Received 26 June 2018
Revised 13 September 2018
Accepted 13 September 2018

Examining persistence factors of golf management students

Christopher Paul Cain
University of Nevada, Las Vegas, Las Vegas, Nevada, USA
Lisa Nicole Cain
School of Hospitality and Tourism Management, Florida International University Biscayne Bay Campus, North Miami, Florida, USA, and
Vicki J. Rosser
College of Education, University of Nevada, Las Vegas, Las Vegas, Nevada, USA

Abstract

Purpose – The purpose of this paper is to examine student, program and institutional support characteristics that relate to cohort intent to persist among Professional Golfers' Association Golf Management University Program (PGA-GMUP) undergraduate students from 12 universities.

Design/methodology/approach – A survey instrument was created and disseminated to the targeted population. Multiple regressions were used to analyze the 473 responses of students' intention to persist across the three independent variables (student, program and institutional support).

Findings – The research findings suggest higher levels of college GPA, career goals specific to the student's desire to become a PGA professional, higher levels of faculty engagement, higher levels of satisfaction with major, being a leader in the student association and involvement in the student association are related to students' intent to persist. Conversely, the 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, while parental expectations of advanced degrees negatively affected students' intent to persist. Additionally, passing a player ability test did not have bearing on intention to persist.

Originality/value – Results from this analysis offer insight into which persistence factors lead to students' matriculation, with the ultimate goal of program completion. Identifying persistence factors may help PGA-GMUPs and other hospitality programs recruit students that are more likely to persist in the program, develop program characteristics that optimize cohort matriculation, and utilize university or institutional support services characteristics that may ensure program completion.

Keywords Institutional support, Cohort matriculation, Golf management, Program characteristics, Student persistence

Paper type Research paper

Introduction

Since the inception of the Professional Golfers' Association (PGA) of America in 1916, the organization 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 accomplish relevant objectives determined by the Association to be in the best interest of the game (PGA, n.d.b).

International Hospitality Review
Vol. 32 No. 1, 2018
pp. 46-59
Emerald Publishing Limited
2516-8142
DOI 10.1108/IHR-06-2018-0003

To achieve membership into the PGA of America an individual can either achieve PGA Tour status, attend the PGA Apprentice program, or complete the PGA Professional Golf Management Program consisting of: knowledge exams; work experience requirements; playing ability test (PAT); background check; US citizenship or Resident Alien status; and eligible employment in the golf industry. One path, the PGA Golf Management University Program (PGA-GMUP), requires students to be enrolled fulltime in a PGA accredited university program, in which credit bearing courses within the student's major area of study delivers the PGA learning objectives. Presently, 19 PGA-GMUPs exist, enrolling approximately 2,000 students.

The PGA of America Department of Education (DoE) has begun to focus their attention on student attrition rates. According to a 2010 attrition report conducted by the PGA DoE, PGA-GMUPs collectively experience a 46 percent rate of attrition. Individual university programs vary in their attrition rates from 24 to 62 percent, suggesting that a great deal of variation in student persistence exists among the university programs (The PGA of America, 2011).

Program characteristics also vary among each university program. All PGA-GMUPs are offered through a bachelor of science degree, however, majors in which the program is delivered can vary considerably (e.g. 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 often vary by the services provided to students. For example, each program varies by student engagement levels within the association; structure of the various player development program; levels of academic advisement to support cohort matriculation; staffing levels; and golfing ability entrance requirements.

University characteristics may also vary in the following ways: academic entrance requirements; length of 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; institutional size and control (public or private) of the university. Therefore, the purpose of this study is to examine undergraduate students' program and institutional support characteristics that may relate to PGA-GMUP student cohort intent to persist.

Literature review

Since noted variation of attrition rates exist among PGA-GMUPs, an exploration of factors influencing persistence is appropriate. Tinto (1993) suggested that the investigation of student departure should begin by exploring the first year of college. Further, Tinto (1988), Graunke and Woosley (2005) and Adelman (2004) explained that previous student persistence research has focused primarily on the student's first year, and more evidence is therefore needed regarding those factors pertaining to students at the sophomore level and beyond.

Since this study examines undergraduate students' program and institutional support characteristics that relate to cohort persistence of PGA-GMUPs the outline of these persistence factors provided by Tinto (1975) and Pascarella and Terenzini (2005) will be presented in three themes: student, program and institutional support characteristics. Student characteristics are comprised of the following persistence factors: entry characteristics (family background, individual attributes and pre-college schooling experience); academic performance; career goals and interaction with peers and faculty. Program characteristics consist of programmatic interventions, academic major and learning communities. Institutional support characteristics will consist of issues regarding financial aid and residence status. Because the primary difference between the PGA golf management programs and most other majors at universities are the additional requirement mandated by the PGA of America (e.g. every student must pass a PAT before graduating), it was also determined that understanding whether or not passing this exam influenced students' intent to persist was important.

Persistence factors related to student characteristics

Entry characteristics or pre-college characteristics of PGA-GMUP students vary among programs and are well documented in persistence literature as influencing student persistence in college. First, previous scholars have noted that family background (family socioeconomic status, parental educational level and parental expectations) are important in predicting freshman attrition, finding a significant difference between socioeconomic background and retention (Cabrera *et al.*, 2012; McGrath and Braunstein, 1997; Tinto, 1975). Next, individual attributes such as race and gender have been found to affect persistence rates across genders (Sewell and Shah, 1967) and race (Murtaugh *et al.*, 1999). Finally, pre-college schooling experience (characteristics of the student's secondary school, and record of high school academic achievement, academic ability) has been shown to have an impact on persistence to college degree attainment, with high school curriculum the greatest predictor of success in bachelor's degree attainment (Adelman, 2004).

Additional characteristics in relation to baccalaureate persistence and degree attainment include academic performance, career goals and interaction with peers and faculty. Studies on academic performance have concluded that GPA and SAT scores accounted for a substantial variation in academic achievement (Camara and Echternacht, 2000; DeBerard *et al.*, 2004; Murtaugh *et al.*, 1999). Similarly, students' goals strongly influence decisions to remain in school (Tinto, 1993), and the presence of long-term goals significantly influence academic performance (Ting, 1997). Moreover, long-term, specific, high-level, learning-oriented and/or attainable goals appear to be significant for retention-related factors (Claypool and Cangemi, 1983; DeNicco *et al.*, 2015; Hull-Blanks *et al.*, 2005; Mau *et al.*, 1995).

Finally, 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. Students' perceptions of faculty members' availability and concern for their development and teaching had positive and statistically significant effects on persistence (Halpin, 1990; Johnson and Johnson, 1994; Mallette and Cabrera, 1991).

Persistence factors related to program characteristics

The examination of persistence factors related to programmatic interventions, academic major and the program's function vary as a learning community. The effectiveness of programmatic interventions designed to promote retention and degree completion has gained traction in higher education due to the institution's recognition of pressures to increase retention and degree completion (Pascarella and Terenzini, 2005). 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 students 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 ability, satisfaction with degree program, motivation and regular study habits were found by scholars to all have positive effects on academic accomplishment (Suhre *et al.*, 2007). When focusing on the satisfaction with degree program or major, Robst (2007) 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. 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 *et al.*, 2002).

Learning communities are another popular method scholars have highlighted for improving the quality of an undergraduate experience and challenges associated with attrition and retention (Cross, 1998; Shapiro, 1998). Learning communities often include freshman interest groups, linked courses, block scheduling and registration for groups of students and curriculum that is systematically linked (Cross, 1998; MacGregor *et al.*, 1999; Pascarella and Terenzini, 1991; Shapiro, 1998). Evidence indicates that learning communities have statistically positive effects on student persistence into the second semester (Cross, 1998; Tinto, 2003; Tinto and Russo, 1994) and into the second year (Stassen, 2003; Tinto, 1997). 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; Bruffee, 1998; Harasim *et al.*, 1995; Palloff and Pratt, 2003; Tinto, 1997).

Persistence factors related to institutional support characteristics

PGA-GMUPs also vary in institutional support characteristics. For example, programs offer various levels of grants, scholarships, loans, work-study programs and other forms of aid to influence student persistence. Much of the research has focused on the impact financial aid has on students' decisions to attend college or where to attend, few studies have focused on the effects financial aid has on students' decisions to persist and graduate (Donhardt, 2013; Gershenfeld *et al.*, 2016; Gross *et al.*, 2013; Herzog, 2005; Pascarella and Terenzini, 2005; Witkow *et al.*, 2015).

Estimating the impact of these types of financial aid is anything but straightforward (Heller, 2003). While some research has indicated that financial aid enhanced persistence and degree completion, particularly among low-income students (Astin, 1993, 1997), other research has found that financial aid produces a negative impact on persistence (Cofer and Somers, 1999). Cofer and Somers (1999) suggest that the negative impact is less of a case for ineffectiveness, but more likely a negative association due to the insufficiency of the funds. 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 that covers the cost of education for those who attend a four-year college.

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 *et al.*, 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 policy decisions have had negative effects on persistence, graduation and student's decisions about graduate school enrollment (Pascarella and Terenzini, 2005).

Student departure and involvement theories

The influence of noted persistence factors (Pascarella and Terenzini, 2005; Tinto, 1975) within the literature review (family background; individual attributes; pre-college 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 (inputs, environment, outcomes (I-E-O)).

The purpose of Tinto's (1975) classic work was to formulate a model explaining the processes of interaction between the individual and the institution that may lead students to dropout from institutions of higher education. Tinto (1975) and others (e.g. Chen, 2012; Chen and DesJardins, 2010; Coates, 2014) argued the existence a longitudinal process of interactions among individual, social and academic circumstances that shape students' experiences and help to modify student goals that ultimately influence persistence and dropout. Tinto (1988, 1993) reinforced the notion that different forms of institutional actions for student persistence must be carefully timed to meet changing situations and needs of students as they progress through the three stages (separation, transition and integration) toward degree completion. Separation speaks to the departure from the student's traditional cultural heritage. The transition phase occurs when the student shifts from their traditional cultural to the college culture. Integration takes place when the student fully adapts to and adopts the college culture (Tinto, 1988, 1993).

Similar to Tinto, Astin's (1984, 1993) student involvement theory includes I-E-O. "Inputs" refers to the skills and talents that the student has already developed prior to entry into college (e.g. sex, race, personality, values, etc.). The "environment" is comprised of those experiences that occur during the college experience (e.g. academic major, learning community, peer relationships, etc.). Finally, the "outcomes" are those skills and talents that are cultivated during the student's time in college (e.g. knowledge, values, attitudes, persistence from year to year, college GPA, etc.) (Astin, 1993). Astin's (1984) developmental theory for higher education is defined simply by concluding that students learn by becoming involved.

Astin (1984) supports Tinto's student involvement theory. Students who decide to leave home and live in campus residences increase the student's chances 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 student friendships. Other words, "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). For example, athletic involvement has been noted to be associated with four areas: the institution's academic reputation; the intellectual environment; student friendships; and institutional administration.

Therefore, this current study's examination of persistence factors that may relate to cohort persistence extends past student entry characteristics and introduces those factors that may influence student involvement. As a result, college administrators and faculty members need to create environments that capitalize on the time the university has with students both in and out of the classroom.

Research questions

Given what we know from the literature and the application of Tinto's and Astin's works, two research questions are proposed to examine student, program and institutional support characteristics that relate to PGA Golf Management student cohort intent to persist:

RQ1. Which factors best explain the intention to persist among cohorts when controlling for students' academic performance, career goals, social and academic relationships and program characteristics?

RQ2. Which combination of persistence-related factors such as students' family background; individual attributes; pre-college schooling experience; academic

performance; career goals; social and academic relationships; program characteristics; and institutional support characteristics that best explain the intention to persist among PGA cohort students?

Additionally, this study sought to understand whether or not passing the PAT influenced a student's intention to persist.

Methods

Using a survey instrument, this study examined undergraduate students' family background (e.g. SES, parental educational level, parental expectations), individual attributes (e.g. race, 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), PAT passing rate, career goals (e.g. school related, job related, value related), 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-GMUPs.

Population

The population of this study consisted of undergraduate students enrolled in the nation's PGA-GMUPs while on campus during the 2012/2013 academic year; cohorts were defined by the students standing in the program (e.g. first year, second year, third year, fourth year). The student population among the PGA-GMUPs ranged from a low of 39 at the University of Maryland Eastern Shore to a high of 240 at Methodist University (PGA, 2011).

Collection procedures

Data related to student, program, institutional support characteristics and cohort intent to persist were obtained by self-reported responses to the survey instrument. The PGA-GMUP 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). First, a phone call to each PGA-GMUP Director was made with a follow-up e-mail a few days prior to the distribution of the survey. Next, an e-mail was sent to each program director with a link to the survey for circulation to their program's students. Finally, two weeks after the initial circulation of the survey a phone call was made to each program director along with the distribution of a second e-mail to encourage survey completion rates. The survey was circulated and responses were collected through Survey Monkey.

Analysis

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 dependent variable associated with the intent to persist. Multiple regression facilitates the explanation of the relative importance and effects of each variable (Keith, 2005), and provides the predictive and explanatory capabilities needed to inform this study (Pedhazur, 1997). Additionally, analysis of variance (ANOVA) was used to determine whether or not there was a difference in the intention to persist among those students who had passed the PAT compared to those who did not pass it.

Results

Data were collected from 12 of the 19 PGA-GMUPs. The remaining seven schools did not participate in the study. The data set contained 490 students with 17 missing cases,

and 473 cases were used for analysis. Students responding to the survey represented 36.7 percent of the total enrollment (1,289 students) of the participating 12 programs in the study. This represents over half of the population of PGA-GMUP programs.

Students' demographic and profile characteristics

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

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

University program characteristics

Of the 19 PGA-GMUPs, 12 participated in the study. Of these 12 university programs, the breakdown by institutional control was two private and ten public. Overall university enrollment in which the PGA-GMUPs are housed ranged from Methodist University with the lowest overall enrollment of 2,476 students to Penn State University with the highest enrollment of 45,628 students. PGA-GMUP specific enrollment ranged from University of Maryland, Eastern Shore with the lowest enrollment of 39 students to Methodist University with the highest enrollment of 240 students. With regards to proportion of PGA-GMUP enrollment to total university enrollment, Clemson and Florida State Universities represent the lowest proportion of GMUP students at 0.02 percent of the university population and Methodist University represents the highest proportion of GMUP students at 10 percent of the university population.

The cohort sample represented the following characteristics: 154 (37.7 percent) were first year students, 89 (21.8 percent) were in their second year, 73 (17.8 percent) were in their third year, 68 (16.6 percent) were in their fourth year, 20 (4.9 percent) were in their fifth year, and 5 (1.2 percent) reported an "other" year within their studies as a student in the program.

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

Respondents reported their progress in passing the PGA's PAT, 253 (57.1 percent) passed the PGA's PAT, whereas 190 (42.9 percent) have not passed the PGA's PAT. In addition, 119 (28.7 percent) reported a need for remedial math or English course entering college.

Regression analysis

Answering *RQ1*, the first regression model's fit through the use of an ANOVA yielded the following results, $F(15, 383) = 4.225$, $p = 0.000$, $MS_{error} = 0.488$, $\alpha = 0.05$. Since the ANOVA was significant we can infer the model explains deviations in the student's intent to persist. The model with all predictors produced $R^2 = 0.142$, $F(13, 383) = 4.225$, $p < 0.001$, accounting for 14.2 percent of the variance in the intent to persist variance. As shown in Table I, career goals specific to the student's desire to graduate and wanting to become a PGA professional were the only significant regression weights ($b = 0.512$, $p < 0.05$ and $b = 0.487$, $p < 0.05$, respectively), indicating students with academic or career central goals expected to have higher intentions to persist. When reviewing the results of additional academic performance categories defined by college GPA ($b = -0.038$, $p > 0.05$), and social relationships defined by: peers in cohorts have different values and attitudes ($b = -0.037$, $p > 0.05$); interpersonal relationships in cohort yield positive intellectual growth ($b = 0.003$, $p > 0.05$); positive personal growth ($b = 0.087$, $p > 0.05$); few peers listen or help ($b = 0.015$, $p > 0.05$); difficult to make friends ($b = -0.069$, $p > 0.05$); and develop close personal relationships with peers ($b = -0.013$, $p > 0.05$) were non-significant with students' intent to persist. Academic relationships defined by: interactions with the faculty is positive to career choice ($b = 0.087$, $p > 0.05$); develop close relationships with faculty ($b = 0.042$, $p > 0.05$); satisfied with the opportunity to interact with faculty ($b = 0.095$, $p > 0.05$); and interaction with faculty is positive to personal, and intellectual growth ($b = -0.107$, $p > 0.05$, $b = -0.014$, $p > 0.05$, respectively) were also non-significant.

Answering *RQ2*, the second regression model's fit through the use of an ANOVA yielded the following results, $F(18, 355) = 4.329$, $p = 0.000$, $MS_{error} = 0.571$, $\alpha = 0.05$. Since the ANOVA was significant we can infer the model explains deviations in the student's intent to persist. The regression model produced $R^2 = 0.180$, $F(18, 355) = 4.329$, $p < 0.001$, accounting for 18 percent of the variance in the intent to persist. As seen in Table II, the number of times students participated in student association meetings

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

Note: *$p < 0.05$

Table I. Academic performance, career goals, social and academic relationships results from the regression analysis

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

Notes: *$p < 0.05$; **$p < 0.01$

Table II. Program characteristics results from the regression analysis

($b = -0.460$, $p < 0.05$), satisfaction with major ($b = 0.107$, $p < 0.05$) and continuing studies with initial cohort ($b = 0.651$, $p < 0.01$) were significant. These results indicated those reporting more frequent attendance to student association meetings had lower levels of the intent to persist. This finding suggests that attendance alone was not a good measure of a student's persistence within the program. Those reporting higher scores for satisfaction with their major area of study and those continuing studies with their initial cohort had a higher intent to persist.

When combining the predictors from both research questions different regression weights were used to explain the variance in the student's intention to persist. Examining the regression model fit through the use of an ANOVA yielded the following results, $F(51, 295) = 2.243$, $p = 0.000$. Since the ANOVA was significant we can infer the model explained deviations in the student's intent to persist. The regression model with all predictors produced $R^2 = 0.279$, $F(51, 295) = 2.243$, $p < 0.001$, accounting for 27.9 percent of the variance in the intent to persist. When all persistence factors identified from student, program and institutional support characteristics were considered: parental expectations ($b = -0.217$, $p < 0.05$); college grade point average ($b = -0.058$, $p < 0.05$); and continued enrollment with the student's initial cohort ($b = 0.656$, $p < 0.01$) explained the deviation in the student's intent to persist. In addition to the explained variance, results also indicated that parental expectations for higher levels of education resulted in lower levels of students' 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. Only significant regression weights were noted in the final model.

ANOVA

When assessing group differences among those students who had passed the PAT vs those who had not, ANOVA was used. The results indicated that there was not a statistically significant difference in intention to persist between those students who had and those who had not passed the PAT, $F(1,441) = 0.091$, $p = 0.763$.

Discussion and conclusions

Cohort matriculation is a requirement for students enrolled in PGA-GMUPs, and this policy provides a unique opportunity to examine factors that relate to cohort persistence. Previous scholars 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 (Ackerman and Schibrowsky, 2007; Graunke and Woosley, 2005; Tinto, 1988).

The research findings suggest higher levels of college GPA, career goals specific to the student's desire to become a PGA professional, and higher levels of faculty engagement promote intention to persist. Additionally, higher levels of satisfaction with major, being a leader in the student association and involvement in the student association are related to students' intent to persist. These findings suggest that faculty and program directors should take a more involved stance in PGA programs to better engage and help the students realize and achieve these characteristics that lead to persistence, as this act alone will also increase likelihood of persistence.

Conversely, the 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. Students with specific academic and career goals were more likely to persist than their peers who expressed interest in the pursuit of happiness or unknown goals. Therefore, educators must help students focus their career aspirations on tangible goals rather than encouraging them to merely obtain the degree with the hope of finding their passion. With the millennial generation moving through the hierarchies of academia, a generation that is recognized for placing great import on experiences and working to live, rather than living to work (Hershatter and Epstein, 2010), it is important to help them recognize the tangible goals of graduation and identifying their passion as a PGA professional, while demonstrating that these aspirations may support their pursuit of happiness. In this way, the tangible goals come to the forefront and underscore the pursuit of happiness, rather than the pursuit of happiness leading the initiative.

The findings related to having difficulty making friends may have particular implications for females in programs as these masculinized programs may not be conducive for women to make friends as easily. Additionally, this may also explain why there is a lack of diversity in the programs. Scholarship has demonstrated that people make friends more easily with those who are similar to them (DeWelde and Stepnick, 2015), so in order to combat this issue, recruiting more women and a more diverse group of individuals is recommended. A greater effort to award scholarships to women and diverse students may help to balance the numbers and create a more approachable environment for these underrepresented groups.

Parental expectations of advanced degrees negatively affected students' intent to persist. This finding emphasizes the importance for parents to express support of their child's aspirations to become a golf professional. When the parents expressed little support for this career or encouraged their child to pursue a different career it negatively influenced their child's willingness to persist in the GMUP program.

Students' association attendance was not a positive predictor to persist. This finding is contrary to previous studies' findings and may be explained by the lack of measuring students' involvement associated with attendance. Satisfaction with one's major and initial cohort matriculation were positive predictors of students' intent to persist (Stassen, 2003; Tinto, 1997). College GPA was also a positive explanation for intention to persist. This finding adds to the current body of knowledge linking GPA to program persistence (Bai and Pan, 2009; DeBerard *et al.*, 2004).

Finally, it was determined that passing the PAT, an exam that must be passed prior to degree attainment and without which membership into the PGA of America is not granted,

was not a significant determinant of intention to persist. The result on the surface may seem surprising, since passing the PAT is a graduation requirement. The results may be different if this study was measuring actual persistence, but since the students' intention to persist was the predictive variable the results point to the further exploration of other persistence variables that attribute to the students intention to stay enrolled in the program. Because there is a strict playing proficiency entrance requirement for all PGA-GMUPs (ranging from an 8 to 12 handicap depending on the program) it may act to mediate variances in playing ability so that those that have not yet passed the test feel that they still have the ability to pass it and their intent to persist does not rely as heavily on this exam. Additionally, this finding could suggest that student confidence levels in passing the PAT, and the faculty and peer support received within their program of study plays a contributing role in motivation to persist. Future studies could explore the differences among programs in playing ability entrance requirements and faculty and peer support influence intention to persist.

Identifying persistence factors provides PGA-GMUPs the opportunity to develop program characteristics that optimize cohort matriculation and utilize institutional support services to ensure program completion. While the scope of this study sought to understand intention to persist, future research should aim to examine factors that may contribute to PGA-GMUP students' attrition from the programs. Moreover, a study that identifies those factors that have led to the decline in enrollment numbers in PGA-GMUPs over the past several years would also be beneficial. The PGA of America also requires every student to successfully complete three three-month and one six-month internship before graduation. Bad internship experiences and the additional time required to complete these internships may affect a student's intent to remain in the program and this is an avenue for future research to explore. Finally, the additional expenses related to the major may be factors affecting attrition rates specific to PGA golf management majors and should be examined as factors in future research. This collective information would provide a more holistic understanding by providing the greatest reasons for enrollment in, persistence in and attrition from these unique programs.

No study is without limitations. In addition to the various avenues for future research, this study has several limits due to the demographic profile of the student body and golfers in general. The demographics of PGA golf management students may differ from students in other majors as the vast majority are white, males. Additionally, the income levels of core golfers tend to be more conducive to upper middle-class, white males as evidenced by the percentage of women and minorities currently enrolled in the programs. This limits the generalizability of the findings across similar cohort studies and across other institutional programs.

References

Ackerman, R. and Schibrowsky, J. (2007), "A business marketing strategy applied to student retention: a higher education initiative", *Journal of College Student Retention: Research, Theory, and Practice*, Vol. 9 No. 3, pp. 307-336.

Adelman, C. (1999), *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*, Document No. PLLI 1999-8021, Department of Education, Office of Educational Research and Improvement, Washington, DC.

Adelman, C. (2004), "Academic intensity, attendance patterns and bachelor's degree attainment", *American Educator*, Spring, pp. 1-7.

Astin, A. (1997), "How 'good' is your institution's retention rate?", *Research in Higher Education*, Vol. 38 No. 6, pp. 647-658.

Astin, A.W. (1984), "Student involvement: a developmental theory for higher education", *Journal of College Student Personnel*, Vol. 25 No. 4, pp. 297-308.

Astin, A.W. (1993), *What Matters in College? Four Critical Years Revisited*, Jossey-Bass, San Francisco, CA.

Bai, H. and Pan, W. (2009), "A multilevel approach to assessing the interaction effects on college student retention", *Journal of College Student Development*, Vol. 11 No. 2, pp. 287-301.

Braxton, J.M. (2000), *Reworking the Student Departure Puzzle*, Vanderbilt University Press, Nashville, TN.

Bruffee, K.A. (1998), *Collaborative Learning: Higher Education, Interdependence, and the Authority of Knowledge*, John Hopkins University Press, Baltimore, MD.

Cabrera, A.F., Burkum, K.R., La Nasa, S.M. and Bibo, E.W. (2012), "Pathways to a four-year degree: determinants of degree completion among socioeconomically disadvantaged students", in Seidman, A. (Ed.), *College Student Retention: Formula for Student Success*, Rowman & Littlefield Publishers, Blue Ridge Summit, PA, pp. 167-210.

Camara, W.J. and Echternacht, G. (2000), "The SAT I and high school grades: utility in predicting success in college", The College Board Research Notes, RN-10, New York, NY, pp. 1-12.

Chen, R. (2012), "Institutional characteristics and college student dropout risks: a multilevel event history analysis", *Research in Higher Education*, Vol. 53 No. 5, pp. 487-505.

Chen, R. and DesJardins, S.L. (2010), "Investigating the impact of financial aid on student dropout risks: racial and ethnic differences", *The Journal of Higher Education*, Vol. 81 No. 2, pp. 179-208.

Claypool, J. and Cangemi, J. (1983), "Ingredients of setting and achieving goals", *Psychology: A Journal of Human Development*, Vol. 20 Nos 3/4, pp. 44-46.

Coates, H. (2014), "Students' early departure intentions and the mitigating role of support", *Australian Universities' Review*, Vol. 56 No. 2, pp. 20-29.

Cofer, J. and Somers, P. (1999), "A national study of persistence at two-year colleges", paper presented at the Meeting of American Educational Research Association, Montreal.

Coll, K.M. and Stewart, R.A. (2008), "College student retention: instrument validation and value for partnering between academic and counseling services", *College Student Journal*, Vol. 42 No. 1, pp. 41-56.

Cross, P. (1998), "Why learning communities, why now?", *About Campus,* July/August, pp. 4-11.

DeBerard, M.S., Spieimans, G.I. and Julka, D.L. (2004), "Predictors of academic achievement and retention among college freshman: a longitudinal study", *College Student Journal*, Vol. 38 No. 1, pp. 66-80.

DeNicco, J., Harrington, P. and Fogg, N. (2015), "Factors of one-year college retention in a public state college system", *Research in Higher Education Journal*, Vol. 27, pp. 1-13.

DesJardins, S., Ahlburg, D. and McCall, B. (2002), "Simulating the longitudinal effects of changes in financial aid on student departure from college", *Journal of Human Resources*, Vol. 37 No. 3, pp. 653-679.

DeWelde, K. and Stepnick, A. (2015), *Disrupting the Culture of Silence: Confronting Gender Inequality and Making Change in Higher Education*, Stylus Publishing, Sterling, VA.

Dillman, D.A. (2000), *Mail and Telephone Surveys*, 2nd ed., John Wiley & Sons, New York, NY.

Donhardt, G.L. (2013), "The fourth-year experience: impediments to degree completion", *Innovative Higher Education*, Vol. 38 No. 3, pp. 207-221.

Gershenfeld, S., Ward Hood, D. and Zhan, M. (2016), "The role of first-semester GPA in predicting graduation rates of underrepresented students", *Journal of College Student Retention: Research, Theory & Practice*, Vol. 17 No. 4, pp. 469-488, doi: 10.1177/1521025115579251.

Graunke, S.S. and Woosley, S.A. (2005), "An exploration of the factors that affect the academic success of college sophomores", *College Student Journal*, Vol. 39 No. 2, pp. 367-376.

Gross, J.P.K., Torres, V. and Zerquera, D. (2013), "Financial aid and attainment among students in a state with changing demographics", *Research in Higher Education*, Vol. 54 No. 4, pp. 383-406.

Halpin, R.L. (1990), "An application of the Tinto model to the analysis of freshman persistence in the community college", *Community College Review*, Vol. 17 No. 4, pp. 22-32.

Harasim, L., Hiltz, S.R., Teles, L. and Turoff, M. (1995), *Learning Networks: A Field Guide to Teaching and Learning Online*, MIT Press, Cambridge, MA.

Heller, P.S. (2003), *Who Will Pay? Coping with Aging Societies, Climate Change, and Other Long-Term Fiscal Challenges*, International Monetary Fund, Washington, DC.

Hershatter, A. and Epstein, M. (2010), "Millennials and the world of work: an organization and management perspective", *Journal of Business Psychology*, Vol. 25 No. 2, pp. 211-223.

Herzog, S. (2005), "Measuring determinants of student return vs dropout/stopout vs transfer: a first-to-second year analysis of new freshmen", *Research in Higher Education*, Vol. 46 No. 8, pp. 883-928.

Hull-Blanks, E., Kurpius, S.E.R., Befort, C., Sollenberger, S., Nicpon, M.F. and Huser, L. (2005), "Career goals and retention-related factors among college freshmen", *Journal of Career Development*, Vol. 32 No. 1, pp. 16-30.

Johnson, D.W. and Johnson, R.T. (1994), *Learning Together and Alone: Cooperative, Competitive, and Individualistic Learning*, 4th ed., Prentice-Hall, Englewood Cliffs, NJ.

Keith, T.Z. (2005), *Multiple Regression and Beyond*, Pearson, London.

McGrath, M.M. and Braunstein, A. (1997), "The prediction of freshman attrition: an examination of the importance of certain demographic, academic, financial, and social factors", *College Student Journal*, Vol. 31 No. 3, pp. 396-407.

MacGregor, J., Smith, B.L., Tinto, V. and Levine, J. (1999), "Learning about learning communities: taking student learning seriously", paper presented at the Meeting of the National Teleconference on Learning Communities, Columbia, SC, April.

Mallette, B. and Cabrera, A. (1991), "Determinants of withdrawal behavior: an exploratory study", *Research in Higher Education*, Vol. 32 No. 2, pp. 179-194.

Mau, W., Dominick, M. and Ellsworth, R. (1995), "Characteristics of female students who aspire to science and engineering or homemaking occupations", *Career Development Quarterly*, Vol. 43 No. 4, pp. 323-337.

Montmarquette, C., Cannings, K. and Mahseredjian, S. (2002), "How do young people choose college major?", *Economics of Education Review*, Vol. 21 No. 6, pp. 543-556.

Murtaugh, P.A., Burns, L.D. and Schuster, J. (1999), "Predicting the retention of university students", *Research in Higher Education*, Vol. 40 No. 3, pp. 355-371.

Nealy, M.K. (2005), "Student retention – strong advising", *Diverse Issues in Higher Education*, Vol. 22 No. 14, p. 12.

Palloff, R.M. and Pratt, K. (2003), *The Virtual Student: A Profile and Guide to Working with Online Learners*, Jossey-Bass, San Francisco, CA.

Pascarella, E.T. and Terenzini, P.T. (1991), *How College Affects Students: Findings and Insights from Twenty Years of Research*, Jossey-Bass, San Francisco, CA.

Pascarella, E.T. and Terenzini, P.T. (2005), *How College Affects Students: A Third Decade of Research*, Jossey-Bass, San Francisco, CA.

Pedhazur, E.J. (1997), "Multiple regression in behavioral research: explanation and prediction", Thomson Learning, Inc., South Melbourne.

Robst, J. (2007), "Education and job match: the relatedness of college major and work", *Economics of Education Review*, Vol. 26 No. 4, pp. 397-407.

Sewell, W. and Shah, V. (1967), "Socioeconomic status, intelligence, and the attainment of higher education", *Sociology of Education*, Vol. 40 No. 1, pp. 1-23.

Shapiro, N. (1998), "Learning communities: moving beyond classroom walls", *Metropolitan Universities*, Spring, pp. 25-34.

Stassen, M.L. (2003), "Student outcomes: the impact of varying living-learning community models", *Research in Higher Education*, Vol. 44 No. 5, pp. 581-612.

Suhre, C.J.M., Jansen, E. and Harskamp, E.G. (2007), "Impact of degree program satisfaction on the persistence of college students", *Higher Education*, Vol. 54 No. 2, pp. 207-226.

The PGA of America (2011), "2010-11 PGA golf management university attrition report", PGA Department of Education, Palm Beach Gardens, FL, June 30.

The PGA of America (n.d.b), "The history of the American PGA", The Professional Golfers Association of America, Palm Beach Gardens, FL, Worldgolf.com, available at: www.worldgolf.com/wglibrary/history/ampgahis.html (accessed June 1, 2018).

Ting, S. (1997), "Estimating academic success in the 1st year of college for specially admitted white students: a model combining cognitive and psychosocial predictors", *Journal of College Student Development*, Vol. 38 No. 4, pp. 401-409.

Tinto, V. (1975), "Dropout from higher education: a theoretical synthesis of recent research", *Review of Educational Research*, Vol. 45 No. 1, pp. 89-125.

Tinto, V. (1988), *Leaving College: Rethinking the Causes and Cures of Student Attrition*, University of Chicago Press, Chicago, IL.

Tinto, V. (1993), *Leaving College: Rethinking the Causes and Cures of Student Attrition*, 2nd ed., University of Chicago Press, Chicago, IL.

Tinto, V. (1997), "Classrooms as communities: exploring the educational character of student persistence", *Journal of Higher Education*, Vol. 68 No. 6, pp. 599-623.

Tinto, V. (2003), "Learning better together: the impact of learning communities on student success", *Higher Education Monograph Series*, Vol. 1 No. 8, pp. 1-8.

Tinto, V. and Russo, P. (1994), "Coordinated studies programs: their effect on student involvement at a community college", *Community College Review*, Vol. 22 No. 2, pp. 16-25.

Tomlinson, L. (1989), "Postsecondary developmental programs: a traditional agenda with new imperatives", Report No. 3, ASHE-ERIC Higher Education Reports, George Washington University, Washington, DC.

Witkow, M.R., Huynh, V. and Fuligni, A.J. (2015), "Understanding differences in college persistence: a longitudinal examination of financial circumstances, family obligations, and discrimination in an ethnically diverse sample", *Applied Developmental Science*, Vol. 19 No. 1, pp. 4-18, doi: 10.1080/10888691.2014.946030.

Further reading

Astin, A.W. and Oseguera, L. (2005), "Pre-college and institutional influences on degree attainment", in Seidman, A. (Ed.), *College Student Retention: Formula for Student Success*, Praeger, Westport, CT, pp. 245-276.

Berger, J.B. and Braxton, J.M. (1998), "Revising Tinto's interactionalist theory of student departure through theory elaboration: examining the role of organizational attributes in the persistence process", *Research in Higher Education*, Vol. 39 No. 2, pp. 103-119.

Dey, E.L. and Astin, A.W. (1993), "Statistical alternatives for studying college student retention: a comparative analysis of logit, probit, and linear regression", *Research in Higher Education*, Vol. 34 No. 5, pp. 569-581.

Keith, T.Z. (2014), *Multiple Regression and Beyond: An Introduction to Multiple Regression and Structural Equation Modeling*, Routledge, London.

The PGA of America (n.d.a), "Steps to becoming a PGA member", The Professional Golfers Association of America, PGAlinks.com, available at: http://pgajobfinder.pgalinks.com/helpwanted/empcenter/pgaandyou/pro.cfm?ctc=1678 (accessed June 1, 2018).

The Professional Golfers Association of America (2012), "2011-12 PGA golf management university attrition report", PGA Department of Education, Palm Beach Gardens, FL, June 30.

Tinto, V. (2015), "Through the eyes of students", *Journal of College Student Retention: Research, Theory & Practice*, Vol. 19 No. 3, pp. 254-269, doi: 10.1177/1521025115621917.

Corresponding author
Lisa Nicole Cain can be contacted at: lcain@fiu.edu