A Success Course for Freshmen on Academic Probation: Persistence and Graduation Outcomes

Shelley M. McGrath, University of Arizona
Gail D. Burd, University of Arizona

Administrators at a large, public university launched a mandatory success course for freshmen placed on academic probation at the end of their first semester. We compared the rates of course participant and nonparticipant return to good academic standing; persistence to the 2nd, 3rd, and 4th years; and graduation (within 4 to 5 years). The chi-square test for independence revealed significant differences across all measures of persistence and graduation between the control and treatment groups. We call for an increase in credit-bearing success courses using applied retention theories in the curriculum for students on academic probation.

KEYWORDS: academic difficulties, students in; at-risk students; intrusive advising; retention; student attrition

Students typically come to college expecting to be successful. In fact, in an annual survey of new freshmen, 44.1% reported earning an A average in high school and 57.5% reported that they expected to maintain at least a B grade-point average (GPA) while in college (Kuh, 2007). Despite their positive expectations, a proportion of students find themselves on academic probation, which means that they are not meeting minimum GPA requirements at their university. For the purposes of this study, we define academic probation as indicated by a GPA below 2.0 upon completion of the first college semester. At the large, public, selective, Research I (Carnegie Foundation for the Advancement of Teaching, 2010) 4-year college in the Southwest where we conducted this study, students who earn a GPA lower than 2.0 for two consecutive semesters may be dismissed from the university. Tinto (1975) referred to this outcome as involuntary departure.

For many students, college education is a complex and intimidating process. Those facing involuntary departure due to a low GPA must consider the factors that contribute to their academic challenges. Tinto (1987) pointed out that academic difficulty (and resulting academic dismissal) typically reflects a situation in which the “demands of the academic system prove too great” (p. 117). In these cases, an effective intervention could provide the setting where students can learn to meet the demands of the academic system, and thus, remain in college and graduate.

Risk of dropout is highest during the freshman year of college and is often associated with a disconnect between student expectations and the reality of college life (Tinto, 1993). Because goodness of fit between the student and institution significantly affects student retention, many colleges and universities offer programs and services to help students adjust and connect successfully to their college (Cabrera, Castaneda, Nora, & Hengstler, 1992; Tinto, 1975).

Although often challenging, retention efforts for academically struggling students benefit both the individual and the institution. Higher retention rates typically lead to higher graduation rates, key measures of institutional success. In addition, public institutions have an ethical and fiscal commitment to assist students who are struggling with the academic demands of college rather than passively allowing them to fail. These outcomes leave leadership at each institution deciding the best way to serve at-risk students.

In this study, we looked into the effect of a mandatory intervention designed to assist students on academic probation. We investigated the performance, persistence, and graduation rates of students who participated in a freshman success course and compared their profiles with nonparticipants. The course, based on retention theories, was offered to students on academic probation after their first semester as a reactionary response, rather than preventive measure, to academic difficulty. We speculated that students faced with threat of dismissal would be more engaged with the course content than those who believed themselves in good academic standing.

Literature Review

Retention

For many years, researchers have tried to explain and predict the factors that contribute to academic failure. Internal or institutional factors that influence retention include academic and social integration as well as institutional commitment (Bean, 1980; Cabrera et al., 1992; Tinto, 1975). Also,
parental support, socioeconomic status (SES), and individual characteristics (e.g., a student’s motivation) can affect the likelihood of dropout (Bean, 1980; Cabrera et al., 1992; Pascarella & Terenzini, 1980; Tinto, 1975, 1982). Although external factors play a role in student success, in this paper we will focus on the internal factors that affect retention.

Researchers such as Tinto (1975, 1982, 1987) and Bean (1980) demonstrated that the higher the student’s level of commitment to college completion, the greater the probability of persistence. In their research, Tinto and Bean each surveyed students before beginning college and then followed them over time to evaluate the relationship between commitment levels and persistence toward graduation. Both researchers agreed that attrition is related to the quality of interactions between a student and those in the educational environment (Tinto, 1975). Their findings suggest that a student’s commitment level and subsequent behavior are not the sole qualities contributing to retention, but a dedicated student with insufficient or unsatisfactory interactions with the college will be less likely to remain committed to the institution than one who can integrate socially and academically into the college system (Tinto, 1975). Many faculty members and administrators suggest that matriculation of more academically prepared students will offset high attrition rates, but this strategy may deny access to many students who, despite their level of preparedness, aspire to attend college (Kuh, Kinzie, Schuh, & Witt, 2010). Those stakeholders believing that increasing student engagement is a better solution to promote retention, must create opportunities, as advocated by Kuh et al. in their 2010 study, to increase and prolong relationships between freshmen and their peers, faculty members, and administrators at the institution.

Pascarella and Terenzini (1991) pointed out similarities between Tinto’s (1975, 1993) student interactionalist theory and Astin’s (1984) student development theory based on student involvement. They found connections between the quality and quantity of involvement as they relate to student persistence. Astin (1984) stated that “student involvement refers to the amount of physical and psychological energy the student devotes to the academic experience” (p. 297). Tinto (1993) postulated that involvement of peers and faculty members is positively related with the quality of effort exerted by students and their subsequent persistence. Milem and Berger (1997) noted that Tinto and Astin emphasized behavior as a strong component of involvement. Tinto and Austin traced the level of student commitment to the institution as it relates to involvement behavior, finding that low levels of social involvement (e.g., participation in student clubs, organizations, and leadership development programs) led to lower levels of student commitment to the institution, and thus, a greater likelihood of voluntary and involuntary departure.

Astin (1975, 1984) referred specifically to characteristics and behaviors that help students to persist: motivation; the level of time and energy they exert in and out of the classroom; the awareness of time as a finite resource and thus ability to balance its constraints; involvement in extracurricular activities such as sports, sororities and fraternities, Reserve Officer Training Corps (ROTC), and professors’ undergraduate research projects. He also found that academic involvement in the form of time and energy spent on studies, level of interest, and good study habits tended to show less likelihood of surrender to destructive peer influences and hedonism, which can negatively impact performance and persistence. All of these involvement behaviors point to relatively high levels of satisfaction with the institution and thus greater commitment, and as a result, less chance of student departure (Astin, 1984). In this paper, we show how a curriculum based on Tinto’s theory of student departure and Astin’s theory of involvement can help students on academic probation adopt or nurture the attitudes and behaviors that lead to persistence in college.

Success Courses
Seminar and success courses are typically offered to freshmen to help with their transition from high school to college. Usually developmental in nature, these classes are designed to help students integrate socially and academically into the university and thus persist (Bedford & Durkee, 1989; Cuseo, 1991; Fidler & Moore, 1996; Pascarella & Terenzini, 1991). Nora, Barlow, and Crisp (2005) conducted a study in which students of a developmental English course had a much higher graduation rate within 6 years (39.7%) than those who did not participate in the class (17.6%). Seidman (2005) mentioned that early identification as well as early, and sometimes intensive and continuous, interventions are required to help students persist. These courses improve retention, and attendees often show improved grades as well as greater motivation, more use of school services, and show better ability to define short- and long-term goals than those who do not take success.
Most of the studied success courses are targeted to incoming freshmen (either all or those predicted to be at risk) during their first semester (Sidle & McReynolds, 2009). Most are not mandatory, which means that the research on them could reflect sampling bias as students who self-select participation may be predisposed to persist and that the course had little or no impact on retention rates. An experimental design in which participation is mandatory could make data more robust as they account for selection bias. In addition, institutions may have an ethical obligation to offer a mandatory course designed to help at-risk students, especially because “poorer performing students [are] less likely to search out assistance in reversing their underachievement” (Hsieh, Sullivan, & Guerra, 2007, p. 278).

Despite the large body of research on success courses, little of it addresses students on academic probation. Many interventions for students on probation have been employed and studied including intrusive advising (Abelman & Molina, 2001; Austin, Cherney, Crowner, & Hill, 1997; Earl, 1988), mentoring (Trumpy, 2006), and group meetings or workshops (Brocato, 2000; Coleman & Freedman, 1996), but published research on success courses as an intervention specifically targeting students on probation is lacking.

Perceptions and interpretations of the Family Educational Rights and Privacy Act (FERPA), which protects the confidentiality of students’ records and transcripts, may contribute to the dearth of available data on students on probation. Academic administrators may be cautious about teaching a course in which the poor academic standing of each participant is known. However, “legal concerns are viewed as ameliorated when specific students’ GPAs are not shared” (Trumpy, 2006, p. 1). Therefore, while students know that their classmates are on academic probation, they do not know each others’ GPAs.

Although not a violation of FERPA to gather students on probation into a common classroom, sensitivity to the students’ feelings of embarrassment is important. However, as Trumpy (2006) pointed out,

When underperforming students share their common difficulties, compare their plans of academic improvement, and are simultaneously exposed to the plethora of support services, and supportive professionals interested in their collective and invidious academic success, they are more likely to succeed and persist, in spite of the knowledge that significant consequences will ensue without improved performance. (p. 3)

Because of the benefits of a group setting, students on probation and facing involuntary dismissal receive the most effective possible assistance in a course specifically designed to help them succeed.

Methods

Research Question

We put forth the following question for this study: Will we find significant differences in the performance, persistence, and graduation rates of freshmen on probation who take a success course compared to those who do not? The hypotheses for this study are

H1. Students who took the success course will regain good standing (cumulative GPA of 2.0 or higher) by the end of their freshman year at significantly higher rates than students who did not take the success course.

H2. Students who took the success course will persist into their 2nd, 3rd, and 4th years at significantly higher rates than those who did not take the course.

H3. Students who took the success course will graduate within 5 years of matriculation at significantly higher rates than those who did not take the course.

Background

In 2004, administrators at a large, public, 4-year institution in the Southwest decided to offer a mandatory success course for freshmen placed on academic probation. While these students received information in other venues on ways to succeed and find their niche at the university, the leadership speculated that students were not availing themselves of those opportunities. For example, peer mentors reported great difficulty in establishing contacts with students and they seldom held meetings with them. The underutilization of peer mentors indicated that preventive and proactive interventions may not be as effective as reactionary means. Planners also predicted that the students would be more motivated to participate in interventions after they had been notified of academic jeopardy.

With sufficient resources available, academic advisors taught a success course with attendance
limited to students on academic probation. Their goal was to help students quickly return to good academic standing (cumulative GPA greater than 2.00) and persist to graduate in a timely manner. STCH 195a, Success in Science, was a one-unit, graded success class required of all first-time, full-time freshmen in the College of Science who were placed on academic probation at the end of their first fall semester. The university offered the class for the first time in Spring 2005.

The curriculum of the course consisted of five core areas: student development; test-taking and note-taking strategies; campus policies and procedures; exploration of different majors; and engagement with faculty members, advisors, and other student resources on campus. In the student development portion, advisors encouraged students to take responsibility for actions; understand personal strengths and weaknesses; discover motivations, values, and learning styles; develop relationships with faculty members, advisors, and peers; effectively manage time; set goals and make decisions; work in teams; discover one’s personality type; and explore majors. Policies and procedures included information about dates and deadlines, processes for grievances and withdrawals, and definitions of terms. Instructors gave homework assigning students to visit professors, advisors, and student resources as well as clubs and organizations and then write reports about the experiences. They also disseminated information about student services, clubs, and organizations via small group projects in which students were to research an assigned student service unit, learn about the services provided, and give a presentation providing information about the unit along with the benefits of the service. Students were only required to purchase a day planner, which instructors spot checked and graded to make sure students were using it.

The grading structure for this one-credit course was designed to evaluate three components: attendance, participation, and homework/final paper. The distribution of points was established to ensure that the only way that a student could pass the course, let alone get a high grade, would be by doing well in all components. For example, a student could not pass the class just by doing homework and never attending class or vice versa.

The first class meeting was an important ice-breaker as some students were embarrassed about being on probation and angry about being forced to take the class. The instructors, who were academic advisors, expressed sensitivity to students’ feelings by addressing their concerns at the beginning of the first class. They also offered support and the appropriate referrals to student services, such as psychological services, tutoring, and financial aid, when applicable.

To provide an interactive environment, the class consisted of 15 to 18 students. The course planners and instructors used Johnson, Johnson, and Holubec’s (1998) cooperative lesson model both in and out of the classroom. The paradigm informed decisions about course objectives, determinations on group sizes, and explanations of the task and cooperative structure as well as for monitoring and intervening for student progress, evaluating and processing the students’ achievements, and making plans for improvement where appropriate. Students received topics and articles to discuss in small groups, and after making a presentation to the class, they answered questions asked by the instructor. Homework assignments primarily consisted of journal entries in which students answered a question or provided a reaction to course topics. Final written assignments required research and reflection on learning in the course. The instructors met weekly with the Director of Academic Advising and Student Services to calibrate assignments and troubleshoot any issues that arose. Students completed the course during the first half of their second semester so they could quickly put to use the skills they learned.

While the literature suggests that involved students are more likely to persist than those who remain uninvolved, the situation may be more complicated for students on academic probation (Tinto, 1987). That is, struggling students may be committed and engaged, but the quality of their interactions with the institution may have suffered in some way. A desire to continue indicates commitment to education, but poor performance could reflect ineffective behaviors and not necessarily disinterested attitudes. For the purpose of our study, we assumed that the majority of students on academic probation want to persist in college and thus possess sufficient levels of commitment, but their success is thwarted by inflated expectations of their ability to perform in college (Kuh, 2007). Our goal is to reconcile student behavior with institutional behavior to facilitate successful persistence and graduation for these students.

Sample

This quasi-experimental study contained a sample of 254 first-time full-time freshmen placed on academic probation after their first semester of enrollment. Of these students, 154 were admitted in
the Fall 2004 and 2005 terms and were enrolled in the success course, and 100 were admitted in Fall 2002 and 2003 semesters and did not take the course (because it was not yet offered). The data from the 2004 and 2005 students were combined to form the treatment group and the data from the 2002 and 2003 students were combined to form the control group. The Office of Institutional Research and Planning Support at the site of the study provided a set of student records that covered over 8 years.

Instrument and Procedures

Once we imported the data into a statistical software program, we conducted several tests. To test the hypotheses, we included the following dependent variables: probation status at the end of the freshman year (off probation = 1; on probation = 0), persistence rates from the 1st to 2nd, 2nd to 3rd, and 3rd to 4th year (did not persist = 0; persist = 1), and graduation rates within 5 years of matriculation (did not graduate = 0; graduated = 1). The independent variable was the success course (did not participate in the course = 0; participated in the course = 1). The α level was set at .05 and we employed the chi-square test for independence because the dependent variables were nominal and discrete. With the chi-square test for independence, we measured the persistence and graduation rates of the students who took the success course and compared the data with that collected from those who did not. We also compared probationary status at the end of the freshman year against success course participation.

We measured effect sizes using the φ coefficient formula and used Cohen’s recommended categorization of levels (low, medium, or high) for the analysis. Effect sizes measured the degree of the differences between the dependent and the independent variables. Persistence is defined as those students who continue to be enrolled at the university after the 21st day of their 3rd, 4th, 5th semester, and so on, but not necessarily in the College of Science. For example, a student admitted in Fall 2002 and enrolled in Fall 2003 is considered a persister with a retention data point. We calculated course participation.

To test the internal validity of the results, we needed to illustrate the homogeneity of the student characteristics from each group. Differing academic profiles among groups might explain variation in persistence and GPAs, thus skewing potential differences in outcomes. We obtained academic characteristics such as high school GPAs and SAT or ACT scores and we conducted t tests to check for differences between two groups in terms of these measures. The demographic data break down as follows: ethnicity (African American = 2; Native American = 3; Asian American = 4; Latino/a = 5; Caucasian = 5; not reported = 7), gender (male = 0; female = 1), and SES1 (not eligible for Free Application for Federal Student Aid [FAFSA] = 0; FAFSA eligible = 1). The academic variables included high school GPA and SAT/ACT scores.2

We tested these data using the chi-square test for independence. See Table 1.

Treatment of Missing Data

Students who withdrew during their 2nd semester and did not enroll for the 3rd semester were removed from the study (n = 31). Also, data from students who did not report high school GPAs (n = 4) or SAT or ACT scores (n = 11) were not included in the t test. In addition, not all records in the sample included ethnicity information (n = 6). Some eligible students did not take the course. For example, students with outstanding debt to the university were not permitted to enroll (even if they intended to) and those who were not yet enrolled for any classes at the time we collected the data were excluded from the course (n = 22). We acknowledge that missing data could have created some bias, but the group was too small to analyze statistically so the data were removed.

Results

In the test for homogeneity between the control and treatment groups, the t test (α = .05) revealed no significant differences between the two groups in terms of distributions of ethnicity, \(\chi^2 (1, n = 254) = 6.67, p = .011\); gender, \(\chi^2 (1, n = 254) = .014, p = .907\); or SAT or ACT scores, \(\chi^2 (1, n = 254) = 2.523, p = .112\) (see Table 1). Neither did it reveal significant differences in mean high school GPAs between the two groups, \(t(253) = .521, p = .603\), or SAT scores, \(t(242) = 1.875, p = .064\) (see Table 2). The chi-square test for independence (α = .05) also showed no significant differences. Based on these results

1 To create an SES variable, we used a proxy. FAFSA eligibility was the proxy and a dummy variable was created to distinguish between students who were FAFSA eligible and those who were not.

2 ACT scores were converted to SAT scores using a conversion table provided by the Office of Institutional Research and Planning Support.
across academic and demographic measures, we concluded that the results of this study were valid. The results of the chi-square test for independence supported all three hypotheses. We found significant differences in the rates of reinstatement to acceptable academic standing, persistence into the 2nd, 3rd, and 4th years of college, as well as graduation within 4 to 5 years of matriculation (see Table 3). In the case of Hypothesis 1, the test showed that 49% of students who took the success course, compared to only 9% of students who did not take the course, were off probation by the end of their first year: $\chi^2(1, n = 257) = 44.34, p < .001$. For Hypothesis 2, the test showed that 60% of students who took the course persisted to their 2nd year compared to 22% of those who did not take the course: $\chi^2(1, n = 257) = 38.03, p < .001$. Forty-seven percent of students who took the course persisted to their 3rd year compared to 9% of those who did not take the course: $\chi^2(1, n = 257) = 42.20, p < .001$. Persistence to the 4th year was achieved by 40% of the students who took the course and 6% of those who did not: $\chi^2(1, n = 257) = 37.34, p < .001$. The test for Hypothesis 3 revealed that 25% of students who took the course graduated within 4 to 5 years of matriculation while only 2% of those who did not take the course graduated: $\chi^2(1, n = 257) = 24.37, p < .05$.

### Table 1. Ethnicity, gender, and federal financial aid eligibility ratios

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>African American</th>
<th>Native American</th>
<th>Asian American</th>
<th>Latino/a</th>
<th>Caucasian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>5%</td>
<td>8%</td>
<td>9%</td>
<td>24%</td>
<td>54%</td>
</tr>
<tr>
<td>Treatment group</td>
<td>6%</td>
<td>9%</td>
<td>15%</td>
<td>16%</td>
<td>54%</td>
</tr>
<tr>
<td>Chi square</td>
<td>6.67</td>
<td>9%</td>
<td>15%</td>
<td>16%</td>
<td>54%</td>
</tr>
<tr>
<td>p value</td>
<td>0.071</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>59%</td>
<td>41%</td>
</tr>
<tr>
<td>Treatment group</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Chi square</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.907</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FAFSA Eligibility</th>
<th>FAFSA Eligible</th>
<th>Not FAFSA Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>36%</td>
<td>64%</td>
</tr>
<tr>
<td>Treatment group</td>
<td>27%</td>
<td>73%</td>
</tr>
<tr>
<td>Chi square</td>
<td>2.52</td>
<td></td>
</tr>
<tr>
<td>p value</td>
<td>0.112</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** FAFSA stands for the free application for federal student aid.

### Table 2. Mean SAT scores and high school GPAs

<table>
<thead>
<tr>
<th>Groups and Tests</th>
<th>Mean SAT Scores</th>
<th>Mean High School GPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>1050</td>
<td>3.15</td>
</tr>
<tr>
<td>Treatment group</td>
<td>1091</td>
<td>3.18</td>
</tr>
<tr>
<td>t-test</td>
<td>1.88</td>
<td>0.52</td>
</tr>
<tr>
<td>p value</td>
<td>0.06</td>
<td>0.60</td>
</tr>
</tbody>
</table>

### Table 3. Results of hypotheses tests: descriptive, chi square, and φ coefficients

<table>
<thead>
<tr>
<th>Groups and Tests</th>
<th>Off Probation</th>
<th>Persist to 2nd Year</th>
<th>Persist to 3rd Year</th>
<th>Persist to 4th Year</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison group</td>
<td>9%</td>
<td>22%</td>
<td>9%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Treatment group</td>
<td>49%</td>
<td>60%</td>
<td>47%</td>
<td>41%</td>
<td>25%</td>
</tr>
<tr>
<td>Chi square</td>
<td>44.34*</td>
<td>38.03*</td>
<td>42.20*</td>
<td>37.34*</td>
<td>24.37*</td>
</tr>
<tr>
<td>Effect size, φ</td>
<td>0.42</td>
<td>0.39</td>
<td>0.41</td>
<td>0.38</td>
<td>0.31</td>
</tr>
</tbody>
</table>

**Note.** *p < .001
The effect size from each test (calculation of \( \phi \) coefficient) was medium for each hypothesis: students off probation by the end of their 1st year, \( \phi = .42 \); persistence to the 2nd year, \( \phi = .39 \); persistence to the 3rd year, \( \phi = .41 \); persistence to the 4th year, \( \phi = .38 \); and graduation within 4 to 5 years, \( \phi = .31 \) (see Table 3). The effect sizes illustrated that the found differences were sizable across all findings.

**Discussion**

The overall success of the course illustrates the resourcefulness of administrators and advisors in difficult financial times and the need for interventions to help students on probation. Academic advisors taught this course despite the multitude of other responsibilities they carry because administrators believed that advisors are the most highly qualified to teach such a course. The curriculum engaged students socially and academically with the university, but because the curriculum alone would not likely engage students enough to achieve the desired outcome, it was delivered by instructors with extensive experience working with students on academic probation. The course yielded higher persistence rates, improved performance, and positive graduation numbers than shown by struggling students who did not take the course. Students were required to meet with a professor, their advisor, and visit student services resources and student organizations. While we could not account for external factors with regard to retention, academic advisors, as instructors for this course, most likely helped students develop the skills needed to persist and in many cases to graduate. The success course succeeded as an intervention tool designed to address retention issues.

We are encouraged to find a difference in every measure: persistence to 2nd, 3rd, and 4th years in addition to graduation within 4 to 5 years. While we did not establish a causal relationship between the independent and the dependent variables, the differences were consistent across time, thus inferring a successful intervention. The statistical significance of achieving good academic standing, persisting through college, and graduating in a timely manner within the cohort of students formerly on probation supports the call to continue the success course. Moreover, the effect sizes, which signify the strength of the difference between the course and the dependent variables, provide even greater justification to continue the course, as they account for more than just the significance of the differences but also illustrate large size differentials. While researchers in many disciplines categorize

the size of the found difference as medium, those conducting studies in educational research may consider the effect size stronger than is indicated by Cohen’s categorization (Valentine & Cooper, 2003). This study was quantitative and used to identify persistence and graduation outcomes as the goal of the course; however, we cannot know which pieces of the curriculum might have influenced the differences in persistence and graduation rates of the treatment group compared to the control group. However, the curriculum included elements postulated by Tinto (1975, 1993) and Astin (1984) to increase persistence in college. In addition to learning practical skills in college, students were taught to develop relationships with peers and faculty members, to find the balance of physical and psychological energy required to persist and succeed, and to get involved on campus outside of the classroom as well as find internal motivation and manage time.

Many public institutions face a conundrum between idealistic and realistic retention strategies. For example, they have little control over assessing a prospective student’s level of commitment or over external factors such as parental support and SES. In addition, the leadership at many public institutions is pressured by constituents, legislative officials, and social justice advocates to admit students who may not be academically prepared. Within such a complicated environment, a success course helps to address those factors that are, to some extent, within the control of the institution. The success course was intended to help the students develop time management skills and study skills as well as overcome weaknesses—all skills researchers showed to be required to succeed in college (Astin, 1984; Tinto, 1993). The course also helped students become knowledgeable about and use campus resources, get involved with campus organizations, and develop relationships with advisors and faculty—behaviors demonstrated to predict persistence (Astin, 1984; Milem & Berger, 1997; Tinto, 1975, 1993). While not specifically measured, student learning outcomes from this course, the skills defined in the literature as those that predict persistence, and the results of this research led us to speculate that the curriculum was successful and strongly related to the outcomes of this study. We also propose that the necessary attitudes and behaviors that researchers found to predict college success and persistence can be taught and learned. This research also demonstrates that academic advisors can and do make a difference in

---

*The effect size from each test (calculation of \( \phi \) coefficient) was medium for each hypothesis: students off probation by the end of their 1st year, \( \phi = .42 \); persistence to the 2nd year, \( \phi = .39 \); persistence to the 3rd year, \( \phi = .41 \); persistence to the 4th year, \( \phi = .38 \); and graduation within 4 to 5 years, \( \phi = .31 \) (see Table 3). The effect sizes illustrated that the found differences were sizable across all findings.

**Discussion**

The overall success of the course illustrates the resourcefulness of administrators and advisors in difficult financial times and the need for interventions to help students on probation. Academic advisors taught this course despite the multitude of other responsibilities they carry because administrators believed that advisors are the most highly qualified to teach such a course. The curriculum engaged students socially and academically with the university, but because the curriculum alone would not likely engage students enough to achieve the desired outcome, it was delivered by instructors with extensive experience working with students on academic probation. The course yielded higher persistence rates, improved performance, and positive graduation numbers than shown by struggling students who did not take the course. Students were required to meet with a professor, their advisor, and visit student services resources and student organizations. While we could not account for external factors with regard to retention, academic advisors, as instructors for this course, most likely helped students develop the skills needed to persist and in many cases to graduate. The success course succeeded as an intervention tool designed to address retention issues.

We are encouraged to find a difference in every measure: persistence to 2nd, 3rd, and 4th years in addition to graduation within 4 to 5 years. While we did not establish a causal relationship between the independent and the dependent variables, the differences were consistent across time, thus inferring a successful intervention. The statistical significance of achieving good academic standing, persisting through college, and graduating in a timely manner within the cohort of students formerly on probation supports the call to continue the success course. Moreover, the effect sizes, which signify the strength of the difference between the course and the dependent variables, provide even greater justification to continue the course, as they account for more than just the significance of the differences but also illustrate large size differentials. While researchers in many disciplines categorize

the size of the found difference as medium, those conducting studies in educational research may consider the effect size stronger than is indicated by Cohen’s categorization (Valentine & Cooper, 2003). This study was quantitative and used to identify persistence and graduation outcomes as the goal of the course; however, we cannot know which pieces of the curriculum might have influenced the differences in persistence and graduation rates of the treatment group compared to the control group. However, the curriculum included elements postulated by Tinto (1975, 1993) and Astin (1984) to increase persistence in college. In addition to learning practical skills in college, students were taught to develop relationships with peers and faculty members, to find the balance of physical and psychological energy required to persist and succeed, and to get involved on campus outside of the classroom as well as find internal motivation and manage time.

Many public institutions face a conundrum between idealistic and realistic retention strategies. For example, they have little control over assessing a prospective student’s level of commitment or over external factors such as parental support and SES. In addition, the leadership at many public institutions is pressured by constituents, legislative officials, and social justice advocates to admit students who may not be academically prepared. Within such a complicated environment, a success course helps to address those factors that are, to some extent, within the control of the institution. The success course was intended to help the students develop time management skills and study skills as well as overcome weaknesses—all skills researchers showed to be required to succeed in college (Astin, 1984; Tinto, 1993). The course also helped students become knowledgeable about and use campus resources, get involved with campus organizations, and develop relationships with advisors and faculty—behaviors demonstrated to predict persistence (Astin, 1984; Milem & Berger, 1997; Tinto, 1975, 1993). While not specifically measured, student learning outcomes from this course, the skills defined in the literature as those that predict persistence, and the results of this research led us to speculate that the curriculum was successful and strongly related to the outcomes of this study. We also propose that the necessary attitudes and behaviors that researchers found to predict college success and persistence can be taught and learned. This research also demonstrates that academic advisors can and do make a difference in
an instructional capacity with regard to retention.

Past research has shown student attributes and relationships with campus resources as important components of student success. In a large university the onus is on the student to seek assistance and make contact, but many do not reach out for help (Hsieh et al., 2007). Students who avoid seeking support may benefit most when the institution proactively intervenes. Thus, a mandatory course reaches those students who normally would not seek help.

A college-specific course requires fewer resources than a success course to all incoming freshmen. During the years encompassed in this study, an average of 650 students matriculated as freshmen into the College of Science. Out of those, 18% were placed on academic probation. The university at the site of this study offered an elective success course for all freshmen. Only 45 students enrolled for the course in Fall 2005 out of an anticipated freshman class size of approximately 6,000 (data retrieved from the university information system). While other studies demonstrated that success courses help to improve persistence (Barefoot et al., 1998; Sidle & McReynolds, 2009), optional courses may result in low enrollments and self-selection biases such that attendees would have succeeded despite taking the course and those who did not need the course chose not to enroll in it. These findings indicate that preventive courses may not be effective for some populations.

The College of Science established an elective peer-mentor program for at-risk freshmen. Out of 110 freshmen recruited to work with a peer mentor, only 12 responded and none of them communicated with their mentors. The low enrollment in the elective success course along with the lack of participation in the elective peer-mentor program further supports the contention that elective preventive programs may be less effective than mandatory, reactionary programs. Part of the transition to college might need to be experienced through trial and error and offering courses during the second semester, particularly when students are in academic jeopardy, puts the success strategies in a better context for students. Also, in addition to the group dynamic, curriculum, and compassionate support from the instructors, the threat of dismissal might also influence student responsiveness to the instruction.

Limitations

Because the scope of this study was limited to one college at one university, result generaliz-
on academic probation, we encourage professional associations to call for papers and conference presentations from legal experts to address the interpretation of FERPA with regard to interventions for at-risk populations.

References


Austin, M., Cherney, E., Crowner, J., & Hill, A. (1989). *Some presentations from legal experts to address the interpretation of FERPA with regard to interventions for at-risk populations.*


We also thank the anonymous reviewer who voiced FERPA concerns.

Shelley M. McGrath is the Co-director of Degree Tracker Implementation and before that Director of Academic Advising and Student Services in the College of Science at the University of Arizona. She holds a PhD in higher education from the University of Arizona. Dr. McGrath serves on various committees related to student success and social justice, and received the College of Science Distinguished Advising Award in 2006. She has worked in student services for the past 9 years, and her research interests focus on undergraduate student retention and educational barriers of underrepresented students. She can be contacted at smcgrath@email.arizona.edu.

Gail D. Burd is a Distinguished Professor in molecular and cellular biology and the Vice Provost for Academic Affairs at the University of Arizona (UA) and before that was the Associate Dean in the College of Science at the UA. She holds a PhD in neurobiology from North Carolina at Chapel Hill and is recognized internationally as an expert on the development and neural plasticity in the vertebrate olfactory system. A fellow of the American Association for the Advancement of Science, she has served on numerous government panels for the National Institutes of Health and the National Science Foundation. She has received numerous awards for her undergraduate teaching, including several honors from the UA Mortar Board, the Director’s Award at Student Showcase, the Innovative Teaching Award from the UA College of Science, the Outstanding Student Organization Advisor Award from the Dean of Students and the Sarlo Family Foundation Outstanding Faculty Award. She was also awarded Distinguished Professor in 2003. Her e-mail is gburd@email.arizona.edu.

Authors’ Notes

We express sincerest thanks to the following people who contributed to the course and research: Dr. John Cheslock, associate professor of higher education; Cecilia Rios-Aguilar, assistant professor of Higher Education; Rebecca Mitchell, senior academic advisor, for designing the curriculum and teaching the course; the instructors, Barbara Collins, Rachel Hughes, Brian Smith, Kathy Godwin, Jennifer Cubeta, Christina Dentel, and Dr. Tom Fleming; Dr. Guillermo Uribe, Assistant Director, Retention Program Evaluation, Dr. Rick Kroc, Director, Office of Institutional Research and Planning Support, Dr. Joaquin Ruiz, College of Science Dean; and the students who participated in the class, who made a conscious decision to succeed, and were a pleasure to work with.