2, somewhat agree = 3, strongly agree = 4) with the following statements: 1) interpersonal relationships yield positive intellectual growth; 2) has developed close personal relationships; 3) interpersonal relationships yields positive personal growth; 4) difficult to make friends; 5) few would listen and help if I have a problem; 6) most have different values and attitude. The alpha coefficient for this scale was 0.76.

An additional continuous variable designed to measure social interaction with peers is the number of times per semester the student attends PGA Golf Management University Student Association meetings and plays in PGA Golf Management University Golf Tournaments. As noted by Berger and Braxton (1998), designed to measure faculty relations a composite of five items indicating how well the students agree (strongly disagree = 1, somewhat disagree = 2, somewhat agree = 3, strongly agree = 4) with the following statements: 1) satisfied with the opportunity to interact with faculty; 2) developed close relationships with faculty; 3) interaction with faculty is positive to
intellectual growth; 4) interaction with faculty is positive to personal growth; 5)
interaction with faculty is positive on career choice. The alpha coefficient for this scale is
0.82. An additional continuous variable designed to measure social interaction with
faculty is the number of times per semester the student recalls the faculty of the PGA
Golf Management University Program attended Student Association meetings and
attended PGA Golf Management University Golf Tournaments.

Program Characteristics

Programmatic Interventions

As noted in Chapter 2, the exploration of programmatic interventions designed to
promote retention and degree completion has gained traction over the past decade (e.g.,
Astin, 1984; Codjoe & Helms, 2005; Holcombe & Alexander, 2009; Kuh, Cruce, Shoup,
Kinzie, & Gonyea, 2008; Pascarella & Terenzini, 2005; Tinto, 1993). Kulik, Kulik, and
Shwalb (1983) suggest that college based developmental studies, remedial programs, and
support systems have an impact on persistence. Similarly, Allen and Lester (2012) speak
to the positive influence of instruction in academic skills, first-year seminars, and
advising have on persistence and degree attainment. The data used to capture
programmatic interventions for this study were isolated to the dichotomous variables of
the student’s self-reported participation in a remedial course upon entering college, the
participation in a college first-year seminar course that delivered academic skills, and the
continuous variable of the student’s engagement levels with their academic advisor (e.g.,
how many times per academic year do you visit with your academic advisor?). An
additional continuous variable designed to measure the impact of programmatic
interventions by: the number of times per academic year the student participates in the
PGA Golf Management University Player Development Program designed for students who have not completed the PGA playing ability test; and the number of times per academic year the students plays in PGA Golf Management University Program Student Association/Club tournaments and attends meeting.

**Academic Major**

Literature links the choice of academic major and its influence on persistence (e.g., Leppel, 2001; Montmarquette, Cannings, & Mahseredjian, 2002; Suhre, Jansen & Harskamp, 2007). More specifically, Suhre et al (2007) revealed that academic ability, satisfaction with degree program, motivation, and regular study habits all had positive effects on academic accomplishment. While satisfaction with degree program or major are important considerations for persistence, students should also consider the potential for finding employment in a job related to that major. Being unable to find employment reduces the returns to schooling for many majors. As such, before choosing a major that focuses on occupation specific skills, students should be advised to make sure it is what they wish to pursue in their career (Robst, 2006). A categorical variable asking for the student’s major area of study was collected from the survey (e.g., business, hospitality, recreation, other) and their level of satisfaction with their major (e.g., unsatisfied =1, somewhat unsatisfied=2, indifferent=3, somewhat satisfied=4, and satisfied=5). Students were also asked if they were pursuing a dual major, minor, or an additional concentration other than golf management.

**Learning Communities**

As noted in Chapter 2, a popular method for improving the quality of the undergraduate experience is the development and implementation of learning
communities (e.g., Astin, 1993; Braxton, 2000; Meiklejohn, 1932; Tinto, 1975, 1997; 1984; Van Gennep, 1960). The term learning communities have many variations in their definition including freshman interest groups, linked courses, block scheduling and registration for groups of students, and curriculum that is systematically linked (Pascarella & Terenzini, 1991). Evidence indicates that learning communities have statistically positive effects on student persistence into the second semester (Tinto & Russo, 1994) and into the second year (Stassen, 2003; Tinto, 1997). Newly enrolled PGA Golf Management University Program students join a first year cohort in which they are expected to matriculate with until degree completion. There are occasions in which students will either fall behind their initial cohort or start the program during the spring or summer term not coinciding with the normal start of the cohort in the fall semester. As a result the interaction with the initial cohort or learning community may have an impact on social integration. Two questions were asked of the students; 1) a dichotomous variable asking whether a student has remained in their entering cohort (yes/no); and 2) a categorical variable asking which semester the student entered the program (fall, spring, summer). In addition, each PGA Golf Management University Program is required to support a PGA Golf Management Student Association. Student associations, also regarded as interest groups, provide a nice opportunity to query the level of involvement each student has in the association. Therefore, students were asked about their level of involvement in the PGA Golf Management Student Association (e.g., a four point scale measuring the respondents level of agreement from strongly disagree to strongly agree was used to answer the following statements: I consider myself to be a leader in the PGA Golf Management student association and or club; I am an active contributor to the PGA Golf Management Student Association.
Golf Management student association and/or club; my involvement in the PGA Golf Management student association and/or club has contributed to my professional development; I am very satisfied with my involvement in the PGA Golf Management student association and/or club; I am committed to helping the PGA Golf Management student association and/or club achieve its goals).

**Institutional Support Characteristics**

**Financial Aid**

A large body of studies focus on the impact financial aid has on students’ decisions to attend college or where to attend (e.g., Berkner, Berker, Rooney & Peter, 2002; Pascarella & Terenzini, 1991, 2005; St. John, 1991; Tinto, 1993). Since 1990 more studies have resulted in consistent findings that students receiving financial aid are as likely as those who do not to persist in college from one year to the next and graduate (Pascarella & Terenzini, 1991). However, when examining through the lens of a four-year baccalaureate degree seeking student these aided students completed their programs faster (Cuccaro-Alamin, 1997) and studies finding financial aid producing a negative impact to persistence suggest that it is less of a case for ineffectiveness, but more likely a negative association due to the insufficiency of the funds (Cofer & Somers, 1999). Examples of aid students benefit from come from grants, scholarships, loans, and work study as well as through family support, personal savings, and non-school related work; and estimating the impact of these types of financial aid in anything but straightforward (Heller, 2003). Students were asked to record all types and associated amounts of the financial aid they have received while enrolled in college. The categorical variable
includes the following responses; 1) grants; 2) scholarships; 3) loans; 4) work study; 5) family support; 6) personal savings; 7) non-school related work.

**Residence**

Campus residence and persistence are linked in many peer reviewed articles (e.g., Bean & Metzner, 1985; Chickering, 1974; Dressel & Nisula, 1966; Huesman et al, 2007). According to Pascarella and Terenzini (2005) students living on campus are more likely to persist and graduate than commuters even when precollege characteristics associated with retention and educational attainment are controlled. Blimling (1993) reports that the benefits of residential life on campus enable the students to participate more in extracurricular activities, have more positive perceptions of the social climate on campus, have increased satisfaction of the college experience, report more personal development and growth, and have increased engagement with peers and faculty members. A dichotomous variable was used that asked students whether they currently live in campus housing (yes/no); a continuous variable was used to ask how many academic years they have lived in campus housing; and an additional continuous variable was used to determine how far the student lived from campus if they did not live in campus housing (e.g., in miles).

**Dependent Variable**

**Intent to Persist**

The dependent variable in this study is a three-item measure of students’ intent to persist. As noted by Berger and Braxton (1998) there is a body of research supporting the use of this variable as a measure of persistence (see Bean, 1980, 1983; Braxton, Vesper, & Hossler, 1995; Pascarella & Terenzini, 1983; Voorhees, 1987;) and other studies
demonstrate strong correlational connections between intent to persist and actual measures of persistence (see Bean & Metzner, 1985; Cabrera, Castaneda, Nora, & Hengstler, 1992). This measure also supports the voluntary decision to withdraw noted within Tinto’s (1975) model of student departure. As noted by Berger and Braxton (1998), a composite of three items indicating the likelihood that students would reenroll at this university in the next fall was defined by the following scale; 1) extremely unlikely = 1, extremely likely = 6, 2) certain not to reenroll = 1, certain to reenroll = 6, and 3) no chance = 1, 100% sure to reenroll = 6. From the previous research the alpha estimate for this composite scale is 0.89 (Berger & Braxton, 1998).

Analysis of the Data

Regression analysis was made popular through the work of Yule (1897) and Pearson, Yule, Blanchard, and Lee (1903), and current applications of the technique are often used to study college student persistence (Dey & Astin, 1993). Regression is a statistical technique that focuses on the relationship between the dependent variable and multiple independent variables. Berk (2004) explains that regression is used to describe the distribution of a variable under a number of different conditions in a clear and convincing way. The employment of regression analysis in this study was ideal due to the categorical and continuous independent variables associated with student, program, and institutional support characteristics, and the continuous composite scale dependent variable associated with the intent to persist.

Research Questions

The study used five research questions to examine student, program, and institutional support characteristics that relate to PGA Golf Management student cohort
intent to persist. Each question addresses a theme of factors influencing persistence from the literature.

**Question 1**

Controlling for students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), and pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability), which factors best explain the intention to persist among cohorts?

**Question 2**

Controlling for students’ academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities) and academic (e.g., faculty activities) relationships, which factors best explain the intention to persist among cohorts?

**Question 3**

Controlling for program characteristics (e.g., interventions, academic major, and learning communities), which factors best explain the intention to persist among cohorts?

**Question 4**

Controlling for institutional support characteristics (e.g., financial aid, and residency status), which factors best explain the intention to persist among cohorts?

**Question 5**

Which combination of persistence related factors: students’ family background; individual attributes; pre-college schooling experience; academic performance; career
goals; social and academic relationships; program characteristics; and institutional support characteristics explain the intention to persist among PGA cohort students?

Summary

Although the study of persistence is well documented, most studies have focused on persistence in the first year leading to the second. Using the data in this study, this research used regression analysis to account for undergraduate student, program, and institutional support characteristics that relate to cohort persistence of PGA Golf Management University Program students. The research design, data source, population, collection method, variables, and proposed data analysis were discussed. Chapter Four will provide the results to the study’s four research questions.
The purpose of this study was to examine undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University students’ cohort intent to persist. Student characteristics included Entry Characteristics (Family Background, Individual Attributes, and Precollege Schooling Experience), Academic Performance, Career Goals, and Interaction with Peers and Faculty. Program characteristics included Programmatic Interventions, Academic Major, and Learning Communities. Institutional support characteristics included Financial Aid, and Residence. The student cohort intent to persist included a three-item measure of intent to persist supported by Bean, 1980, 1983; Pascarella and Terenzini, 1983; Voorhees, 1987; Braxton, Vesper and Hossler, 1995; and other studies demonstrate strong correlational connections between intent to persist and actual measures of persistence e.g., Bean and Metzner, 1985; Cabrera, Castaneda, Nora and Hengstler, 1992.

This chapter will first provide the descriptive statistics on the demographic and profile characteristics of the student respondents in the study, followed by a presentation of the results from the analysis of five research questions. This chapter will then conclude with a summary of the results.

**Demographic and Profile Characteristics of Students**

Data were collected from twelve of the twenty PGA Golf Management University Programs. The data set contained 490 students with a reported 17 missing cases. Due to the number of missing cases, 473 cases were used for analysis. Students responding to the
survey represented 473 or 36.7% of the total enrollment (1,289 students) of the participating twelve PGA Golf Management University Programs in the study. As noted within Chapter 3, guidelines established by the researcher’s campus Institutional Review Board (IRB) were followed to address any harm the study could have on the participants, informed consent, confidentiality, data storage, and reporting procedures. Participation in this study was voluntary and each participant prior to the completion of the survey was informed of any potential risks and benefits. The responses to the survey were identified by institution to track response rates, and participant names were not collected at any time during the survey.

As shown in Table 1, respondents reporting gender affiliation were represented by 367 (90.4%) male students, and 39 (9.6%) female students. Race/ethnicity (e.g., Asian, Black, Hispanic, White, mixed race or ethnicity, other) was represented by 388 (95.1%) white students and 20 (4.9%) were classified as underrepresented, combining the remaining race/ethnicity affiliations. Respondents sharing their parent’s income level reported 33 (8.1%) earned less than $50,000, 97 (23.8%) earned between $50,000 and $100,000, 108 (26.5%) earned between $100,001 and $150,000, 47 (11.5%) earned between $150,001 and $200,000, and 48 (11.8%) earned above $200,000, and 75 (18.4%) did not know their parent’s income level.

Respondents were asked to report their parent’s expectations for their education. Only 4 (0.9%) of the students reported their parents did not expect them to finish college, 400 (87.1%) expected them to obtain a college degree, 43 (9.4%) expected them to obtain a graduate degree, and 12 (2.6%) were unsure of parent’s expectations for education. With regards to academic performance, 366 (81.3%) of the respondents earned a high
school grade point average of 3.00 or higher upon entering college. Further, 293 (65.5\%) of the respondents earned a cumulative college grade point average of 3.00 or higher.

Table 1

*Demographic Characteristics*

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
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<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
<td>367</td>
<td>90.4</td>
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<td>Female</td>
<td>39</td>
<td>9.6</td>
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<tr>
<td>White</td>
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<td>Underrepresented</td>
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<td>Parental Income</td>
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<tr>
<td>Less than $50,000</td>
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<td>$50,000 to $100,000</td>
<td>97</td>
<td>23.8</td>
</tr>
<tr>
<td>$100,001 to $150,000</td>
<td>108</td>
<td>26.5</td>
</tr>
<tr>
<td>$150,001 to $200,000</td>
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<td>11.5</td>
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<tr>
<td>Above $200,000</td>
<td>48</td>
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<td>18.4</td>
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<tr>
<td>Obtain a college degree</td>
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<td>Obtain a graduate degree</td>
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<td>3.00-3.24</td>
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<td>1.6</td>
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<tr>
<td>2.00-2.24</td>
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<td>0.4</td>
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<tr>
<td>Cumulative College GPA</td>
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<td>3.75-4.00</td>
<td>50</td>
<td>11.2</td>
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<tr>
<td>3.50-3.74</td>
<td>59</td>
<td>13.2</td>
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<td>3.25-3.49</td>
<td>86</td>
<td>19.2</td>
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<td>3.00-3.24</td>
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<td>21.9</td>
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<td>9.6</td>
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<td>5.8</td>
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<tr>
<td>2.00-2.24</td>
<td>13</td>
<td>2.9</td>
</tr>
</tbody>
</table>

*Note.* Each category may not total the sample size of 473 cases due to missing data.
Table 2 presents profile characteristics of the student respondents. The cohort sample represented the following characteristics: 154 (37.7%) were first year students, 89 (21.8%) were in their second year, 73 (17.8%) were in their third year, 68 (16.6%) were in their fourth year, 20 (4.9%) were in their fifth year, and 5 (1.2%) reported an “other” year within their studies as a student in the program.

Out of state enrollment was comprised of 272 (61.7%) students. Respondents identified their degree major area of study by the following distribution: 288 (70.4%) business; 57 (13.9%) recreation; 44 (10.8%) hospitality; and 20 (4.9%) studied an “other” major. Interestingly, 118 (28.8%) of the respondents in the sample reported the pursuit of an additional area of study, and 292 (71.2%) were pursuing the PGA Golf Management concentration alone.

Respondents reported their progress in passing the PGA’s playing ability test, 253 (57.1%) passed the PGA’s playing ability test, whereas 190 (42.9%) have not passed the PGA’s playing ability test. In addition, 119 (28.7%) reported a need for remedial math or English course entering college.
Table 2

Profile Characteristics

<table>
<thead>
<tr>
<th>Profile</th>
<th>N*</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Year in Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year</td>
<td>154</td>
<td>37.7</td>
</tr>
<tr>
<td>Second Year</td>
<td>89</td>
<td>21.8</td>
</tr>
<tr>
<td>Third Year</td>
<td>73</td>
<td>17.8</td>
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<tr>
<td>Fourth Year</td>
<td>68</td>
<td>16.6</td>
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<tr>
<td>Fifth Year</td>
<td>20</td>
<td>4.9</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>1.2</td>
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<tr>
<td>Residency Status</td>
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<td></td>
</tr>
<tr>
<td>In state</td>
<td>169</td>
<td>38.3</td>
</tr>
<tr>
<td>Out of state</td>
<td>272</td>
<td>61.7</td>
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<tr>
<td>Major Area of Study</td>
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<tr>
<td>Business</td>
<td>288</td>
<td>70.4</td>
</tr>
<tr>
<td>Hospitality</td>
<td>44</td>
<td>10.8</td>
</tr>
<tr>
<td>Recreation</td>
<td>57</td>
<td>13.9</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>4.9</td>
</tr>
<tr>
<td>Additional Areas of Study</td>
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</tr>
<tr>
<td>Dual major, minor, or additional concentration</td>
<td>118</td>
<td>28.8</td>
</tr>
<tr>
<td>PGA Golf Management concentration only</td>
<td>292</td>
<td>71.2</td>
</tr>
<tr>
<td>PGA's Playing Ability Test</td>
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<td></td>
</tr>
<tr>
<td>Passed exam</td>
<td>253</td>
<td>57.1</td>
</tr>
<tr>
<td>Did not pass</td>
<td>90</td>
<td>42.9</td>
</tr>
<tr>
<td>Need for remedial math or English upon entering college</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>119</td>
<td>28.7</td>
</tr>
<tr>
<td>No</td>
<td>295</td>
<td>71.3</td>
</tr>
</tbody>
</table>

Note. * Each category may not total the sample size of 473 cases due to missing data.

Profile Characteristics of Programs and Universities

Twelve of the nineteen PGA Golf Management University Programs participated in the study. Of these twelve university programs, two were private and ten were public.

The range of university enrollment in which the PGA Golf Management University Programs are housed were represented by Methodist University with the lowest enrollment at 2,476 students to Penn State University with the highest enrollment at 45,628 students. The range of PGA Golf Management University Program enrollment
were represented by the University of Maryland, Eastern Shore with the lowest enrollment at 39 students to Methodist University with the highest enrollment at 240 students. With regards to proportion of PGA Golf Management University Program enrollment to total university enrollment, Clemson and Florida State Universities represent the lowest proportion of PGM students at .02% of the university population and Methodist University represents the highest proportion of PGM students at 10% of the university population. Appendix D illustrates total university and PGA Golf Management University Program enrollment for the nineteen current programs.

**Procedures and Analysis**

The following five research questions will employ correlation and multiple regression analysis. The correlation analysis tests an empirical relationship between two variables in that a change in one is associated with the change in the other, or particular attributes of one variable are associated with particular attributes of the other. One important consideration, correlation does not constitute a causal relationship between the variable, but is a criterion of causality.

When using correlation and regression analysis the effects of multicollinearity should be given consideration. Multicollinearity creates shared variance between variables, decreasing the ability to predict the dependent measure as well as to identify the relative roles of each independent variable. Further, as multicollinearity increases, the ability to demonstrate the estimated regression coefficients are significantly different from zero can be impacted due to the increase in standard error. This phenomenon becomes especially problematic at smaller sample sizes, where the standard errors are generally larger due to sampling error (Hair, Black, Babin, & Anderson, 2010).
Multiple regression is used to determine causality and to examine to which degree a given dependent variable is affected simultaneously by several independent variables (Babbie, 2007). Giving particular attention to this research study, the dependent variable used was the student’s intent to persist, a composite of three items indicating the likelihood that students would reenroll at this university in the next fall was defined by the following scale: 1) extremely unlikely = 1, extremely likely = 6; 2) certain not to reenroll = 1, certain to reenroll = 6; and 3) no chance = 1, 100% sure to reenroll = 6. The alpha estimate (a measure of scale reliability) for this composite scale is 0.89 (Berger & Braxton, 1998). The Cronbach’s Alpha measure of reliability for the three-item intent to persist scale within this study was 0.896. The respondents completed the three items producing the composite scale in 361 of the 490 cases. A method to replace the missing values of the unanswered items was conducted by substituting the calculated mean response. Negligible difference occurred in the results of the regression analysis between the substituted and non-substituted method accounting for missing values.

**Research Question 1**

Controlling for students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), and pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability), which factors best explain the intention to persist among cohorts?

**Correlation Analysis**

Table 3 illustrates results from a correlation analysis. Within this analysis, intent to persist was the criterion and the potential predictors guided by the research question
were: SES (parental income level), \( r(406) = -0.031, p > .05 \); parental educational level \( r(456) = 0.034, p > .05 \); parental expectations \( r(457) = -0.070, p > .05 \); race \( r(406) = 0.080, p > .05 \); gender \( r(404) = -0.063, p > .05 \); characteristics of the student’s secondary school (high school curriculum intensity), \( r(449) = -0.011, p > .05 \); record of high school academic achievement (class rank), \( r(449) = -0.017, p > .05 \); and academic ability (grade point average), \( r(448) = -0.030, p > .05 \). The results of the correlation analysis did not yield any significant associations between variables.

Table 3

*Family Background, Individual Attributes, and Pre-College Schooling Experience*

### Summary Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Correlation Intent to Persist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td>5.679</td>
<td>0.719</td>
<td></td>
</tr>
<tr>
<td>Parental income level</td>
<td>3.500</td>
<td>1.599</td>
<td>-0.031</td>
</tr>
<tr>
<td>Father's educational level</td>
<td>3.600</td>
<td>1.060</td>
<td>0.034</td>
</tr>
<tr>
<td>Parental expectations</td>
<td>2.140</td>
<td>0.434</td>
<td>-0.070</td>
</tr>
<tr>
<td>Race/Ethnicity: White</td>
<td>N/A</td>
<td>N/A</td>
<td>0.080</td>
</tr>
<tr>
<td>Gender</td>
<td>N/A</td>
<td>N/A</td>
<td>-0.063</td>
</tr>
<tr>
<td>High school curriculum</td>
<td>3.270</td>
<td>1.021</td>
<td>-0.011</td>
</tr>
<tr>
<td>High school class rank</td>
<td>2.970</td>
<td>1.046</td>
<td>-0.017</td>
</tr>
<tr>
<td>High School GPA</td>
<td>2.910</td>
<td>1.648</td>
<td>-0.030</td>
</tr>
</tbody>
</table>

### Regression Analysis

Since the correlation analysis did not produce a significant relationship between two variables in that a change in one is associated with the change in the other, the criterion for causality cannot be met. Further, examining the regression model fit through the use of an analysis of variance yielded the following results, \( F(8, 395) = 1.041, p = .405 \), \( MS_{\text{error}} = 0.0626 \), \( \alpha = .05 \). The F is comparing the two models below:
1. Intent to persist = $\beta_1 + \beta_2 \times \text{parental income level} + \beta_3 \times \text{parental educational level} + \beta_4 \times \text{parental expectations} + \beta_5 \times \text{race} + \beta_6 \times \text{gender} + \beta_7 \times \text{high school curriculum intensity} + \beta_8 \times \text{class rank} + \beta_9 \times \text{grade point average}$

2. Intent to persist = $\beta_1$

If F is not significant, then we cannot say that model 1 is any better than model 2, therefore the use of the independent variables has not assisted in the explaining the dependent variable. The results of the regression analysis produced the following $R^2 = .021$, $F(8, 395) = 1.041, p > .05$. Table 4 illustrates the results of the regression analysis.

The following predictor variables: parental income level ($b = -.019, p > .05$); father’s educational level ($b = .040, p > .05$); parental expectations ($b = -.130, p > .05$); race/ethnic: white ($b = .326, p > .05$); gender ($b = -.198, p > .05$); high school curriculum ($b = -.012, p > .05$); high school class rank ($b = .001, p > .05$); and high school GPA ($b = .000, p > .05$) were unable to significantly predict students’ intent to persist.

Table 4

*Family Background, Individual Attributes, and Pre-College Schooling Experience Results from Regression Analysis*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multi. Regression</th>
<th>b</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental income level</td>
<td></td>
<td>-.019</td>
<td>-.039</td>
</tr>
<tr>
<td>Father's educational level</td>
<td></td>
<td>.040</td>
<td>.054</td>
</tr>
<tr>
<td>Parental expectations</td>
<td></td>
<td>-.130</td>
<td>-.071</td>
</tr>
<tr>
<td>Race/Ethnicity: White</td>
<td></td>
<td>.326</td>
<td>.089</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>-.198</td>
<td>-.074</td>
</tr>
<tr>
<td>High school curriculum</td>
<td></td>
<td>-.012</td>
<td>-.015</td>
</tr>
<tr>
<td>High school class rank</td>
<td></td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>High School GPA</td>
<td></td>
<td>.000</td>
<td>-.001</td>
</tr>
</tbody>
</table>

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Research Question 2

Controlling for students’ academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities) and academic (e.g., faculty activities) relationships, which factors best explain the intention to persist among cohorts?

Correlation Analysis

Within the correlation analysis, intent to persist was the criterion and the potential predictors guided by the research question were: college grade point average; career goals; level of agreement on the following items pertaining to social relationships (peers in cohorts have different values and attitude; interpersonal relationships in cohort yield positive intellectual growth; interpersonal relationships in cohort yield positive personal growth; few peers listen or help; difficult to make friends; and develop close personal relationships with peers); and level of agreement on the following items pertaining to academic relationships (interaction with faculty is positive to career choice; develop close personal relationships with faculty; satisfied with the opportunity to interact with faculty; interaction with faculty is positive to personal growth; interaction with faculty is positive intellectual growth).

As noted in Table 5, each of the potential predictors is significantly correlated with the criterion with exception to the category of social relationships specific to the level of agreement with peers having different values and attitude, and few peers listen or help. Of the potential predictors significantly correlated with the criterion, social relationships yielding positive intellectual, personal growth, and close personal relationships identified weak associations (r(415) = .203, p < .01; r(413) = .233, p < .01;
indicating those with higher scores on these variables tend to have higher intention to persist scores. In addition, academic relationships with faculty yielding positive interaction to career choice, development of close relationships, satisfaction with interaction, and nourishment of personal and intellectual growth identified weak associations ($r(409) = .214, p < .01; r(412) = .217, p < .01; r(413) = .238, p < .01; r(411) = .177, p < .01; r(411) = .205, p < .01$, respectively) indicating those with higher scores in these variables tend to have higher intention to persist scores.

Career goals specific to the student desires to become a PGA professional produced a very weak association ($r(471) = .144, p < .001$) to the criterion variable intent to persist. Those variables negatively correlated with the criterion such as; college grade point average, career goals specific to the students desire to be happy, and level of difficulty to make friends identified very weak associations ($r(443) = -.113, p < .05; r(471) = -.089, p < .05); r(437) = -.180, p < .01; r(410) = -.186, p < .01$, respectively) indicating those with higher scores on these variables tend to have lower intention to persist. This certainly makes sense for the level in which one has difficulty in making friends, however less sense when considering college grade point average or career goals.

After examining how the data was coded, college grade point average was calculated in the following manner: 1=3.75-4.00; 2=3.50-3.74; 3=3.25-3.49; etc. Therefore, those students with the highest grade point averages were coded with the lowest score adding clarity to the negative correlation. With regards to career goals, responses were coded in the following manner: 1=I want to graduate; 2=I want to be a PGA Golf Professional; 3=I want to be happy; and 4=I don’t know what I want to do. Therefore those having the highest score represent career goals more value oriented or
unknown, rather than the lower scores representing academic or career central, perhaps lending to the negative correlation.

Table 5

*Academic Performance, Career Goals, Social and Academic Relationships Summary Statistics and Correlations*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intent to Persist</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College GPA</td>
<td>3.850</td>
<td>1.802</td>
<td>-0.113*</td>
</tr>
<tr>
<td><strong>Career goals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Want to graduate</td>
<td>N/A</td>
<td>N/A</td>
<td>0.013</td>
</tr>
<tr>
<td>Want to become a PGA professional</td>
<td>N/A</td>
<td>N/A</td>
<td>0.144**</td>
</tr>
<tr>
<td>Want to be happy</td>
<td>N/A</td>
<td>N/A</td>
<td>-0.089*</td>
</tr>
<tr>
<td><strong>Social relationships</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers in cohorts have different values and attitude</td>
<td>3.760</td>
<td>1.315</td>
<td>-0.094</td>
</tr>
<tr>
<td>Interpersonal relationships in cohort yield positive intellectual growth</td>
<td>4.830</td>
<td>1.022</td>
<td>0.203**</td>
</tr>
<tr>
<td>Interpersonal relationships in cohort yield positive personal growth</td>
<td>4.790</td>
<td>1.139</td>
<td>0.233**</td>
</tr>
<tr>
<td>Few peers listen or help</td>
<td>2.650</td>
<td>1.423</td>
<td>-0.094</td>
</tr>
<tr>
<td>Difficult to make friends</td>
<td>2.310</td>
<td>1.301</td>
<td>-0.186**</td>
</tr>
<tr>
<td>Develop close personal relationships with peers</td>
<td>5.020</td>
<td>1.048</td>
<td>0.223**</td>
</tr>
<tr>
<td><strong>Academic relationships</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction with faculty is positive to career choice</td>
<td>5.020</td>
<td>1.056</td>
<td>0.214**</td>
</tr>
<tr>
<td>Develop close relationships with faculty</td>
<td>4.640</td>
<td>1.174</td>
<td>0.217**</td>
</tr>
<tr>
<td>Satisfied with the opportunity to interact with faculty</td>
<td>4.990</td>
<td>1.104</td>
<td>0.238**</td>
</tr>
<tr>
<td>Interaction with faculty is positive to personal growth</td>
<td>4.930</td>
<td>1.064</td>
<td>0.177**</td>
</tr>
<tr>
<td>Interaction with faculty is positive to intellectual growth</td>
<td>4.990</td>
<td>1.033</td>
<td>0.205**</td>
</tr>
</tbody>
</table>

*Note.* *p < .05  **p < .01.
Regression Analysis

Examining the regression model fit through the use of an analysis of variance (ANOVA) yielded the following results, $F(15, 383) = 4.225$, $p = .000$, $MS_{\text{error}} = .488$, $\alpha = .05$. Since the ANOVA was significant we can infer the model explains deviations in the student’s intent to persist. The multiple regression model with all predictors produced $R^2 = .142$, $F(13, 383) = 4.225$, $p < .001$, accounting for 14.2% intention to persist variance. As shown in Table 6, career goals specific to the student’s desire to graduate and wanting to become a PGA professional were the only significant regression weight ($b = .512$, $p < .05$ and $b = .487$, $p < .05$ respectively), indicating students with academic or career central goals expected to have higher intentions to persist. When reviewing the results of the other categories academic performance defined by college GPA ($b = -.038$, $p > .05$) did not produce a significant association with students’ intent to persist. Social relationships defined by: peers in cohorts have different values and attitude ($b = -.037$, $p > .05$); interpersonal relationships in cohort yield positive intellectual growth ($b = .003$, $p > .05$); interpersonal relationships in cohort yield positive personal growth ($b = .087$, $p > .05$); few peers listen or help ($b = .015$, $p > .05$); difficult to make friends ($b = -.069$, $p > .05$); and develop close personal relationships with peers ($b = -.013$, $p > .05$) did not produce a significant association with students’ intent to persist. Further, academic relationships defined by: interaction with faculty is positive to career choice ($b = .087$, $p > .05$); develop close relationships with faculty ($b = .042$, $p > .05$); satisfied with the opportunity to interact with faculty ($b = .095$, $p > .05$); interaction with faculty is positive to personal growth ($b = -.107$, $p > .05$); interaction with faculty is positive to intellectual
growth (b = -.014, p > .05) did not produce a significant association with the students’ intent to persist.

Table 6

*Academic Performance, Career Goals, Social and Academic Relationships Results from the Regression Analysis*

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College GPA</td>
<td>-0.038</td>
<td>0.094</td>
</tr>
<tr>
<td>Career goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Want to graduate</td>
<td>0.512*</td>
<td>0.136</td>
</tr>
<tr>
<td>Want to be a PGA Professional</td>
<td>0.487*</td>
<td>0.323</td>
</tr>
<tr>
<td>Want to be happy</td>
<td>0.323</td>
<td>0.203</td>
</tr>
<tr>
<td>Social relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers in cohorts have different values and attitude</td>
<td>-0.037</td>
<td>-0.065</td>
</tr>
<tr>
<td>Interpersonal relationships in cohort yield positive intellectual growth</td>
<td>0.003</td>
<td>0.004</td>
</tr>
<tr>
<td>Interpersonal relationships in cohort yield positive personal growth</td>
<td>0.087</td>
<td>0.133</td>
</tr>
<tr>
<td>Few peers listen or help</td>
<td>0.015</td>
<td>0.029</td>
</tr>
<tr>
<td>Difficult to make friends</td>
<td>-0.069</td>
<td>-0.120</td>
</tr>
<tr>
<td>Develop close personal relationships with peers</td>
<td>-0.013</td>
<td>-0.018</td>
</tr>
<tr>
<td>Academic relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction with faculty is positive to career choice</td>
<td>0.087</td>
<td>0.124</td>
</tr>
<tr>
<td>Develop close relationships with faculty</td>
<td>0.042</td>
<td>0.066</td>
</tr>
<tr>
<td>Satisfied with the opportunity to interact with faculty</td>
<td>0.095</td>
<td>0.142</td>
</tr>
<tr>
<td>Interaction with faculty is positive to personal growth</td>
<td>-0.107</td>
<td>-0.156</td>
</tr>
<tr>
<td>Interaction with faculty is positive to intellectual growth</td>
<td>-0.014</td>
<td>-0.020</td>
</tr>
</tbody>
</table>

*Note.* *p < .05  **p < .01.

**Research Question 3**

Controlling for program characteristics (e.g., interventions, academic major, and learning communities), which factors best explain the intention to persist among cohorts?
Correlation Analysis

Table 7 illustrates results from a correlation analysis. Within the correlation analysis, intent to persist was the criterion and the potential predictors guided by the research question were: interventions (e.g. participation in remedial math or English courses; participation in first year seminar course; number of times visited with an academic advisor per semester; number of times participated in a remedial player development program per semester; and the number of times participated in student association tournaments and meetings per semester), academic major (e.g. business, hospitality, recreation; satisfaction with major; and if additional majors, minors, or concentrations are being pursued in addition to the PGA Golf Management concentration), and learning communities (e.g. student continuing studies with initial cohort; semester entered into the program; and level of agreement regarding the student’s role in leadership, activity, involvement, satisfaction, and commitment to the student association).

Each of the potential predictors significantly correlated producing a very weak association with the criterion of intent to persist include: satisfaction with major (r(406) = .102, p < .05); leader in student association (r(412) = .149, p < .01); and satisfied with involvement in student association (r(415) = .175, p < .01). Each of the potential predictors significantly correlated producing a weak association with the criterion of intent to persist include: continuing with initial cohort (r(405) = .233, p < .01); active contributor in student association (r(415) = .220, p < .01); involvement in student association contributes to professional development (r(415) = .247, p < .01); and committed to student association goals (r(413) = .241, p < .01). All reported variables
were positively correlated, indicating that those with higher scores tend to have higher intention to persist scores.

Table 7

Program Characteristics Summary Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Correlation Intent to Persist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td>5.679</td>
<td>0.719</td>
<td></td>
</tr>
<tr>
<td>Remedial math or English</td>
<td>0.290</td>
<td>0.453</td>
<td>-0.060</td>
</tr>
<tr>
<td>First year seminar course</td>
<td>0.520</td>
<td>0.500</td>
<td>0.093</td>
</tr>
<tr>
<td>Times visited with advisor</td>
<td>3.270</td>
<td>1.703</td>
<td>0.095</td>
</tr>
<tr>
<td>Times met player development</td>
<td>8.260</td>
<td>3.023</td>
<td>0.091</td>
</tr>
<tr>
<td>Times participate in tournaments</td>
<td>5.960</td>
<td>2.788</td>
<td>0.086</td>
</tr>
<tr>
<td>Times participate in SA meetings</td>
<td>4.720</td>
<td>2.093</td>
<td>0.026</td>
</tr>
<tr>
<td>Business major</td>
<td>0.588</td>
<td>0.493</td>
<td>-0.066</td>
</tr>
<tr>
<td>Hospitality major</td>
<td>0.090</td>
<td>0.286</td>
<td>0.012</td>
</tr>
<tr>
<td>Recreation major</td>
<td>0.116</td>
<td>0.321</td>
<td>0.087</td>
</tr>
<tr>
<td>Satisfaction with major</td>
<td>4.230</td>
<td>1.142</td>
<td>0.102*</td>
</tr>
<tr>
<td>Pursuit of dual major or other</td>
<td>0.290</td>
<td>0.453</td>
<td>0.022</td>
</tr>
<tr>
<td>Continuing with initial cohort</td>
<td>0.930</td>
<td>0.262</td>
<td>0.233**</td>
</tr>
<tr>
<td>Semester entered</td>
<td>2.840</td>
<td>0.509</td>
<td>0.065</td>
</tr>
<tr>
<td>Leader in student association</td>
<td>3.930</td>
<td>1.377</td>
<td>0.149**</td>
</tr>
<tr>
<td>Active contributor in SA</td>
<td>4.000</td>
<td>1.391</td>
<td>0.220**</td>
</tr>
<tr>
<td>Involvement in SA contributes to professional development</td>
<td>4.210</td>
<td>1.361</td>
<td>0.247**</td>
</tr>
<tr>
<td>Satisfied with involvement in SA</td>
<td>4.300</td>
<td>1.268</td>
<td>0.175**</td>
</tr>
<tr>
<td>Committed to SA goals</td>
<td>4.640</td>
<td>1.175</td>
<td>0.241**</td>
</tr>
</tbody>
</table>

Note. *p < .05  **p < .01.

Regression Analysis

Examining the regression model fit through the use of an analysis of variance (ANOVA) yielded the following results, $F(18, 355) = 4.329, p = .000, MS_{error} = .571, \alpha=.05$. Since the ANOVA was significant we can infer the model explains deviations in the student’s intent to persist. The multiple regression model with all predictors produced $R^2 = .180, F(18, 355) = 4.329, p < .001$, accounting for 18% intention to persist variance.

As seen in Table 8, times students participate in student association meetings $b = -.460$,
p < .05), satisfaction with major (b = .107, p < .05), and continuing studies with initial cohort (b = .651, p < .01) produced significant regression weights. These results indicate those reporting more frequent attendance to student association meetings have lower levels of intention to persist. This finding suggests that attendance alone is not a good measure of a student’s intention to persist within the program, and that perhaps more attention should be given to examining the level of involvement as a variable to explain intention to persist. Those reporting higher scores for satisfaction with major area of study and those continuing studies with their initial cohort are expected to have higher intention to persist.

Table 8

Program Characteristics Results from the Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial math or English</td>
<td>-0.093</td>
<td>-0.052</td>
</tr>
<tr>
<td>First year seminar course</td>
<td>-0.012</td>
<td>-0.007</td>
</tr>
<tr>
<td>Times visited with advisor</td>
<td>0.016</td>
<td>0.034</td>
</tr>
<tr>
<td>Times met player development</td>
<td>0.021</td>
<td>0.079</td>
</tr>
<tr>
<td>Times participate in tournaments</td>
<td>0.021</td>
<td>0.072</td>
</tr>
<tr>
<td>Times participate in SA meetings</td>
<td>-0.460*</td>
<td>-0.118</td>
</tr>
<tr>
<td>Business major</td>
<td>-0.214</td>
<td>-0.120</td>
</tr>
<tr>
<td>Hospitality major</td>
<td>-0.038</td>
<td>-0.015</td>
</tr>
<tr>
<td>Recreation major</td>
<td>0.190</td>
<td>0.080</td>
</tr>
<tr>
<td>Satisfaction with major</td>
<td>0.107*</td>
<td>0.148</td>
</tr>
<tr>
<td>Pursuit of dual major or other concentration</td>
<td>-0.100</td>
<td>-0.005</td>
</tr>
<tr>
<td>Continuing with initial cohort</td>
<td>0.651**</td>
<td>0.207</td>
</tr>
<tr>
<td>Semester entered</td>
<td>0.135</td>
<td>0.087</td>
</tr>
<tr>
<td>Leader in student association</td>
<td>-0.053</td>
<td>-0.091</td>
</tr>
<tr>
<td>Active contributor in SA</td>
<td>0.053</td>
<td>0.090</td>
</tr>
<tr>
<td>Involvement in SA contributes to professional development</td>
<td>0.100</td>
<td>0.165</td>
</tr>
<tr>
<td>Satisfied with involvement in SA</td>
<td>-0.006</td>
<td>-0.009</td>
</tr>
<tr>
<td>Committed to SA goals</td>
<td>0.079</td>
<td>0.111</td>
</tr>
</tbody>
</table>

Note. *p < .05  **p < .01.
Research Question 4

Controlling for institutional support characteristics (e.g., financial aid, and residency status), which factors best explain the intention to persist among cohorts?

Correlation Analysis

Table 9 illustrates results from a correlation analysis. Within the correlation analysis, intent to persist was the criterion and the potential predictors guided by the research question were: financial aid (e.g. students participation in grants, scholarships, loans, work-study, family support, personal savings, and non-school-related work) and residency status (e.g. currently living on campus housing, years lived in campus housing, and how many miles living from campus). The results of the correlation analysis did not yield any significant associations between variables. For example, forms of financial aid defined by: grants ($r(471) = .048, p > .05$); scholarships ($r(471) = .027, p > .05$); loans ($r(471) = -.018, p > .05$); work-study ($r(471) = .069, p > .05$); family support ($r(471) = .042, p > .05$); personal savings ($r(471) = -.011, p > .05$); and non-school related work ($r(.029) = .029, p > .05$) did not produce significant associations with the criterion variable intent to persist. In addition, campus residence defined by: currently live in campus housing ($r(407) = .028, p > .05$); years lived in campus housing ($r(406) = .063, p > .05$); and miles living from campus ($r(397) = -.029, p > .05$) similarly did not produce significant associations with the criterion variable intent to persist. Therefore without association, the criterion for causality cannot be met.
Table 9

Institutional Support Characteristics Summary Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Correlation with Intent to Persist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td>5.679</td>
<td>0.719</td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>0.230</td>
<td>0.422</td>
<td>0.048</td>
</tr>
<tr>
<td>Scholarships</td>
<td>0.430</td>
<td>0.496</td>
<td>0.027</td>
</tr>
<tr>
<td>Loans</td>
<td>0.510</td>
<td>0.500</td>
<td>-0.018</td>
</tr>
<tr>
<td>Work-study</td>
<td>0.070</td>
<td>0.261</td>
<td>0.069</td>
</tr>
<tr>
<td>Family support</td>
<td>0.590</td>
<td>0.492</td>
<td>0.042</td>
</tr>
<tr>
<td>Personal savings</td>
<td>0.260</td>
<td>0.440</td>
<td>-0.011</td>
</tr>
<tr>
<td>Non-school related work</td>
<td>0.120</td>
<td>0.328</td>
<td>0.029</td>
</tr>
<tr>
<td>Currently live in campus housing</td>
<td>0.460</td>
<td>0.499</td>
<td>0.028</td>
</tr>
<tr>
<td>Years lived in campus housing</td>
<td>2.350</td>
<td>1.137</td>
<td>0.063</td>
</tr>
<tr>
<td>Miles living from campus</td>
<td>1.220</td>
<td>1.668</td>
<td>-0.029</td>
</tr>
</tbody>
</table>

Regression Analysis

Examining the regression model fit through the use of an analysis of variance yielded the following results, $F(10, 387) = 0.600$, $p=.814$, $MS_{error} = 0.641$, $\alpha = .05$. The $F$ is comparing the two models below:

1. $\text{Intent to persist} = \beta_1 + \beta_2 \cdot \text{grants} + \beta_3 \cdot \text{scholarships} + \beta_4 \cdot \text{loans} + \beta_5 \cdot \text{work-study} + \beta_6 \cdot \text{family support} + \beta_7 \cdot \text{personal savings} + \beta_8 \cdot \text{non-school related work} + \beta_9 \cdot \text{currently live in campus housing} + \beta_9 \cdot \text{years lived in campus housing} + \beta_9 \cdot \text{miles living from campus}$

2. $\text{Intent to persist} = \beta_1$

If $F$ is not significant, than we cannot say that model 1 is any better than model 2, therefore the use of the independent variables has not assisted in the predicting the dependent variable. The results of the regression analysis produced the following $R^2 =$
.015, \( F(10, 387) = 0.600, \ p > .05 \). Table 10 illustrates the results of the regression analysis. Forms of financial aid defined by: grants (b = .083, \( p > .05 \)); scholarships (b = .009, \( p > .05 \)); loans (b = -.060, \( p > .05 \)); work-study (b = .174, \( p > .05 \)); family support (b = .080, \( p > .05 \)); personal savings (b = -.063, \( p > .05 \)); and non-school related work (b = .094, \( p > .05 \)) did not produce significant regression weights. In addition, campus residence defined by: currently live in campus housing (b = .011, \( p > .05 \)); years lived in campus housing (b = .033, \( p > .05 \)); and miles living from campus (b = -.002, \( p > .05 \)) similarly did not produce significant regression weights.

Table 10

| Institutional Support Characteristics Results from Regression Analysis |
|-----------------------------|---|---|
| Variable                    | b  | \( \beta \) |
| Intent to persist           |    |    |
| Grants                      | 0.083 | 0.046 |
| Scholarships                | 0.009 | 0.006 |
| Loans                       | -.060 | -.037 |
| Work-study                  | 0.174 | 0.062 |
| Family support              | 0.080 | 0.045 |
| Personal savings            | -.063 | -.037 |
| Non-school related work     | 0.094 | 0.042 |
| Currently live in campus housing | 0.011 | 0.007 |
| Years lived in campus housing | 0.033 | 0.047 |
| Miles living from campus    | -.002 | -.005 |

Research Question 5

Which combination of persistence related factors: students’ family background; individual attributes; pre-college schooling experience; academic performance; career goals; social and academic relationships; program characteristics; and institutional support characteristics explain the intention to persist among PGA cohort students?
Correlation Analysis

Table 11 illustrates only the significant results from a correlation analysis. Within the correlation analysis, intent to persist was the criterion and the potential predictors guided by the research question were categorized within three themes of student, program and institutional support characteristics. With regard to student characteristics the following independent variables were used: SES (parental income level); parental educational level; parental expectations; race; gender; characteristics of the student’s secondary school (high school curriculum intensity); record of high school academic achievement (class rank); and academic ability (grade point average); college grade point average; career goals; level of agreement on the following items pertaining to social relationships (peers in cohorts have different values and attitude; interpersonal relationships in cohort yield positive intellectual growth; interpersonal relationships in cohort yield positive personal growth; few peers listen or help; difficult to make friends; and develop close personal relationships with peers); and level of agreement on the following items pertaining to academic relationships (interaction with faculty is positive to career choice; develop close personal relationships with faculty; satisfied with the opportunity to interact with faculty; interaction with faculty is positive to personal growth; interaction with faculty is positive intellectual growth).

The second theme of program characteristics included variables such as: interventions (e.g. participation in remedial math or English courses; participation in first year seminar course; number of times visited with an academic advisor per semester; number of times participated in a remedial player development program per semester; and the number of times participated in student association tournaments and meetings per
semester), academic major (e.g. business, hospitality, recreation; satisfaction with major; and if additional majors, minors, or concentrations are being pursued in addition to the PGA Golf Management concentration), and learning communities (e.g. student continuing studies with initial cohort; semester entered into the program; and level of agreement regarding the student’s role in leadership, activity, involvement, satisfaction, and commitment to the student association).

The third theme of institutional support characteristics included variables such as: financial aid (e.g. students participation in grants, scholarships, loans, work-study, family support, personal savings, and non-school-related work) and residency status (e.g. currently living on campus housing, years lived in campus housing, and how many miles living from campus).
Table 11

Student, Program, and Institutional Support Characteristics Summary Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Correlation Intent toPersist</th>
</tr>
</thead>
<tbody>
<tr>
<td>College GPA</td>
<td>3.850</td>
<td>1.802</td>
<td>-0.113*</td>
</tr>
<tr>
<td>Career goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Want to be a PGA professional</td>
<td>0.531</td>
<td>0.499</td>
<td>0.144**</td>
</tr>
<tr>
<td>Want to be happy</td>
<td>0.295</td>
<td>0.456</td>
<td>-0.089*</td>
</tr>
<tr>
<td>Social relationships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal relationships in cohort</td>
<td>4.830</td>
<td>1.022</td>
<td>0.203**</td>
</tr>
<tr>
<td>yield positive intellectual growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal relationships in cohort</td>
<td>4.790</td>
<td>1.139</td>
<td>0.233**</td>
</tr>
<tr>
<td>yield positive personal growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult to make friends</td>
<td>2.310</td>
<td>1.301</td>
<td>-0.186**</td>
</tr>
<tr>
<td>Develop close personal relationships with peers</td>
<td>5.020</td>
<td>1.048</td>
<td>0.223**</td>
</tr>
<tr>
<td>Academic relationships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction with faculty is positive to career choice</td>
<td>5.020</td>
<td>1.056</td>
<td>0.214**</td>
</tr>
<tr>
<td>Develop close relationships with faculty</td>
<td>4.640</td>
<td>1.174</td>
<td>0.217**</td>
</tr>
<tr>
<td>Satisfied with the opportunity to interact with faculty</td>
<td>4.990</td>
<td>1.104</td>
<td>0.238**</td>
</tr>
<tr>
<td>Interaction with faculty is positive to personal growth</td>
<td>4.930</td>
<td>1.064</td>
<td>0.177**</td>
</tr>
<tr>
<td>Interaction with faculty is positive to intellectual growth</td>
<td>4.990</td>
<td>1.033</td>
<td>0.205**</td>
</tr>
<tr>
<td>Satisfaction with major</td>
<td>4.230</td>
<td>1.142</td>
<td>0.102*</td>
</tr>
<tr>
<td>Continuing with initial cohort</td>
<td>0.930</td>
<td>0.262</td>
<td>0.233**</td>
</tr>
<tr>
<td>Leader in student association</td>
<td>3.930</td>
<td>1.377</td>
<td>0.149**</td>
</tr>
<tr>
<td>Active contributor in SA</td>
<td>4.000</td>
<td>1.391</td>
<td>0.220**</td>
</tr>
<tr>
<td>Involvement in SA contributes to professional development</td>
<td>4.210</td>
<td>1.361</td>
<td>0.247**</td>
</tr>
<tr>
<td>Satisfied with involvement in SA</td>
<td>4.300</td>
<td>1.268</td>
<td>0.175**</td>
</tr>
<tr>
<td>Committed to SA goals</td>
<td>4.640</td>
<td>1.175</td>
<td>0.241**</td>
</tr>
</tbody>
</table>

Note. *p < .05  **p < .01.

The results of the correlation analysis produce very weak associations between the following variables and the criterion intent to persist: college GPA (r(445) = -.113, p < .05); career goals specific to the student’s desire to become a PGA professional and to
be happy ($r(471) = .144$, $p < .01$ and $r(471) = -.089$, $p < .05$ respectively);
difficult to make friends ($r(412) = -.186$, $p < .01$); interaction with faculty is positive to personal
growth ($r(413) = .177$, $p < .01$); satisfaction with major ($r(406) = .102$, $p < .05$); leader in
student association ($r(412) = .149$, $p < .01$); and satisfied with involvement in student
association ($r(415) = .175$, $p < .01$).

These results suggest higher levels of college GPA, career goals specific to the
student’s desire to become a PGA professional, higher levels of agreement with
interaction with faculty is positive to personal growth, higher levels of satisfaction with
major, higher levels of consideration of being a leader in the student association, and
higher levels of satisfaction with involvement in student association are associated with
higher levels of students’ intent to persist. Conversely, these results suggest career goals
focused on being happy instead of graduation or working as a PGA professional, and
finding it difficult to make friends are associated with lower levels of intention to persist.

In addition, weak associations between the following variables and the criterion
intent to persist emerged from the analysis: interpersonal relationships in cohort yield
positive intellectual growth ($r(415) = .203$, $p < .01$); interpersonal relationships in cohort
yield positive personal growth ($r(413) = .233$, $p < .01$); develop close personal
relationships with peers ($r(412) = .223$, $p < .01$); interaction with faculty is positive to
career choice ($r(411) = .214$, $p < .01$); develop close relationships with faculty ($r(414) =
.217$, $p < .01$); satisfied with the opportunity to interact with faculty ($r(415) = .238$, $p <
.01$); interaction with faculty is positive to intellectual growth ($r(413) = .205$, $p < .01$);
continuing with initial cohort ($r(405) = .233$, $p < .01$); active contributor in student
association ($r(415) = .247$, $p < .01$); involvement in student association contributes to
professional development ($r(415) = .247, p < .01$); and committed to student association goals ($r(413) = .241, p < .01$). Since all of these findings are positively correlated with the dependent variable, these results suggest higher levels of agreement to the response of these noted positions are associated with higher levels of persistence.

**Regression Analysis**

As seen in Table 12, when using all potential predictors from the previous four research questions different regression weights are used to explain the variance in the student’s intention to persist. Examining the regression model fit through the use of an analysis of variance (ANOVA) yielded the following results, $F(51, 295) = 2.243, p = .000, MS_{\text{error}} = .518, \alpha = .05$. Since the ANOVA was significant we can infer the model explains deviations in the student’s intent to persist. The multiple regression model with all predictors produced $R^2 = .279, F(51, 295) = 2.243, p < .001$, accounting for 27.9% intention to persist variance. When all persistence factors identified from student, program, and institutional support characteristics are considered the following predictors of: parental expectations ($b = -.217, p < .05$); college grade point average ($b = -.058, p < .05$); and continued enrollment with the student’s initial cohort ($b = .656, p < .01$) are used to explain deviation in the student’s intent to persist. In addition to the explained variance, results also indicate that parental expectations for higher levels of education result in lower levels of student intent to persist. Conversely, this study suggests that higher levels of college grade point average and continued enrollment with the student’s initial cohort result in higher levels of students’ intention to persist. Note that only significant regression weights are noted within Table 12.
Table 12

Student, Program, and Institutional Support Characteristics Results from the Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent to persist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental expectations</td>
<td>-0.217*</td>
<td>-0.124</td>
</tr>
<tr>
<td>College GPA</td>
<td>-0.058*</td>
<td>-0.134</td>
</tr>
<tr>
<td>Continuing with initial cohort</td>
<td>0.656**</td>
<td>0.209</td>
</tr>
</tbody>
</table>

Notes. *p < .05  **p < .01.

Summary

As presented in Chapter Three, this study used multiple regression to examine student, program, and institutional support characteristics that relate to PGA student cohort intent to persist. Potential predicting variables related to student’s family background, individual attributes, and precollege schooling experience did not explain intention to persist variance. Students response to career goals accounted for 14.2% intention to persist variance, $R^2 = .142$, $F(13, 383) = 4.225$, $p < .001$. Career goals specific to the student’s desire to graduate and wanting to become a PGA professional were the only significant regression weights ($b = .512$, $p < .05$ and $b = .487$, $p < .05$ respectively), indicating students with academic or career central goals expected to have higher intentions to persist.

The amount of times students participate in student association meetings ($b = - .460$, $p < .05$), satisfaction with major ($b = .107$, $p < .05$), and continuing studies with initial cohort ($b = .651$, $p < .01$) produced significant regression weights accounting for 18% intention to persist variance, $R^2 = .180$, $F(18, 355) = 4.329$, $p < .001$. These results indicate those reporting more frequent attendance to student association meetings have
lower levels of intention to persist. This finding suggests that attendance alone is not a good measure of a student’s intention to persist within the program, and that perhaps more attention should be given to examining the level of involvement as a variable to explain intention to persist. Those reporting higher scores for satisfaction with major area of study and those continuing studies with their initial cohort are expected to have higher intention to persist.

Potential predicting variables related to institutional support characteristic (e.g., financial aid, and residency status) did not explain intention to persist variance. When considering all potential predicting variables associated with student, program, and institutional support characteristics only: parental expectations; college grade point average; and continued enrollment with the student’s initial cohort were identified as significant, accounting for 27.9% intention to persist variance, $R^2 = .279$, $F(51, 295) = 2.243$, $p < .001$. These results will be further explored and discussed in Chapter Five.
CHAPTER 5
DISCUSSION OF RESULTS

Introduction

This quantitative study used data collected from twelve of the twenty PGA Golf Management University Programs within the United States to examine undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University student cohort intent to persist. This final chapter presents a discussion of the results of this study. The first section presents a brief overview of the study followed by answers to the five research questions with connection to the relevant literature and theory presented in Chapter 2. This chapter will conclude with a discussion of theoretical and practical implications, future research, and summary.

Overview of Study

The motivation behind this study was to explain the variance of student attrition rates among individual PGA Golf Management University programs. According to the Professional Golfers’ Association (PGA) of America Department of Education (2011), PGA Golf Management University programs vary in their student attrition rates from 24% to 62%. To gain a better understanding of what may lead a student to dropout of a program, this study aimed to examine undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University students’ cohort intent to persist.

While investigating the wealth of persistence literature available on this topic, and consulting with a panel of experts intimately involved with the operations of PGA Golf Management University programs, themes of persistence factors related to students’
intent to persist emerged. Consequently, the researcher chose to examine three themes (e.g., student, program, and institutional support characteristics), which served as the independent variables within the study.

Within chapter 2 each theme included a description of the related persistence factors supported by peer-reviewed studies that illustrated the relatedness of these factors to persistence and or degree attainment. To summarize, the student characteristic theme was developed by the review of the following persistence factors; entry characteristics (family background, individual attributes, and precollege schooling experience); academic performance; career goals, and interaction with peers and faculty. The program characteristic theme was developed by a review of the following: programmatic interventions, academic major and learning communities. Finally, the institutional characteristic theme was developed by a review of financial aid and residence status.

The dependent variable in this study is a three-item measure of students’ intent to persist. As noted by Berger and Braxton (1998) there is a body of research supporting the use of this variable as a measure of persistence (Bean, 1980, 1983; Braxton, Vesper, & Hossler, 1995; Pascarella & Terenzini, 1983; Voorhees, 1987) and other studies demonstrate strong correlational connections between intent to persist and actual measures of persistence (Bean & Metzner, 1985; Cabrera, Castaneda, Nora, & Hengstler, 1992). This measure also supports the voluntary decision to withdraw noted within Tinto’s (1975) model of student departure.

Tinto’s (1975) internationalist theory and Astin’s (1984) student involvement theory provided the theoretical framework for this study. Tinto’s (1975) internationalist theory of student dropout includes various individual characteristics that play a role in the
college student departure process. Such student entry characteristics (e.g., family background, individual attributes, and precollege schooling experience) directly influence the student’s initial commitment to an institution and to the goal of college graduation (Braxton, 2000).

While student entry characteristics influence persistence it is also important to note that Tinto (1988) reinforces the notion that different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress toward degree completion. Therefore, this study’s exploration of persistence factors that relate to the intent for cohorts persist extends past student entry characteristics and introduces those factors that influence student involvement (e.g., interaction with peers and faculty, programmatic interventions, learning communities, work-study programs as a form of financial aid, and campus residence) (Astin, 1984).

Questions and Discussion

As discussed in Chapter 2, this study identified factors previously found in the literature to influence student persistence. Therefore this section begins with a discussion of the answers this study generated for each of the five research questions and how they relate to the literature.

R1. Controlling for students’ family background (e.g., SES, parental educational level, and parental expectations), individual attributes (e.g., race and gender), and pre-college schooling experience (e.g., characteristics of the student’s secondary school, and record of high school academic achievement, and academic ability), which factors best explain the intention to persist among cohorts?
This study examined students’ intent to persist by controlling for students’ family background, individual attributes, and pre-college schooling experience. The students’ intent to persist was measured by a three-item measure of students’ intent to persist (Bean, 1980, 1983; Braxton et al., 1995; Pascarella & Terenzini, 1983; Voorhees, 1987) demonstrating a strong correlational connection between intent to persist and actual measures of persistence (Bean & Metzner, 1985; Cabrera et al., 1992). This measure also supports the voluntary decision to withdraw noted within Tinto’s (1975) model of student departure. The results of this study indicate that student family background, individual attributes, and pre-college schooling experience did not assist in explaining the students’ intent to persist. Further, correlation analysis did not produce significant associations between any of the independent variables and the students’ intent to persist.

When reviewing persistence literature specific to the influence family background has on student persistence this study is in contrast with findings. Tinto (1975) suggests the likelihood of an individual’s dropping out of college is related to the characteristics of the individual’s family (e.g., family’s socioeconomic status, parental educational level, and parental expectations), this postulate is also supported by earlier work and documented in numerous studies (Astin, 1964; Eckland, 1964; Lembesis, 1965; McMannon, 1965; Panos & Astin, 1968; Sewell & Shah, 1967; Wegner, 1967; Wolford, 1964). When reviewing more recent work, McGrath and Braunstein (1997) examined the importance of certain demographic, academic, financial, and social factors predicting freshman attrition. The similar family background characteristics of the respondents within this study may have made it difficult to examine how the differences of family background influence the student’s intent to persist. For example, 68% of the reported
parental income was $100,000 or more, 80% of the students’ fathers and 82% of the students’ mothers educational experience included some college or obtaining an associates degree, and 96% of the students reported that their parents expected them to graduate with a college degree or obtain a graduate degree.

Individual attributes, defined by this study as race/ethnicity and gender, are well-documented factors influencing student retention. In contrast to Sewell and Shah (1967), this study did not produce any association or explanation as to the influence gender has on persistence. Sewell and Shah (1967) offered insight on the way gender influences the relationship between socioeconomic status and intelligence on persistence finding that the relative effect for females on socioeconomic status on college plan, attending college, and graduation was greater that the effect of intelligence. For males, the relative effect of intelligence at each of these stages was greater than the effect of socioeconomic status. Similarly, women have been overwhelmingly more likely to obtain a bachelor’s degree across the majority of ethnic and racial groups, and across all levels of the socioeconomic scale (Buchman & DiPrete, 2006; Ewert, 2012; Goldin Katz, & Kuziemko, 2006). While this study did not examine the way gender influences the relationships between socioeconomic status and intelligence on persistence, the findings did suggest there was no influence of gender on a student’s intent to persist. With only 39 (9.6% of the sample) female respondents the small sample size made it difficult to evaluate the influence gender played on student intention to persist.

Likewise, this study did not find influence of race/ethnicity on students’ intent to persist. This finding could be a result of a sample made up of only 4.9% underrepresented race/ethnicity profiles. However, support for these findings emerge when reviewing the
work of Murtaugh, Burns, and Schuster (1999). Murtaugh et al (1999) examined the impact ethnicity/race had on persistence. While statistically significant associations of retention with ethnicity/race and college at first enrollment were noted, multivariate analysis resulted in the differences for Hispanics and American Indians to disappear, and a reduced risk of dropout for African Americans when compared to Caucasians. Interestingly, Murtaugh et al (1999) findings suggested the average African American student is more likely to withdraw than the average Caucasian student, but when controlling for age, GPA, and residency, the African American student is actually less likely to withdraw. With only 20 (4.9% of the sample) underrepresented respondents the small sample size made it difficult to evaluate the influence race/ethnicity played on student intention to persist.

This study also did not find influence of precollege schooling experience on students’ intent to persist. When reviewing literature on precollege schooling experience (e.g., high school curriculum intensity, high school class rank/grade point average, and high school grade point average), previous studies (e.g., Adelman, 2004; McGrath & Braunstein, 1997; Tinto, 1975) support the influence precollege schooling experience has on persistence. Adelman (2004) discovered the intensity and quality of curriculum of the student’s secondary school was a key variable in explaining bachelor’s degree attainment. Further, Adelman (2004) discovered academic resources (defined by the composite of high school curriculum, test scores, and class rank) had a stronger correlation to bachelor’s degree completions than socioeconomic status.

The results of this study were in contrast to the findings of Adelman (2004). When reviewing the demographic profile of the respondents we notice 366 (81.3%) of the
respondents had a high school GPA of 3.0 or higher. This similar level of precollege schooling experience may have created a homogeneous sample, limiting variability among the respondents and making it difficult to produce a significant correlation or regression coefficient.

R2. Controlling for students’ academic performance, (e.g., college GPA), career goals (e.g., school related, job related, value related, and unknown), social (e.g., peer activities) and academic (e.g., faculty activities) relationships, which factors best explain the intention to persist among cohorts?

This study examined students’ intent to persist by controlling for students’ academic performance, career goals, and social and academic relationships. The model explained deviations in the students’ intent to persist, accounting for 14.2% intention to persist variance. The study also revealed within the regression analysis, career goals specific to the student’s desire to graduate, and desire to become a PGA professional were the only significant regression weights. This indicates students with academic or career central goals are expected to have higher intentions to persist.

Previous studies (DeBerard, Spiemans, & Julka, 2004; Lufi, Parish-Plass, & Cohen, 2003; Murtaugh et al, 1999; Ullah & Wilson, 2007) concluded that academic persistence was positively associated with college grades. Within this study we see support of these findings indicating college grades produced a very weak association with the students’ intent to persist. This insight is supported by Astin (1993) noting that college grades are important to continued enrollment (Astin, 1993), which leads to increased levels of persistence. However when including college grades as a predicting
variable to the students’ intent to persist this variable did not produce a significant coefficient within the model.

Perhaps the explanation for this finding lies within the co-curricular requirements of PGA Golf Management Programs in general. Each student matriculating through the PGA Golf Management University Program must pass periodic PGA exams, which are independent from university assessments. It is possible for a student to receive passing grades on the courses aim to prepare a student for success on the PGA exam, but this course preparation does not always equate to a passing PGA exam score. Since passing PGA exams are required for cohort matriculation and program completion, students could be placing more emphasis on obtaining passing scores on PGA exams (which are not necessary linked to the student’s college GPA) than university course work. This phenomenon may be contributing to conflicting priorities of the student, placing more emphasis on passing PGA exams than achieving higher course grades.

Prior research indicates that student goals strongly influence decisions to remain in school (Tinto, 1993), and the presence of long-term goals significantly predicts academic performance (Ting, 1997). More specifically, long-term, specific, high-level, learning-oriented, and/or attainable goals appear to be significant for retention-related factors (Claypool & Cangemi, 1983; Emerick, 1992; Fore, 1998; Mau, Dominick, & Ellsworth, 1995; Silver, 1999). The results produced from this study support these findings. Students with career goals specific to the desire to graduate and to become a PGA professional were the only significant regression weights, indicating students with academic or career central goals expected to have higher intentions to persist. This also supports Befort, Sollenberger, Nicpon, and Huser (2005), finding that students reporting
job related goals are more likely to make positive persistence decisions than students reporting unknown goals. Since the program primarily focuses on recruiting students with the purpose of producing PGA golf professionals the career focus on becoming a PGA golf professional may be conditional. However, student interests change while attending college. PGA Golf Management University Students declare their concentration in golf management the first day they step on campus. Their commitment to the program and working as a PGA golf professional within the industry is strong early on and for some this commitment strengthens as they matriculate through the program and experience segments of the sixteen month internship program. However, as program requirements become more difficult and students are exposed to work life within the industry through the internship program it is possible their commitment for the program reduces as a result of program rigor or negative internship experiences. This type of experience may influence the student’s career goals resulting in no longer wanting to become a PGA golf professional, consequently these intentions may also result in the student feeling as an outsider within the group leading to lower levels of intention to persist within the program.

Student interaction with peers and faculty and its influence on persistence and degree attainment has been well documented. Pascarella and Terenzini (2005) claim the relationship students have with their peers is a powerful socializing agent in shaping persistence and degree completion, and this influence is a statistically significant and positive force in student persistence decisions. While peer and faculty relationships did not produce significant relationships within the regression analysis of this study, correlation analysis did produce results supporting findings of previous research.
Of the potential predictors significantly correlated with the students’ intent to persist, social (peer) relationships yielding positive intellectual, personal growth, and close personal relationships identified weak associations indicating those with higher scores on these variables tend to have higher intention to persist scores. This finding supports research indicating the positive influence social (peer) relationships have on persistence (Astin, 1993; Pascarella & Terenzini, 2005; Ullah & Wilson, 2007). Since the program requires matriculation within a cohort, peer relationships are inherently formed within the curriculum structure perhaps providing this association. Yet within the regression analysis peer relationships did not produce a significant relationship in predicting the students’ intent to persist. This finding suggests within this study the influence of peer relationships on students’ intent to persist may be shared with factors such as academic performance, career goals, and faculty relationships.

Ullah and Wilson (2007) suggests that student and faculty interaction, student to student interaction, institutional emphasis on diversity, participation in extracurricular activities, student interaction with faculty outside the classroom and peer interactions are positively associated with student persistence and educational attainment. Similarly, the results from the Graunke and Woosley (2005) study showed students’ relationships with faculty have a positive effect on their overall academic achievement. This study supports findings of previous research in that academic relationships with faculty yielding positive interaction to career choice, development of close relationships, satisfaction with interaction, and nourishment of personal and intellectual growth identified weak associations. These results indicate those with higher scores in these variables tend to have higher intention to persist scores. Although a correlation analysis produced these
significant associations, within the regression analysis academic relationships did not produce a significance relationship within the model.

As described earlier with social (peer) relationships the program inherently facilitates student/faculty interaction since those faculty members who teach classes are also responsible for administrative tasks of the program which include recruitment, internship placement and advising, academic advising, playing and practice sessions on the golf course, and career counseling. With this being said, student/faculty interaction occurs consistently among cohorts, which could reduce the variability with response levels of student/faculty engagement.

R3. Controlling for program characteristics (e.g., interventions, academic major, and learning communities), which factors best explain the intention to persist among cohorts?

This study examined the influence certain program characteristics (e.g., programmatic interventions, academic major, and learning communities) had on students’ intent to persist. The multiple regression model with all programmatic characteristics accounted for 18% intention to persist variance. The number of times students participate in student association meetings, satisfaction with major, and continuing studies with initial cohort produced significant regression weights.

Learning communities take on many forms and have three things in common: shared knowledge; shared knowing; and shared responsibility (Braxton, 2000). Student associations include the commonalities suggested by Braxton (2000). Therefore it was surprising results from this study indicate the more frequent students attend their association meetings the less likely they are to persist. It is noted within the literature that a popular method for improving the quality of the undergraduate experience is the
development and implementation of learning communities. Perhaps the frequency of attendance to student association meetings is not the ideal measure of the benefit this learning community has on students’ intent to persist. Learning communities can increase involvement, effort, and learning, resulting in increased persistence (Braxton, 2000; Pace, 1984; Tinto, 1997), but one cannot assume that attendance alone produces the necessary engagement within the learning community that produces higher levels of persistence (Astin, 1984; Ullah & Wilson, 2007). Therefore, this finding may not be valid in explaining students’ intent to persist. A better potential predictive variable may be the level of engagement occurring from each student as a member of the student association. The level of engagement through involvement, effort, and learning could be a better predictor of student intent to persist since one could regularly attend meetings with varying levels of engagement which has been documented in other studies as to leading to higher levels of persistence (Braxton, 2000; Pace, 1984; Tinto, 1997).

Results from this analysis also produced a significant regression weight with regards to satisfaction with major. This finding supports research of Suhre, Jansen, and Harskamp (2007) revealing that: academic ability; satisfaction with degree program; motivation; and regular study habits all had positive effects on academic accomplishment.

The strongest coefficient in this model was the students’ decision to continue studies with their initial cohort. Given that 243 (59.5%) of the respondents were in their first or second year of study, this predictive variable is an important consideration for administrators and faculty when attempting to increase students’ intent to persist. Braxton (2000) speaks to the important role first-year learning communities play in building a
supportive peer group that aids in the student transition into college. The process of transitioning membership from one group to another (e.g. high school to college) is summarized by Van Gennep (1960) and described in the three stages of separation, transition, and incorporation. Tinto (1975) uses Van Gennep’s stages of incorporation and the basis of his student departure framework. The results of this study support the importance of students making a full transition from previous associations (previous group before entering the program) to a new association (student within the PGA Golf Management program). One could make the case that those students fully incorporated into the program matriculate with their cohort, and as the results of this study suggest, has a positive influence on students’ intent to persist.

R4. Controlling for institutional support characteristics (e.g., financial aid, and residency status), which factors best explain the intention to persist among cohorts?

The PGA Golf Management University programs exist within nineteen different universities all offering various levels of grants, scholarships, loans, work-study programs, and other forms of aid to the students. Additionally, each university campus has various levels of participation of their students in campus housing. This regression model looked to explain the students’ intent to persist by controlling for institutional support characteristics such as financial aid and residency status. Results from this analysis did not produce a significant regression model or significant correlations between these variables and students’ intent to persist.

Consequently, this study was unable to support the literature that suggests there is a positive influence of financial aid (DesJardins, Ahlburg, & McCall, 2002; Herzog, 2005; Pascarella & Terenzini, 2005) on student persistence. Heller (2003) uses the
examples of grants, scholarships, loans, work-study, family support, personal savings, and non-school related work to help define the various forms of financial aid. Heller (2003) also states that estimating the impact of these types of financial aid on student persistence is anything but straightforward. The results of this study support Heller’s (2002) insertion. Respondents reported (N=278, or 68.2% of the sample) family income at $100,000 or more. Most students entering the PGA Golf Management University Programs come from backgrounds of higher levels of socioeconomic status that enable students to play the expensive game of golf at an early age to produce the proficient golf skills necessary to meet program entry requirements. Therefore, this may suggest financial aid considerations are not significant enough to create the variability within the sample for an association or a causal relationship to occur.

This study attempted to draw a comparison between those students living on campus to those living off campus by inquiring about the students’ residence location. According to Bean and Metzner (1985) the commuter student appears to be dissimilar to residential students in ways that are important to retention decisions. When drawing comparisons between commuter and residential, commuter students spend less time on campus outside of class time (Chickering & Kuper, 1971), generally have fewer friends at college and are in less contact with faculty outside of class time, are less involved in extracurricular activities, and more concerned with financing their education (Chickering, 1974). The results of this study did not support the literature suggesting that commuters (those living off campus) are dissimilar to residential students in ways that are important to persistence decisions. Correlation and regression analyses did not produce significant associations or causal relationships within the regression model. Perhaps commuter
students or those living off campus participating in different programs are more susceptible to having lower levels of persistence. Since PGA Golf Management programs require cohort matriculation and a dual application process, perhaps these conditions help to mitigate the affects campus residence has on students’ intent to persist. Students entering the PGA Golf Management University Program declare their area of concentration the first day stepping on campus. Students are aware of program requirements, plan of study, and are advised to take classes with their entering cohort. Since these programs require a dual application process, one for the program and one for the university, the program also gets to know each entering student intimately before classes begin. Consequently these unique program attributes may have a greater influence on a student’s intention to persist than where they live.

R5. Which combination of persistence related factors: students’ family background; individual attributes; pre-college schooling experience; academic performance; career goals; social and academic relationships; program characteristics; and institutional support characteristics explain the intention to persist among PGA cohort students?

This study examined the combination of persistence factors noted within the literature (e.g., student, program, and institutional support characteristics) to explain the intention to persist among PGA cohort students. The literature is rich in the support of the noted persistence factor themes (Astin, 1984; Pascarella & Terenzini, 2005; Tinto, 1975), to help explain persistence. When all persistence factors identified from student, program, and institutional support characteristics are considered the following predictors of: parental expectations; college grade point average; and continued enrollment with the student’s initial cohort accounted for 27.9% intention to persist variance. The amount of
variability explained by this regression analysis is small (27.9%) and only accounts for three of the many variables supported by prior research (Astin, 1984; Pascarella & Terenzini, 2005; Tinto, 1975).

Tinto (1975) emphasized the importance of family background characteristics and its influence on student dropout, suggesting that the most important factor is the quality of the relationship within the family and the interest and expectations parents have for their children’s education (Hackman & Dysinger, 1970; Trent & Ruyle, 1965). The results of this study are in contrast to previous findings, suggesting that parental expectations (a range from no expectation to finish college to obtaining a graduate degree) influences persistence with a negative coefficient. Since this study focused on the students’ intent to persist within the program, it is possible to infer those students that have higher expectations from their parents to obtain more sophisticated levels of education may voluntarily drop out from the PGA Golf Management University Program. Parents may find it difficult to determine how a PGA Golf Management University Program may best prepare their son or daughter for a graduate education due to the finite focus of the discipline and trade focused career path.

Cumulative college grade point average also played a significant role in predicting students’ intent to persist within the regression model. Due to the reverse coding within the study, this result support literature suggesting the higher the college grade point average the higher levels of student persistence. This finding suggests that college GPA remains an important factor in producing higher levels of students’ intention to persist for PGA Golf Management University Students. Ullah and Wilson (2007) recognized the work of Lufi et al (2003) concluding that academic persistence was
positively associated with college grades. Similarly, DeBerard, Spiemans, and Julka (2004) were also noted in their examination of predictors of first-year academic achievement by concluding that GPA and SAT scores accounted for a substantial variation in academic achievement.

As discussed in research question 3, the students’ decision made to continue studies with their initial cohort was a significant predictive variable within this regression model. As noted earlier the work of Braxton (2000), Van Gennep (1960), and Tinto (1975) the results of this study support the importance of students making a full transition from previous associations (previous group before entering the program) to a new association (student within the PGA Golf Management program). One could make the case that those students fully incorporated into the program matriculate with their cohort, and as the results of this study suggest, has a positive influence on students’ intent to persist. The unique characteristics of the PGA Golf Management University Programs that may build a culture of cohort matriculation include: a separate application process from the university for admission to ascertain candidates likely to persist; required academic course advisement that supports cohort matriculation; co-curricular requirements of the PGA of America requiring students to pass PGA exams with their cohort in order to remain in good standing with the program; and the program requirement of maintaining full time student enrollment.

**Implications-Theory and Practice**

**Theoretical Implications**

Tinto’s theory of student departure (1975) and Astin’s (1984) student involvement theory were used to help guide the study conceptually, which aimed to examine
undergraduate student, program, and institutional support characteristics that relate to PGA Golf Management University students’ cohort intent to persist. Tinto (1975) recognized the failure in previous studies to distinguish dropout behavior as a result from academic failure or voluntary withdrawal. Consequently, findings related to student dropout indicate ability to be inversely related, unrelated, and directly related to dropout.

When we look at the results from this study we must first consider the measure used to simulate dropout is intention to persist. Therefore, we are asking the student to respond on their likelihood or certainty for continued enrollment in the program. While this measure is not the same as actual dropout it does speak to the influence voluntary withdrawal plays on the students’ intent to persist which demonstrates strong correlational connections between intent to persist and actual measures of persistence (Bean & Metzner, 1985; Cabrera et al, 1992). With this being said, the results of this study support Tinto’s (1975) noted contradiction within the findings related to student dropout.

For example, research question one examined family background, individual attributes, and pre-college schooling experience to see which factors best explain the students’ intent to persist. Results of the study determined student entry characteristics did not assist in explaining students’ intent to persist. Within research question five, the researcher employs all persistence related factors of student, program, and institutional support characteristics to see which factors best explain students’ intent to persist, college GPA emerges as a predictive variable in explaining students’ intent to persist. The results of this study suggest that college GPA is still an important factor when considering
students’ intent to persist, however student high school GPA did not assist in explaining PGA Golf Management students’ intent to persist.

Tinto’s theoretical framework of student departure comes from principles of sociology (e.g. Durkheim, 1952, theory of suicide) and the field of social anthropology (e.g. Van Gennep, 1960, The Rites of Passage). Tinto (1975) notes those students who persist to degree to follow a process of transitioning relationships as one moves to different groups marked by ceremonies and rituals. The process requires three stages e.g., separation, transition, and incorporation. Those moving to the incorporation stage involve the taking of new patterns of interaction with members of the new group and the establishment of competent membership if that group as a particular member. We see support of this theory in the result of this study. First, students expressing their career goals to be inline with graduation (e.g. ceremony or ritual) and the desire of working in the industry as a PGA Golf Professional (e.g. full incorporation of new group membership) as having the highest intentions to persist. Further, when controlling for academic performance, career goals, and social and academic relationships, these noted career goals were the only predictive factors in accounting for the students’ intent to persist.

Further support of Tinto’s (1975) theoretical framework is noticed when this study examined all factors of student, program, and institutional support characteristics that relate to the students’ intent to persist. The results of this regression analysis accounted for 27.9% intention to persist variation and included continued enrollment with the student’s initial cohort as the strongest coefficient in the model. This result supports Tinto’s theory by suggesting those students moving through the program with their initial
cohort have successfully transitioned through the separation and transition stages into full incorporation. Consequently, these students have the highest levels of intention to persist scores and are less likely to dropout of the program.

Astin’s (1984) student involvement theory recognizes that the most precious institutional resource may be student time. According to Astin (1984) those students with higher engagement levels supported by campus residence, participation in honors programs, higher levels of peer and faculty relationships, academic involvement, satisfaction with college life, athletic involvement, and student government have influence on student levels of persistence.

We do not see strong support for Astin’s (1984) theory of student involvement on persistence in the results of this study. The results of this study produce significant positive correlations between factors that represent student involvement (e.g., interaction with faculty is positive to personal growth; satisfaction with major; leader in student association; satisfied with involvement in student association; interpersonal relationships in cohort yield positive intellectual growth; interpersonal relationships in cohort yield positive personal growth; develop close personal relationships with peers; interaction with faculty is positive to career choice; develop close relationships with faculty; satisfied with the opportunity to interact with faculty; interaction with faculty is positive to intellectual growth; active contributor in student association; involvement in student association contributes to professional development; and committed to student association goals) and students’ intent to persist. However, when a regression analysis is employed to examine these noted persistence factors they did not assist in explaining students’ intent to persist.
Practical Implications

Results from this study can offer insight into which persistence factors lead to students’ matriculation to degree, with the ultimate goal of program completion. Identifying persistence factors related to student, program, and institutional support characteristics can help guide PGA Golf Management University programs by: recruiting the student with the characteristics that are likely to persist in the program; develop program characteristics that optimize cohort matriculation; and utilize and or promote the institutional support characteristics that lead to program completion.

Student characteristics.

With 19 PGA Golf Management University programs currently engaged in the recruiting of future PGA Golf Professionals a limited pool of candidates are available to each program. According to the 2013 historical enrollment report for all PGA Golf Management University programs, total program enrollment has declined 7% since its peek in 2010 (2,768 to 2,578) resulting in nine programs experiencing reduced enrollment and one program closure (PGA of America, 2012). Consequently, more emphasis is being placed on retaining students within the program since the collective pool of applicants is diminishing. Within research question five, when student entry characteristics were examined along with student characteristics while in college, program characteristics, and institutional support characteristics, the analysis determined that parental expectations for higher levels of education resulted in lower levels of student intent to persist. Therefore it is possible to infer those students that have higher expectations from their parents to obtain more sophisticated levels of education may voluntarily drop out from the PGA Golf Management University Program. Parents may
find it difficult to determine how a PGA Golf Management University Program may best prepare their son or daughter for a graduate education due to the finite focus of the discipline and trade focused career path. The implication for this finding is that PGA Golf Management University Programs need to do a better job in educating parents on the knowledge, skills, and professional development opportunities that are available to PGA Golf Management students through the concentration, major and degree program enrolled. The sharing of this information on a more intimate level through recruiting visits and marketing material may encourage parents with the highest expectations for educational attainment for their children to stay enrolled in the program.

The results of research question five also suggests that college GPA is still an important factor when considering students’ intent to persist, however when the study examined student entry characteristics within research question one student high school GPA did not assist in explaining PGA Golf Management students’ intent to persist. The practical implication for recruiters of PGA Golf Management University Programs is that high school GPA is not as an important factor in explaining students’ intent to persist as college GPA. Therefore, more emphasis should be placed on the students’ success in college course work. An example we see in higher education that offers support of this finding is the implementation of first year experience courses and college academic success coaches designed to support students’ success in course work leading to higher levels of college GPA that can support higher levels of student retention.

While the important role student entry characteristics have on persistence is well documented in the literature, the findings from this study suggest that higher levels of student engagement are related to higher levels of intention to persist. Therefore,
recruiters should focus their attention on how likely the prospective student is to engage in social and academic relationships during an in person campus visit with the program or video conference call as a condition of acceptance. The quality of this interaction could offer insight as to how well the prospective student could engage in social and academic relationships within the program.

**Program characteristics.**

Astin (1984) recognizes that the most precious institutional resource may be student time. As a result, this theory calls for focus by college administrators and faculty to create environments that capitalize on the time the university has with students both in and out of the classroom.

The regression model controlling for program characteristics (interventions, academic major, and learning communities), accounted for 18% of the variance on intention to persist variance. The frequency with which students participate in student association meetings, satisfaction with major, and continuing studies with initial cohort produced significant regression weights. These results indicate those reporting more frequent attendance to student association meetings have lower levels of intention to persist, those reporting higher scores for satisfaction with major area of study and those continuing studies with their initial cohort are expected to have higher intention to persist. It was surprising for the findings to indicate that higher levels of attendance to student association meetings produced lower levels of intention to persist. This finding suggests that attendance alone is not the best predictor of intention to persist, and that student involvement within the association may be a better measure of influence on persistence. The results of the regression analysis also speak to the importance students’ satisfaction
with the major, and continued enrollment with the students’ initial cohort has on intention to persist. Program administrators and faculty within the program are to pay particular attention to program assessment that enables student feedback to help augment the effectiveness and satisfaction levels of the student to promote higher levels of intention to persist.

Additionally, as mentioned by Tinto (1988) different forms of institutional actions for student persistence must be carefully timed to meet the changing situations and needs of students as they progress toward degree completion. The findings of this study support this notion by Tinto (1988) since continuing studies with initial cohort produced a significant regression weight within the model. Program administrators and faculty within the program should pay particular attention to the use of program resources and enforce policies that support cohort matriculation to increase student intention to persist.

**Institutional support characteristics.**

Institutional support characteristics did not produce significant associations or causal relationships with intent to persist. Institutional support characteristics were limited to financial aid options and campus residence choice. While literature is well documented to support the influence these characteristics have on persistence, it was not generalizable to students enrolled in PGA Golf Management University programs. However, as a recruiter and program administrator, I would caution ignoring the important supportive role financial aid and on campus residence has on persistence.

**Limitations**

This study was limited to respondents enrolled within the PGA Golf Management University programs. With over one third of the population of students from the twelve
institutions participating in this study, one can be confident the sample is representative of the twelve programs participating in the study. However, caution should be taken if attempting to generalize these results to the remaining eight programs, or other institutions were PGA Golf Management University programs do not exist.

Secondly, the demographics of the sample were represented by 367 (90.4%) male students, and 39 (9.6%) female students, additionally race/ethnicity (e.g., Asian, Black, Hispanic, White, mixed race or ethnicity, other) was represented by 388 (95.1%) white students and 20 (4.9%) underrepresented. While the sample represents a healthy proportion of the population for analysis, gender and race/ethnicity representation was skewed toward white male respondents. The limit to a small sample size among female and underrepresented affiliations causes difficulty in establishing significance on the influence these profiles have on students’ intent to persist.

There are a number of variables proved to influence persistence that was not examined in this study. The framework of variables used to help predict students’ intent to persist was limited to within-college effects. Pascarella and Terenzini (2005) compiled a collection of studies over a ten-year period resulting in categorizing factors that influence persistence and educational attainment into two distinct themes, 1) between-college effects and 2) within-college effects. As stated earlier, between college effects include the consideration of factors such as: two-year versus four-year institutions; state policies and system structures; interruptions in attendance; institutional control (public vs. private); and institutional size and quality. Although statistically significant and independent of other factors, between college effects tend to be small (Pascarella & Terenzini, 2005, p. 395). This notion suggests that greater forces are in play within the
institutions that can help explain persistence and degree attainment in a more profound way. For example, even if this study were to examine the influence between-college effects have on the students’ intent to persist, the skewed sample toward predominately public institutions (two private and ten public institutions) would have made it difficult to establish significance.

Ideally the results of this study would have examined student, program, and institutional support characteristics within each student cohort and the influence these characteristics have on the students’ intent to persist. However, the sample size collected within the cohorts beyond the first year was not robust enough to perform the necessary analysis (first year, N=154; second year, N=89; third year, N=73; fourth year, N=68; fifth year, N=20; other, N=20). Therefore, this study was unable to distinguish among the cohorts, which factors influence students’ intent to persist.

The dependent variable used for this study was the student’s intent to persist. Although Berger and Braxton (1998) note a body of research supports the use of this variable as a measure of persistence (Bean, 1980, 1983; Braxton et al., 1995; Pascarella & Terenzini, 1983; Voorhees, 1987) and other studies demonstrate strong correlational connections between intent to persist and actual measures of persistence (Bean & Metzner, 1985; Cabrera et al, 1992), this measure is an estimate of actual persistence. Due to the time period necessary for this study, this measure permitted data collection to occur in one semester. While this method increases efficiency, it is important to note the composite scale used to measure persistence in this study is a measure of the students’ intent to persist and should not be generalizable to studies measuring actual persistence.
**Future Research**

The results from this study offers insight into which persistence factors lead to students’ intent to persist through the lens of student, program, and institutional support characteristics. Future studies could benefit the body of student persistence literature by distinguishing persistence factors by student cohort. This insight would support Tinto’s (1988) recommendation by taking a closer look into factors influencing persistence specific to cohorts (i.e. first year, second year, third year, and fourth year). These findings could provide institutions greater insight on the type of timely actions necessary to implement to improve a student’s transition through college with the ultimate goal of increasing persistence to degree attainment (Graunke & Woosley, 2005; Tinto, 1988).

This study limited its examination of persistence factors to within-college effects (Pascarella & Terenzini, 2005). While the effects of between-college effects (e.g., two-year versus four-year institutions; state policies and system structures; interruptions in attendance; institutional control (public vs. private); and institutional size and quality) tend to be small, these factors are statistically significant and independent of other factors influence student persistence. With this being said, future studies of persistence of PGA Golf Management University programs may benefit from inquiry into between-college effects and their influence on student persistence.

While supported in the literature and previous studies (Bean, 1980, 1983; Berger & Braxton, 1998; Braxton et al., 1995; Pascarella & Terenzini, 1983; Voorhees, 1987) this study’s utilization of a three-item measure of students’ intent to persist demonstrate strong correlational connections between intent to persist and actual measures of persistence (alpha estimate for this composite scale is 0.89). For future studies of student
persistence within PGA Golf Management University programs, I recommend collecting data from those students persisting and those who have dropped out. Since the program has a cohort matriculation policy, the PGA of America is notified of any student dropping out from the university system each semester. This information could trigger an online survey that could also be delivered at the university programs to those students enrolled. A future study could then compare the responses of each group, those that drop out versus those that persist, and distinguish between the two groups which persistence factors lead to actual persistence. However this methodology would require buy in and full support of participation from each university program and the PGA of America to ensure a robust sample for analysis.

With program attrition ranging from 24% to 62%, a future study could examine the differences among student, program, and institutional support characteristics that help to explain the variance of attrition among the nineteen PGA Golf Management University Programs. In order for this analysis to occur, a standardized method of calculating program attrition among the nineteen PGA Golf Management University Programs must be employed. These results could offer an explanation of which characteristics at the student, program, and institutional level lead to lower levels of student attrition.

Future research should focus on PGA Golf Management University students who are female and who are from other races and ethnicities (not white), since female students represented only 9.6% of the sample and students from other races and ethnicities were underrepresented at only 4.9% of the sample. Diversity among PGA Golf Management University Students is an important factor that can contribute to a more diverse PGA membership. Research conducted by the Boston Consulting Group in 2011 highlighting a
plan for growth of golf participants which includes penetration in women and minority populations. Therefore, having a membership of golf professionals whose profile better represent the population of desired golf participants may increase the likelihood of female and minority participation.

**Conclusions/Summary**

This quantitative study used data from 12 of the 20 PGA Golf Management University programs to examine student, program, and institutional support characteristics that relate to students’ intent to persist. Family background, individual attributes, and pre-college schooling experience were unable to significantly predict students’ intent to persist. Academic performance, career goals, and social and academic relationships accounted for 14.2% intention to persist variance with career goals generating the only significant regression weights. Program characteristics accounted for 18% intention to persist variance with frequency of attendance to student association meetings, satisfaction with major, and continuing enrollment with initial cohort generating significant regression weights. Institutional support characteristics were unable to significantly predict students’ intent to persist. When all significantly correlated persistence factors used in the study were examined for predictive ability parental expectations, college grade point average, and continued enrollment with the student’s initial cohort were identified as significant, accounting for 27.9% intention to persist variance.
APPENDIX A

Initial Email Correspondence
(sent to the PGA Golf Management University Director following initial phone call)

Dear [Program Director Name],

Thank you for agreeing to assist me in obtaining survey responses from your program students. As part of my doctoral degree requirements within the Department of Educational Psychology and Higher Education, I am seeking your students’ input on persistence factors (e.g., student, program, and institutional support characteristics) that relate to their intention to persist.

In approximately two to three days, you will be receiving an email that will include an invitation for your students to participate in the study. I ask that you forward this email to your students, which will include a link to the on-line survey (via Survey Monkey). Each survey will be coded to enable tracking of program student response rates. Student identifiers will not be collected, and their responses will be anonymous. Furthermore, your students’ participation in this survey is voluntary and they can decide to discontinue their participation in the survey at anytime.

The survey has been pilot tested to identify any words that were unfamiliar, to examine clarity of questions and flow, and to test the accessibility through various operation systems (e.g., Internet Explorer, Firefox, Safari). The survey should take less than 10 minutes to complete. Upon your circulation of the survey to your students, I ask that you send me an email confirmation to Christopher.cain@unlv.edu.

Thank you for assisting me in circulated this survey to your program students. Results from this study could offer insight into which persistence factors help explain students’ intention to persist.

Sincerely,

Dr. Vicki Rosser
Principal Investigator

Christopher Cain, PGA, M.S.
PhD. Candidate

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Dear PGA Golf Management Student,

I would like to take this time to introduce myself. I am a graduate of a PGA Golf Management University Program, and currently serve as a Director of a PGA Golf Management University Program. As part of my doctoral degree requirements within the Department of Educational Psychology and Higher Education, I am inviting you to participate in a research study aimed to examine student, program, and institutional support characteristics that help explain your intention to continue your studies as a PGA Golf Management student.

The on-line survey will take less than 10 minutes to complete and can be accessed through the following link (survey monkey.com). Your participation is completely voluntary and you can decide to discontinue your participation in the survey at any time. Your answers to the survey are anonymous; at no time will you be asked to identify yourself.

Your input can help all PGA Golf Management University Programs by identifying factors that help explain intentions to continue studies as a PGA Golf Management student.

Sincerely,

Dr. Vicki Rosser               Christopher Cain, PGA, M.S.
Principal Investigator            PhD. Candidate
APPENDIX C

Follow-up Email Correspondence
(sent to PGA Golf Management University Director two weeks after survey is sent to students)

Dear [Program Director Name],

It has been approximately two weeks since the initial circulation of this confidential survey [insert link] seeking your students’ input on persistence factors that help their intentions to continue studies as a PGA Golf Management student.

Currently, your program student response rate is [insert percentage]. I ask that you resend the following invitation below to your students to inform those that did not participate that there is still a chance to contribute to the findings of the study.

Upon your circulation of the survey for the second time to your students, I ask that you send me an email confirmation to Christopher.cain@unlv.edu.

Thank you for assisting me in increasing the response rate of your program students.

Please copy and paste the following message to send to your program students:

Dear PGA Golf Management Student,

I would like to offer my sincere appreciation to those that have submitted your responses to this survey. As a reminder this invitation to be part of this research study is aimed to examine student, program, and institutional support characteristics that relate to your intention to continue your studies as a PGA Golf Management student.

For those that have not yet completed the survey you are being provided an opportunity to do so before the survey is closed. If you have already completed this survey please disregard this message.

Your consideration to spend less than 10 minutes in completing this survey can help all PGA Golf Management University Programs by identifying factors that help explain your intention to continue your studies as a PGA Golf Management student.

As a reminder, your participation is completely voluntary and you can decide to discontinue your participation in the survey at any time. Your answers to the survey are anonymous; at no time will you be asked to identify yourself.

Thank you for your consideration to support this research study.

Sincerely,

Dr. Vicki Rosser
Principal Investigator

Christopher Cain, PGA
PhD. Candidate
## APPENDIX D

### PGA Golf Management University Program Enrollment*

<table>
<thead>
<tr>
<th>University Program</th>
<th>Type</th>
<th>Total Enrollment</th>
<th>PGA Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campbell University</td>
<td>Private</td>
<td>6,182</td>
<td>132</td>
</tr>
<tr>
<td>Clemson University</td>
<td>Public</td>
<td>19,914</td>
<td>50</td>
</tr>
<tr>
<td>Coastal Carolina University</td>
<td>Public</td>
<td>9,084</td>
<td>184</td>
</tr>
<tr>
<td>Eastern Kentucky University</td>
<td>Public</td>
<td>16,062</td>
<td>84</td>
</tr>
<tr>
<td>Ferris State University</td>
<td>Public</td>
<td>14,560</td>
<td>180</td>
</tr>
<tr>
<td>Florida Gulf Coast University</td>
<td>Public</td>
<td>12,671</td>
<td>87</td>
</tr>
<tr>
<td>Florida State University</td>
<td>Public</td>
<td>41,087</td>
<td>69</td>
</tr>
<tr>
<td>Methodist University</td>
<td>Private</td>
<td>2,476</td>
<td>240</td>
</tr>
<tr>
<td>Mississippi State University</td>
<td>Public</td>
<td>20,424</td>
<td>74</td>
</tr>
<tr>
<td>New Mexico State University</td>
<td>Public</td>
<td>18,024</td>
<td>126</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>Public</td>
<td>34,767</td>
<td>89</td>
</tr>
<tr>
<td>Penn State University</td>
<td>Public</td>
<td>45,628</td>
<td>139</td>
</tr>
<tr>
<td>Sam Houston University</td>
<td>Public</td>
<td>17,527</td>
<td>57</td>
</tr>
<tr>
<td>University of Central Oklahoma</td>
<td>Public</td>
<td>17,000</td>
<td>62</td>
</tr>
<tr>
<td>University of Colorado, Colorado Springs</td>
<td>Public</td>
<td>9,871</td>
<td>68</td>
</tr>
<tr>
<td>University of Idaho</td>
<td>Public</td>
<td>12,312</td>
<td>66</td>
</tr>
<tr>
<td>University of Maryland, Eastern Shore</td>
<td>Public</td>
<td>4,509</td>
<td>39</td>
</tr>
<tr>
<td>University of Nevada, Las Vegas</td>
<td>Public</td>
<td>27,378</td>
<td>70</td>
</tr>
<tr>
<td>University of Nebraska, Lincoln</td>
<td>Public</td>
<td>24,593</td>
<td>122</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>354,069</strong></td>
<td><strong>1938</strong></td>
</tr>
</tbody>
</table>

*Data provided by PGA of America Department of Education, 2011
Italicized universities participated in the study
APPENDIX E

Survey Instrument

Cohort Persistence Survey

You are invited to participate in a research project that aims to examine undergraduate students’ family background, individual attributes, pre-college schooling experience, academic performance, career goals, social and academic relationships, program characteristics, and institutional support characteristics that relate to cohort intent to persist in PGA Golf Management University Programs.

We hope you will participate in this study, for your responses will provide your university and program with feedback to best attract, prepare, and support PGA Golf Management students for degree completion. The survey will take approximately 10 minutes to complete. There are no physical risks or discomforts associated with completing this survey.

Your participation is voluntary and you may refuse to participate or discontinue participation at any time without penalty. Your participation will not affect your relationship with the university and or program.

Your responses to the questions will be kept confidential.

Your name and computer identification information will not be collected. All data collected for the study will be stored in a secure location for three years by the principal investigator. The results of the study will not individually identify any survey participant.

In you have questions about the study, contact Christopher Cain, PhD. Candidate for the Department of Educational Psychology and Higher Education at (702) 501-7698, christopher.cain@unlv.edu. You may also contact Dr. Vicki J. Rosser, Principal Investigator at (702) 895-1432, vicki.rosser@unlv.edu. The study was approved by the Institutional Review Board at the University of Nevada, Las Vegas. Any questions about human subject participation may be directed to the University of Nevada, Las Vegas Office of Research Integrity – Human Subjects, at (702) 895-5948, lori.olafson@unlv.edu.

Thank you for your time and consideration to complete this survey.
Cohort Persistence Survey

Please read each statement carefully. Your responses to the questions will be kept confidential.

1. Which university do you attend?
   ☐ Campbell University
   ☐ Clemson University
   ☐ Coastal Carolina University
   ☐ Eastern Kentucky University
   ☐ Ferris State University
   ☐ Florida Gulf Coast University
   ☐ Florida State University
   ☐ Methodist University
   ☐ Mississippi State University
   ☐ New Mexico State University
   ☐ North Carolina State University
   ☐ Penn State University
   ☐ Sam Houston State University
   ☐ University of Central Oklahoma
   ☐ University of Colorado, Colorado Springs
   ☐ University of Idaho
   ☐ University of Maryland, Eastern Shore
   ☐ University of Nebraska, Lincoln
   ☐ University of Nevada, Las Vegas

2. Identify your parent’s educational level (from both the mother and father if available) within the category that best fits:

   Mother:
   ☐ Less than high school completion
   ☐ High school completion
   ☐ Some college or associate’s degree
   ☐ Bachelor’s degree
   ☐ Graduate degree

   Father:
   ☐ Less than high school completion
   ☐ High school completion
   ☐ Some college or associate’s degree
   ☐ Bachelor’s degree
   ☐ Graduate degree
3. Identify your parent’s expectations for your education:

- □ Parents do not expect you to finish your college degree
- □ Parents expect you to graduate with a college degree
- □ Parents expect you to obtain a graduate degree

4. Select the range that best fits your golfing handicap level (e.g., in the form of an index) upon entering the PGA Golf Management University Program:

- □ 0.0 - 2.0
- □ 2.1 - 4.0
- □ 4.1 - 6.0
- □ 6.1 - 8.0
- □ 8.1 - 10.0
- □ 10.1 - 12.0
- □ Other ____________

5. Select the range that best fits the number of years you played the game of golf upon entering the PGA Golf Management University Program:

- □ None
- □ 1 – 2
- □ 3 – 4
- □ 5 – 6
- □ 7 – 8
- □ 9 – 10
- □ 11 – 12
- □ 13 – 14
- □ Other ____________

6. Choose the best response to your perception of your high school curriculum intensity:

- □ Not challenging
- □ About right
- □ Challenging

7. At the conclusion of your senior year in high school, identify which response best characterizes your class rank:

- □ Top 5%
- □ Top 10%
- □ Top 25%
- □ Top 50%
- □ Other ____________
8. Select the range that best fits your high school grade point average (GPA) upon entering the PGA Golf Management University Program:

Responses are based on a 4-point scale:
- □ 3.75 - 4.00
- □ 3.50 - 3.74
- □ 3.25 - 3.49
- □ 3.00 - 3.24
- □ 2.75 - 2.99
- □ 2.50 - 2.74
- □ 2.25 - 2.49
- □ 2.00 - 2.24
- □ Other __________

9. If you transferred course work from another college select the range that best fits your transfer college GPA upon entering the PGA Golf Management University Program (if you did not have college transfer work then select the last response):

- □ 3.75 - 4.00
- □ 3.50 - 3.74
- □ 3.25 - 3.49
- □ 3.00 - 3.24
- □ 2.75 - 2.99
- □ 2.50 - 2.74
- □ 2.25 - 2.49
- □ 2.00 - 2.24
- □ Other __________
  □ Did not have college transfer work

10. Select the range that best fits your current cumulative college GPA:

- □ 3.75 - 4.00
- □ 3.50 - 3.74
- □ 3.25 - 3.49
- □ 3.00 - 3.24
- □ 2.75 - 2.99
- □ 2.50 - 2.74
- □ 2.25 - 2.49
- □ 2.00 - 2.24
- □ Other __________
11. Select the range that best fits your cumulative college GPA after your first year (includes fall and spring semesters) in the program:
   - 3.75 – 4.00
   - 3.50 - 3.74
   - 3.25 - 3.49
   - 3.00 - 3.24
   - 2.75 - 2.99
   - 2.50 - 2.74
   - 2.25 - 2.49
   - 2.00 - 2.24
   - Other ___________
   - I have not completed my first year in the program

12. Select the range that best fits your cumulative college GPA after your first semester in the program:
   - 3.75 – 4.00
   - 3.50 - 3.74
   - 3.25 - 3.49
   - 3.00 - 3.24
   - 2.75 - 2.99
   - 2.50 - 2.74
   - 2.25 - 2.49
   - 2.00 - 2.24
   - Other ___________

13. Have you passed the PGA of America’s Playing Ability Test (PAT)?
   - Yes
   - No

14. If you answered “yes” to passing the PGA of America’s PAT, at what time within the program did you pass the PAT?
   - Before entering the program
   - Within the first year
   - Within the second year
   - Within the third year
   - Within the fourth year
   - Within the five year
   - Other ___________
   - Have not passed the PAT yet
15. Select the option that best represents your career goals:

☐ I want to graduate
☐ I want to be a PGA golf professional
☐ I want to be happy
☐ I don’t know what I want to be

Please read each statement carefully. Indicate the extent to which you agree to the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>SWD</th>
<th>SWA</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Interpersonal relationships with peers in my cohort yield positive intellectual growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I have developed close personal relationships with peers in my cohort.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Interpersonal relationships with peers in my cohort yield positive personal growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. It is difficult to make friends with the peers in my cohort.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Few peers from my cohort listen and help if I have a problem.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>21. Most peers in my cohort have different values and attitude.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I am satisfied with the opportunity to interact with faculty.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I have developed close relationships with faculty.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Interaction with faculty is positive to intellectual growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Interaction with faculty is positive to personal growth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Interaction with faculty is positive to career choice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I consider myself to be a leader in the PGA Golf Management Student Association/Club.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I am an active contributor to the PGA Golf Management Student Association/Club.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. My involvement in the PGA Golf Management Student Association/Club has contributed to my professional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
development.

30. I am very satisfied with my involvement in the PGA Golf Management Student Association/Club.  
   | Strongly | Disagree  | Disagree  | Somewhat | Agree  | Strongly |
   | Disagree | D         | SWD       | SWA      | A      | SA      |

31. I am committed to helping the PGA Golf Management Student Association/Club achieve its goals.  
   | Strongly | Disagree  | Disagree  | Somewhat | Agree  | Strongly |
   | Disagree | D         | SWD       | SWA      | A      | SA      |

32. Select the number of times you recall PGA Golf Management University Program staff/faculty attend the Student Association/Club meetings per semester:

   - □ None
   - □ 1
   - □ 2
   - □ 3
   - □ 4
   - □ 5
   - □ 6
   - □ Other ___________

33. Select the number of times you recall PGA Golf Management University Program staff/faculty attend the Student Association/Club tournaments per semester:

   - □ None
   - □ 1
   - □ 2
   - □ 3
   - □ 4
   - □ 5
   - □ 6
   - □ 7
   - □ 8
   - □ Other ___________

34. Did you participate in a remedial (preparatory) math or English course before taking your required math or English courses for your major?

   - □ Yes
   - □ No
35. Did you participate in a college first-year seminar course designed to help prepare you for the college experience?

☐ Yes
☐ No

36. How many times per semester do you visit with your academic advisor?

☐ None
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ Other _________

37. Is your academic advisor a staff/faculty member of the PGA Golf Management University Program?

☐ Yes
☐ No

38. Do you participate in your program’s Player Development Program designed to help you acquire the necessary skills to pass the PGA of America’s PAT?

☐ Yes
☐ No

39. If you answered “yes” to participating in the Player Development Program: how many times do you meet per semester to receive formal/class instruction?

☐ None
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7
☐ 8
☐ Other _________
☐ Do not participate in the Player Development Program

165
40. Select the range that best fits the number of times per semester you participate in PGA Golf Management University Program Student Association/Club tournaments:

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- Other __________
- Do not participate in the Student Association/Club tournaments

41. Select the range that best fits the number of times per semester you participate PGA Golf Management University Program Student Association/Club meetings:

- None
- 1
- 2
- 3
- 4
- 5
- 6
- Other __________
- Do not participate in Student Association/Club meetings

42. Which major area of study is the PGA Golf Management University Program aligned with?

- Business
- Hospitality
- Recreation
- Other __________

43. How satisfied are you with the major area of study the PGA Golf Management University Program is aligned with?

- Satisfied
- Somewhat satisfied
- Indifferent
- Somewhat unsatisfied
- Unsatisfied
44. Are you pursuing a dual major, minor, or an additional concentration other than PGA Golf Management?

☐ Yes
☐ No

45. In which semester did you enter the PGA Golf Management University Program?

☐ Spring
☐ Summer
☐ Fall

46. Select a response(s) (select more than one if appropriate) of how you are financing your education.

☐ Grants
☐ Scholarships
☐ Loans
☐ Work-study position
☐ Family support
☐ Personal savings
☐ Non-school related work

47. Do you currently live in campus housing?

☐ Yes
☐ No

48. How many years have you lived in campus housing?

☐ None
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ Other __________
49. If you did not live in campus housing, how many miles from campus did you live?
   - 0.0 – 2
   - 2.1 – 4
   - 4.1 – 6
   - 6.1 – 8
   - 8.1 – 10
   - Other __________

50. Do you live with PGM Students?
   - Yes
   - No

51. Do you live with PGM Students that are in your cohort?
   - Yes
   - No
   - I do not live with PGM Students

52. What year are you in your studies as a PGA Golf Management student?
   - First year
   - Second year
   - Third year
   - Fourth year
   - Fifth year
   - Other __________

53. You were part of an entering class upon starting the PGA Golf Management University Program. Are you continuing the program with the same entering class?
   - Yes
   - No

54. What is your likelihood you will reenroll in the PGA Golf Management University Program next academic year?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Certain not to reenroll</td>
<td>Certain to reenroll</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>No chance</td>
<td>100% chance to reenroll</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
55. Please indicate the Race/Ethnic you most closely identify.

- [ ] Asian
- [ ] Black
- [ ] Hispanic
- [ ] White
- [ ] Mixed race or ethnicity
- [ ] Other ____________

56. Identify your gender:

- [ ] Male
- [ ] Female

57. Identify your parent’s (combined mother and father if appropriate) annual income level within the category that best fits:

- [ ] Less than $50,000
- [ ] $50,000 to $100,000
- [ ] $100,001 to $150,000
- [ ] $150,001 to $200,000
- [ ] Above $200,000
- [ ] I don’t know

58. Are you an elected board member of the PGA Golf Management Student Association/Club?

- [ ] Yes
- [ ] No


Cain, a member of the PGA of America since 1999, is a graduate of the Penn State PGA Golf Management (PGM) University (B.S. '98) and Recreation and Tourism Management Programs (M.S. '04). He started his professional career as an Assistant Golf Professional for Pocono Farms Country Club in Pennsylvania, later joining the management team at the Tournament Players Club in Las Vegas. Cain relocated to Penn State to serve as the PGA Head Golf Professional from 1999-2002, transitioning to a PGA Teaching Professional while completing his Master's degree from 2002-2004. Cain's graduate studies included working with the Penn State PGM Program and instructing for the Departments of Kinesiology, Turfgrass Management, and Exercise and Sports Science. Cain's thesis explored the relationship between golfer practice and performance within the Penn State Player Development Program.

Cain relocated to Las Vegas in 2004 to direct the UNLV PGA Golf Management University Program. While serving as the Program Director, Cain began serving the PGA of America at the local, regional, and national levels. Cain's service started as a member of the Board of Directors for the Southwest Section Southern Nevada Chapter in 2005, and served as the Chapter's Secretary, Vice President, and President from 2006-2011. Cain served the Southwest Section as a member of the Board of Directors and Committee Chair of Membership Education from 2009-2011 and 2013-present chairing the Section Award's Committee. Cain also served terms as an appointed member of the Board of Directors for the PGA's Allied Associations including The First Tee of Southern Nevada and the Southern Nevada Golf Association, and the National Advisory Board to Reed Exhibitions focused on development of the PGA Fall Expo.

Cain completed his honorary term as President of the Southern Nevada Chapter in 2013 and currently serves on the Southwest Section and Southern Nevada Chapter Award Committees. Cain has served the PGA of America as an Adjunct Faculty Member since 2006 and recently accepted a four-year appointment to the PGA of America Golf Management University Accreditation Team. Cain currently serves on the National Advisory Board to PGA Magazine, the PGA of America National Committee of Membership Education, PGA of America Speaker’s Bureau, the Nevada Golf Course Owners' Association Board of Directors, the Ad Hoc Committee for vision planning for The First Tee of Southern Nevada, and Secretary of the PGA Golf Management University Program Executive Association, and Chair of the Southwest Section PGA Awards Committee.

Cain is published in the Journal of Recreation and Leisure Education, and has research interests in golf and hospitality management, and persistence within education. Cain
currently teaches learning objectives related to the game, people, and business practices within the golf and hospitality management industry.

Cain has been recognized for the following awards:

**National:**
PGA Magazine Top 5 Best Practices in Player Development, 2012
PGA President’s Council on Growing the Game, 2005, 2008, 2010
Pennsylvania State University PGA PGM Alumnus Golf Professional of the Year, 2007

**Regional:**
PGA Southwest Section Golf Professional of the Year, 2011
PGA Southwest Section Horton Smith Award for Educational Impact, 2009

**Local:**
PGA Southwest Section Southern Nevada Chapter Golf Professional of the Year, 2010
PGA Southwest Section Southern Nevada Chapter Horton Smith Award for Educational Impact, 2007, 2011
PGA Southwest Section Southern Nevada Chapter Bill Strausbaugh Award for Outstanding Mentorship, 2006

**Facility Recognition:**
Penn State Golf Courses, Merchandiser of the Year for Philadelphia Section PGA (General Manager, Doug Wert; Merchandiser, Burch Wilkes; Head Golf Professional, Chris Cain), 1999, 2000, and 2001.

Penn State Golf Courses, America's Best 100 Golf Shops (General Manager, Doug Wert; Merchandiser, Burch Wilkes; Head Golf Professional, Chris Cain), 1999, 2000, and 2001.

Penn State White Course share of course record at 63.

Cain is a Ph.D. candidate in Higher Education within the Department of Educational Psychology and Higher Education, his dissertation examines student, program, and institutional support characteristics of PGA Golf Management Programs that relate to cohort intent to persist.

**Dissertation Examination Committee:**
Chairperson, Vicki Rosser, Ph.D.
Committee Member, James Busser, Ph.D.
Committee Member, Nancy Lough, Ed.D.
Committee Member, Doris Watson, Ph.D.