Research Reports

Institutional Assessment
Boise State University

Who Leaves After Only One Semester? Predicting Spring Semester Enrollment for Fall 2003 First-Time-In-College Students

Research Report 2004-05
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Abstract

This study sought to determine which factors were related to the likelihood of new students' return in the spring semester after enrolling for the first time in the fall. The data were obtained through the university's information system and from a questionnaire that new students were asked to answer during their first semester. University information covered a variety of areas including academic preparation, academic success at the end of the first semester, courses taken, size of classes, whether courses were taught by full-time faculty or adjuncts, whether students lived and/or worked on campus, financial aid received, and a variety of demographics. The questionnaire asked a variety of attitudinal and satisfaction questions about students' first semester experiences. It also asked for a variety of information about students' health and study habits and sought to determine how academically and socially integrated students were.

When each variable was tested for a statistically significant relationship with returning in the spring, a large number of variables were significant. From the survey, we learned that students who were more satisfied with their initial experiences at Boise State were more likely to return and, of course, those who say they're planning on returning are indeed more likely to return. A Waypower subscale from Snyder's Hope Scale (2002) was also statistically significant for all students, indicating that students with greater belief in their capacity to generate routes to reach goals are more likely to re-enroll in college. In addition, we found from the survey that students who work more hours and/or who feel they lack sufficient time to accomplish their tasks are less likely to return.

Students who received more financial aid of almost any kind were more likely to return. Course enrollment was also a factor and included which courses students took, whether full-time or adjunct faculty taught them, and how large the class was. The number of courses students took, their first semester GPA, and their admissions index score were also significant variables.

The campus itself was also a factor. Students, especially women, who felt safe on campus were more likely to return. Also, students who lived and/or worked on campus returned more frequently.

Demographic information also played a significant role. Women were more likely to return than were men. Out-of-state students were more likely to return compared to in-state students. Younger students were also more likely to return. From the survey, we learned that students who plan to obtain a degree from Boise State were more likely to return even though the university's information system indicated that all students in the survey had indicated that they were degree-seeking.

It is also interesting to consider which variables were not significant when we expected them to be. Perhaps foremost was the notion that students who are socially integrated into the campus or at least had social support close by would be more likely to continue. However, not a single item was significant. Neither study habits nor health habits were significant. Finally, the course designed to introduce students to campus life, UNIV 101, was not statistically significant in predicting spring enrollment, though prior research indicated that it helped students become more aware of campus services (see RR 2004-04).

Generally, the same set of variables was significant and carried forward to the regression analysis whether we were looking at all new freshmen or only freshmen who were carrying a full-time load. However, the results for the two groups diverged in selecting the best set of variables both when looking only at the information available in our information system and also when information from the survey was added.

For all students, GPA at the end of fall, amount of financial aid received, Promise scholarship monies, age, the number of courses taken, and whether they were enrolled in ENGL 102 or MATH 25 were the best set of predictors from the university's information system. The course enrollments were particularly interesting, especially since enrollment in MATH 25 increased the odds of returning while enrollment in ENGL 102 decreased it. When the survey questions were added for all students, amount of financial aid remained as a predictor, but the other variables were replaced by survey items measuring intention to get a degree from Boise State, class attendance, and whether they felt safe on campus.

For full-time students, system information on whether they enrolled in ENGL 101, THEA 101, and had all adjunct instructors provided good predictive information. While enrolling in ENGL 101 increased the likelihood of returning, taking THEA 101 or having all adjunct instructors decreased the likelihood of returning in the spring. In addition, cumulative GPA and the total amount of financial aid awarded also were included just as they were for the analysis on all students. When the survey information was added, enrollment in ENGL 101 and total financial aid received remained in the analysis. The other variables were replaced by survey information on whether the student planned to return to Boise State next year, and whether they attended class and read their textbooks. Surprisingly, class attendance increased the chances of returning while reading their textbooks decreased it. Perhaps some students—particularly those with large time constraints--thought they could skip classes and read the textbooks instead. If so, in terms of returning, this does not appear to be a viable approach.

These results clearly indicate that financial aid plays a critical role in early retention and that loss of the amount of financial aid awarded is likely to have implications for retention. In addition, retention could possibly be improved if class attendance of new freshman were monitored and students were contacted shortly after they stopped attending. Perhaps full-time students should be encouraged to enroll in ENGL 101 their first semester since this course is associated with continued enrollment.

It is difficult to know why some students feel unsafe on campus and what to do about it. Perhaps some interviews with students might help to clarify this issue and illuminate steps that could be taken to improve perceived safety.

This study only looks at re-enrollment in the spring semester and will need to be repeated after we know which freshmen returned in the fall. It is likely that different results will be found at that time. It is easy to imagine that students who leave after one semester differ in some significant ways from students who make it through both fall and spring semesters, only to drop out when fall comes around again. Prior studies looking at fall-to-fall retention (e.g., Belcheir, 1997a) have typically found that GPA was a highly significant factor. It is likely that a number of students had low GPAs for the fall but still decided to go in the spring with the expectation of doing better. Many will not, however, and will be gone when fall returns.

Who Leaves After Only One Semester?
Predicting Spring Semester Enrollment for Fall 2003
First-Time-In-College Students

The retention and graduation of students are at the heart of Boise State University's mission. Though recognizing that some enrollees are attending Boise State to meet short-term goals such as job skills development or personal enrichment, it is assumed that most students desire to receive a degree, especially if they enroll as degree-seeking students. Thus, most students measure their success in terms of advancement toward degree attainment. The university also includes retention and graduation rates as one of its measures of effectiveness.

Focusing on retention and graduation is not new. Boise State's strategic planning goals, for example, include increasing the number of students enrolling after the first semester at Boise State University and the number of undergraduates who graduate. A key to improving retention and graduation rates, however, lies in understanding the type(s) of students who attend Boise State. Studies indicate that student characteristics affect retention and graduation rates more than institutional characteristics (Belcheir, 1997a; Enrollment Management Committee, 2004). Boise State's one-year retention rate for new freshmen has transitioned from approximately 53% in the mid-90's to the current rate of 61% (Enrollment Management Committee, 2004). These rates compare nationally to other commuter colleges. In Idaho, Boise State's retention rates are similar to Lewis-Clark (59%) and Idaho State University (64%). However, like traditional residential campuses, the University of Idaho has a retention rate of closer to 80% (Enrollment Management Committee, 2004).

This study, like most, generally adhered to the model Vincent Tinto (1987) outlined in his book *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Besides developing a model based on both academic and social integration of the student with the institution, Tinto advised each institution to focus on the motives and environment within. Research (Belcheir, 1997a; Belcheir 1997b; Calliotte & Pickering, 2002; Levine, 1998) corroborates Tinto's postulation that each institution is unique in its population and environment.

The research literature on predicting student retention is extensive and includes journals and books devoted solely to the topic of retention. In addition, a variety of studies have been conducted locally to better identify the unique set of factors for our students and our institution (Belcheir, 1997a; Belcheir, 1997b; Belcheir, Michener & Gray, 1998; Belcheir, 1999; Belcheir, 2001; Belcheir, 2004). However, both local and nationally published research has almost universally been focused on one-year (fall-to-fall) retention of first-time-in-college students since the greatest attrition occurs over the summer. It is likely that students who enroll for only one semester before leaving are substantially different from those who complete an academic year before withdrawing.

Purpose of the Study

For this study, we were interested in predicting who would return for the spring semester after enrolling in college for the first time in the fall. It was hypothesized that a variety of factors

affected the decision to continue. These included academic preparation, motivation, study skills, competing goals (e.g., work and family), finances, and social and academic integration on campus.

Methodology

The Participants

A total of 1,777 students were identified by the Registrar's office as first-time-in-college degree-seeking students in the fall of 2003. The list was also limited to students enrolled in academic-degree programs, so students enrolled in the College of Applied Technology programs were excluded from this study. A total of 1,480 or 83% re-enrolled for the spring 2004 semester.

During the fall semester, every freshman was asked to complete a survey regarding their first semester experiences. A total of 845 surveys were received. However, this was reduced to 805 surveys since 40 students did not supply their student IDs, allowing us to neither match them to university data nor track their continued enrollment. After deletion of 171 duplicate surveys, 634 unique surveys remained. The final response rate for the survey was 37%.

Age, gender, and ethnicity were checked to see if these characteristics were similar for responders and non-responders. Only gender was statistically significant. While 44% of the freshman class was male, on the survey only 34% were male (χ^2=42.95, df=1, p<.0001). The average age for the freshman class was 22. While 77% identified themselves as Caucasian and 7% as Hispanic, 9% of the group did not provide any ethnic designation. For extensive information on the characteristics of the freshman class, see Research Report 2004-04.

The Data Gathering

Prior to the arrival of the fall term, the Enrollment Management Committee, along with other groups and individuals, was asked to identify any factors that they felt related to student retention and areas where they felt further research was warranted. Students enrolled in Psychological Measurement (PSYC 421) took this information, conducted a literature review and developed a web-based survey to be sent to all new freshmen at their Boise State e-mail address. The survey consisted of 74 questions mainly scored dichotomously or on a 5-point Likert scale.

Eleven items from the Hope Scale (Pattengale, 2002; Pattengale, 2004; Synder, 2002) were also included. Four of the items were summed to obtain a measure of Willpower or Agency, defined as the will or motivation to pursue goals. These included items such as "I energetically pursue my goals" and "I meet the goals that I set for myself. Four other items were summed to obtain a measure of Waypower or Pathways. These included items such as "I can think of many ways to get out of a jam" and "There are lots of ways around any problem." The remaining three items were included as distractors. All items were measured on an 8-point scale.

A variety of additional information was obtained through the student database. Besides basic demographics, information was gathered on all courses which had an enrollment of at least 100 freshmen including who taught the courses (full-time faculty or adjunct) and the size of the class.

Additional information was collected on the type and amount of financial aid students needed and received and who was living and/or working on campus.

The Analysis

In order to predict spring re-enrollment (a binary event), logistic regression was used. As recommended by Hosmer and Lemeshow (1989), the relationship between each variable and re-enrollment was first tested using either Chi-square or t-tests. Those where p<=.25 were retained and placed into a stepwise regression model where the variables needed to be p=.05 to enter and p=.10 to be removed. The variables selected were then re-run and retained for a final model if *p* = .05 or smaller. Variables were first selected separately from the university data to provide the best model if a survey was not used. All variables which met the p<=.25 criterion were then combined into a final model. Separate analyses were conducted for all students and for full-time students (i.e., those registered for 12 or more credits). Several financial aid variables had collinearity problems, so the model which produced the lowest AIC while allowing for a direct expression of the relationships was chosen.

Results

Analysis for all first-time-in-college students

As a first step, the relationship between each variable and returning in the spring semester was tested for statistical significance. A total of 14 survey variables and 18 variables from the student information (PeopleSoft) system were statistically significant at the .05 level or smaller (see Table 1).

First, simply completing the survey was related to an increased probability of returning in the spring. On the survey itself, students were more likely to return who also:

- Were more likely to say they'd select Boise State again
- Were planning to obtain a degree from Boise State
- Said they planned to stay at Boise State next year
- Expected their GPA to be 2.0 or better at the end of the semester
- Attended class more frequently
- Planned to return to Boise State
- Felt more strongly that their first semester experience had fulfilled or exceeded their expectations
- Had increased their commitment to obtaining a degree
- Better understood the requirements for their major
- Had higher Waypower scores (ways to reach their goals)
- Felt safer on campus
- Worked fewer hours
- Felt they had more time to accomplish their tasks

On the student information side, the variables that were statistically significant covered everything from demographics to which courses students enrolled in and who taught them to

financial aid. Students who returned in the spring tended to be younger, female, and to have higher admissions index scores. They were likely to come from out of state, live in the dorms and work on campus. Not surprisingly, they had higher GPAs at the end of the fall semester.

Students who returned had more financial need and received more aid. The aid could be federal grants and/or loans, benefits (e.g., veterans), or scholarships. Still, it was surprising to see that students who returned had more unmet financial need, even after financial aid was awarded.

Returning students took more courses and credits than non-returning students. Students who enrolled in ENGL 101, PSYC 101, COMM 101, ENGL 90 or SOC 101 were more likely to return, while students enrolled in ENGL 102 were less likely to return. If all their classes were over 50 students, they were less likely to return. The same was true for enrolling entirely in core courses. Students who were taught exclusively by either full-time faculty or adjuncts were less likely to return in the spring.

These variables and others with a significance level of .25 or smaller were carried forward to the step-wise regression (see Table 2). Using only data available through the university's information system, the best regression equation to predict spring enrollment included: cumulative GPA at the end of fall, total amount of financial aid received, amount of monies received through the Promise Scholarship program, the number of courses students registered for, their age, and enrollment in ENGL 102 and MATH 25 (see Table 3 for details.). Students were more likely to return who had higher GPAs, received more aid including Promise Scholarship monies, took more courses, and enrolled in the developmental math course, MATH 25. A decreased likelihood of returning was associated with enrollment in ENGL 102 and being older.

When variables from the survey were added, total amount aid remained in the model, and three were added from the survey: intent to get a degree from Boise State (despite the fact that all were registered as degree-seeking students), frequency of class attendance, and feeling safe on campus. A closer look at Table 4 indicates that students who said they intended to get a degree from Boise State were more than four times as likely to re-enroll in the spring. Not surprisingly, each one-point increase in class attendance (on a four-point scale) increased the odds of returning 3.7 times.

Amount of financial aid awarded also was quite significant. For each $1000 increase in awarded financial aid, the likelihood of re-enrolling increased by 36%. It was rather surprising to see safety as a variable which predicted continued enrollment in the spring. Each one-point increase in feeling safe (on a five-point scale) resulted in the student being almost twice as likely to return. Follow-up revealed that 72% of females agreed they felt safe on campus while 88% of males felt safe, a statistically significant difference.

Results for Full-time Students

Fewer variables had statistically significant relationships with spring retention when the group was limited to only students who took 12 or more credits. This is probably due to the fact that they are a more homogeneous group compared to all new students. A total of 9 survey variables and 18 student information system variables reached a significance level of at least $p \leq .05$. See Table 5.

Again, simply completing the survey was related to increased retention to the spring. In addition, survey results revealed that students were more likely to return who:

- Planned to get a degree at Boise State
- Planned to return next year
- Attended class more frequently
- Had their expectations about college fulfilled (or even exceeded)
- Felt safe on campus
- Worked fewer hours
- Had more time to accomplish their tasks

Though fewer in number compared to the analysis of all students, demographic, financial, and course related variables all had significant relationships with retention. Though sex was no longer statistically significant, results showed that ethnicity (white non-Hispanic vs. not) increased chances of returning. Living on campus, coming from out-of-state, having a higher admission index score, and taking more courses and credits again related to retention. All of the financial aid variables except amount of unmet need continued to be significant.

The course-related variables showed the greatest changes. While enrolling ENGL 101 still related to increased retention and enrollment in ENGL 102 to decreased retention, other courses were not longer significant. Instead, MUS 100 was added as a course which decreased the probability of returning. No significant differences were found based on who taught the course, size of the course, or whether or not the course was part of the general education core.

Again, these and other variables with a significance level of .25 or less were carried forward into the stepwise regression analysis (see Table 6 for a listing). Using only data available through the university's information system, we found that enrolling in ENGL 101, having a higher fall term GPA, and amount of financial aid received increased the likelihood of returning in the spring. Enrolling in THEA 101 and having all part-time instructors decreased the likelihood of returning. Table 7 provides details.

When information from the freshman survey was added to the regression, the amount of financial aid received and enrollment in ENGL 101 remained as significant predictors of returning. Survey information on plans to return, class attendance, and reading assigned textbooks completed the final regression equation. Information from Table 8 shows that full-time students who enrolled in ENGL 101 were approximately six times more likely to return in the spring. Similarly, with each one-point increase in class attendance (on a four-point scale), students were approximately six times more likely to return. The total amount of aid that

students received also corresponded to increased likelihood of returning with each $1000 increase in aid resulting in a 32% increase in likelihood of returning. It was puzzling to see that students who read their textbooks most frequently were also the ones least likely to return. Perhaps this typifies students who are attempting to substitute reading the texts for attending class, without much success. We can only speculate.

Discussion

This study sought to determine which factors were related to the likelihood of new students' return in the spring semester after enrolling for the first time in the fall. The data were obtained through the university's information system and from a questionnaire that new students were asked to answer during their first semester. University information covered a variety of areas including academic preparation, academic success at the end of the first semester, courses taken, size of classes, whether courses were taught by full-time faculty or adjuncts, whether students lived and/or worked on campus, financial aid received, and a variety of demographics. The questionnaire asked a variety of attitudinal and satisfaction questions about students' first semester experiences. It also asked for a variety of information about students' health and study habits and sought to determine how academically and socially integrated students were.

When each variable was tested for a statistically significant relationship with returning in the spring, a large number of variables were significant. From the survey, we learned that students who were more satisfied with their initial experiences at Boise State were more likely to return and, of course, those who say they're planning on returning are indeed more likely to return. A Waypower subscale from Snyder's Hope Scale (2002) was also statistically significant for all students, indicating that students with greater belief in their capacity to generate routes to reach goals are more likely to re-enroll in college. In addition, we found from the survey that students who work more hours and/or who feel they lack sufficient time to accomplish their tasks are less likely to return.

Financial aid was also a large factor with students who received more aid being more likely to return. The amount of financial need that students had when applying for aid along with the amount of need that still remained after aid was awarded were also highly significant factors. However, the need variables were removed from the model because the amount of need, amount of aid, and amount of unmet need after aid was awarded were all so closely related that interpretation was difficult, and total amount of aid produced the best prediction of the three variables. Having a Promise scholarship also helped students to return.

Course enrollment was also a factor and included which courses students took, whether full-time or adjunct faculty taught them, and how large the class was. In particular, students who enrolled in ENGL 101, PSYC 101, COMM 101 and ENGL 90 were more likely to return while students enrolled in ENGL 102 were less likely to return. The number of courses students took, their first semester GPA, and their admissions index score were also significant variables.

The campus itself was also a factor. Students, especially women, who felt safe on campus were more likely to return. Also, students who lived and/or worked on campus returned more frequently.

Demographic information also played a significant role. Men were less likely to return than women. Out-of-state students were more likely to return compared to in-state students. Younger students were also more likely to return. From the survey, we learned that students who plan to obtain a degree from Boise State were more likely to return even though the university's information system indicated that all students were degree-seeking.

It is also interesting to consider which variables were not significant when we expected them to be. Perhaps foremost was the notion that students who are socially integrated into the campus or at least had social support close by would be more likely to continue. However, not a single item was significant. Neither study habits nor health habits were significant. Finally, the course designed to introduce students to campus life, UNIV 101, was not statistically significant in predicting spring enrollment, though prior research indicated that it helped students become more aware of campus services (see RR 2004-04).

Generally, the same set of variables was significant and carried forward to the regression analysis whether we were looking at all new freshmen or only freshmen who were carrying a full-time load. However, the results for the two groups diverged in selecting the best set of variables both when looking only at the information available in our information system and also when information from the survey was added.

For all students, GPA at the end of fall, amount of financial aid received, Promise scholarship monies, age, the number of courses taken, and whether they were enrolled in ENGL 102 or MATH 25 were the best set of predictors from the university's information system. The course enrollments were particularly interesting, especially since enrollment in MATH 25 increased the odds of returning while enrollment in ENGL 102 decreased it. While we cannot be sure what lies behind these findings, we can speculate. ENGL 102 focuses on writing research papers, while ENGL 101 introduces students to the writing process. Perhaps students who enrolled directly in ENGL 102 without taking ENGL 101 found it rather overwhelming. By contrast, students who enrolled in MATH 25 (Elementary Algebra) were "beginning at the beginning" and perhaps either did not find it too difficult or expected to struggle with the subject matter. When the survey questions were added for all students, amount of financial aid remained as a predictor, but the other variables were replaced by survey items measuring intention to get a degree from Boise State, class attendance, and whether they felt safe on campus.

For full-time students, system information on whether they enrolled in ENGL 101, THEA 101, and had all adjunct instructors provided good predictive information. While enrolling in ENGL 101 increased the likelihood of returning, taking THEA 101 or having all adjunct instructors decreased the likelihood of returning in the spring. In addition, cumulative GPA and the total amount of financial aid awarded also were included just as they were for the analysis on all students. When the survey information was added, enrollment in ENGL 101 and total financial aid received remained in the analysis. The other variables were replaced by survey information on whether the student planned to return to Boise State next year, and whether they attended class and read their textbooks. Surprisingly, class attendance increased the chances of returning while reading their textbooks decreased it. Perhaps some students—particularly those with large

time constraints--thought they could skip classes and read the textbooks instead. If so, in terms of returning, this does not appear to be a viable approach.

These results clearly indicate that financial aid plays a critical role in early retention and that loss of the amount of financial aid awarded is likely to have implications for retention. In addition, retention could possibly be improved if class attendance of new freshman were monitored and students were contacted shortly after they stopped attending. Other institutions have had some success with this approach (e.g., Anderson, 2004). Perhaps full-time students should be encouraged to enroll in ENGL 101 their first semester since this course is associated with continued enrollment.

It is difficult to know why some students feel unsafe on campus and what to do about it. Perhaps some interviews with students might help to clarify this issue and illuminate steps that could be taken to improve perceived safety.

This study only looks at re-enrollment in the spring semester and will need to be repeated after we know which freshmen returned in the fall. It is likely that different results will be found at that time. It is easy to imagine that students who leave after one semester differ in some significant ways from students who make it through both fall and spring semesters, only to drop out when fall comes around again. Prior studies looking at fall-to-fall retention (e.g., Belcheir, 1997) have typically found that GPA was a highly significant factor. It is likely that a number of students had low GPAs for the fall but still decided to go in the spring with the expectation of doing better. Many will not, however, and will be gone when fall returns.

Table 1. Simple Relationships between Spring Return and Statistically Significant Variables (based on all students)

Variable	Relationship
SURVEY VARIABLES	
Took Survey (SURVEY)***	Students who took the survey were more likely to return in the spring (97% VS. 76%)
Overall, how likely would you be to select this College/University again based on your first year experience? (Q04)**	Students who were more likely to select Boise State again were also more likely to return in the spring (98% vs. 88%)
Plan to get a degree at Boise State (DEGREE)**	Students who were planning to get a degree were more likely to return in the spring (97% vs. 86%)
How likely are you to stay at Boise State next year? (Q47)***	Students who said they were more likely to stay at Boise State next year were also more likely to return in the spring (98% vs. 75%)
Projected GPA is 2.0 or better (GPAOK)*	Students who thought their GPA would be 2.0 or better were more likely to return (98% vs. 93%)
I attend class (Q63)***	The more often that students reported attending class, the more likely they were to return (99% vs. 93%)
Are you planning to return to Boise State (Q70)***	Students who planned to return to Boise State were more likely to return (98% vs. 82%)
To what extent has your first year experience fulfilled your expectations? (Q03)*	Students who returned felt more strongly that college had fulfilled their expectations (mean of 3.1 VS. 2.8)
My commitment to completing my degree has increased since starting school (Q09)*	Students who returned felt more strongly that their commitment to completing a degree had increased (mean of 3.7 vs. 3.3)
I understand the requirements for the major I am considering (Q10)*	Students who returned better understood the requirements for their major (mean of 3.7 vs. 3.3)
Waypower (Hope Scale)**	Students who returned had higher Waypower scores (mean of 24.8 vs. 21.9)
I feel safe on campus (Q29)**	Students who returned felt safer on campus (mean of 4.0 vs. 3.4)
How many hours do you work per week (Q40)*	Students who returned worked fewer hours (mean of 3.0 vs. 3.8)
I find I have enough time in the day to accomplish my tasks (Q41)*	Students who returned felt they had more time to accomplish tasks (mean of 3.0 vs. 2.5)
PEOPLESOFT VARIABLES	
Student enrolled in ENGL101***	Enrollees were more likely to return (91% vs. 78%)
Student enrolled in PSYC101***	Enrollees were more likely to return (90% vs. 83%)
Student enrolled in COMM101*	Enrollees were more likely to return (89% vs. 85%)
Student enrolled in ENGL90*	Enrollees were more likely to return (90% vs. 85%)
Student enrolled in ENGL102**	Enrollees were less likely to return (77% vs. 86%)
Student enrolled in SOC101**	Enrollees were more likely to return (94% vs. 85%)
All classes had enrollments of 50 or more (ALL_LARGE)***	Students who were exclusively enrolled in large classes were less likely to return (52% vs. 84%)
Student lived on-campus (ONCAMPUS)***	Students who lived on campus were more likely to return (95% vs. 80%)
Sex (MALE)*	Males were less likely to return (81% vs. 85%)
Permanent address is Idaho (INSTATE)**	Students who lived in-state were less likely to return (82% vs. 91%)
Has job on campus (CAMPUS_WORK)***	Students with jobs on campus were more likely to return (96% vs. 83%)
Full-time faculty taught all courses (ALL_FT)**	Students taught exclusively by FT faculty were less likely to return (67% vs. 84%)
Part-time faculty taught all courses (ALL_PT)**	Students taught exclusively by PT faculty were less likely to return (79% vs. 85%)
Student enrolled only in core classes (ALLCORE)**	Students enrolled solely in core classes were less likely to return (79% vs. 85%)
Amount of unmet need after financial aid awarded (SUM_OF_UNMET_NEED)*	Students who returned had more unmet need (mean of $3923 vs. $3222)

Variable	Relationship
Amount of financial aid needed (SUM_OF_NEED)***	Students who returned had more need (mean of $10,365 vs. $4353)
Amount of financial aid that consisted of benefits (e.g., veteran, voc rehab, etc) (B)**	Students who returned received more benefits (mean of $184 vs. $10)
Amount of financial aid that consisted of grant (G)***	Students who returned received more grant funds (mean of $1036 vs. $298)
Amount of financial aid that consisted of federal loans (L)***	Students who returned received more federal loans (mean of $1889 vs. $475)
Amount of financial aid that consisted of Promise Scholarship monies (P)***	Students who returned received more Promise scholarship monies (mean of $261 vs. $167)
Amount of financial aid that consisted of other scholarship monies (S)***	Students who returned received more scholarship dollars (mean of $272 vs. $59)
Total amount of financial aid awarded (TOTALAID)***	Students who returned received more financial aid ($4782 vs. $1157)
Number of courses taken (NCOURSES)***	Students who returned took more courses (4.5 vs. 3.7)
Cumulative GPA at the end of Fall 2003 (CUM_GPA)***	Students who returned had higher GPAs (2.41 vs. 0.99)
Number of credits student enrolled for (UNT_TAKEN_PRGRSS)***	Students who returned took more credits (12.7 vs. 10.2)
Age (AGE)***	Students who returned were younger (21.8 vs. 23.1)
Admissions Index score (SCORE)***	Students who returned had higher scores (48.1 vs. 41.1)

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 2. Variables carried forward to the logistic regression for all enrolled students

Variables from the Survey	Variables from PeopleSoft
Student completed survey (SURVEY)	Student enrolled in ENGL101
Overall, how likely would you be to select this College/University again based on your first year experience? (Q04)	Student enrolled in PSYC101
Plan to get a degree at Boise State (DEGREE)	Student enrolled in COMM101
I contribute to class discussions (Q11)	Student enrolled in MATH108
Marital status is single (SINGLE)	Student enrolled in MATH25
Marital status is married (MARRIED)	Student enrolled in BIOL227
How likely are you to stay at Boise State next year? (Q47)	Student enrolled in ART100
Do you feel a part of campus life at Boise State? (Q53)	Student enrolled in ENGL90
I have met with an academic advisor (Q60)	Student enrolled in ENGL102
I can estimate my GPA at the end of the semester vs. I have no idea (KNOWGPA)	Student enrolled in UNIV101
Projected GPA is 2.0 or better (GPAOK)	Student enrolled in SOC101
I attend class (Q63)	All classes had enrollments of 50 or more (ALL_LARGE)
I take notes in class (Q67)	Student lived on-campus (ONCAMPUS)
My notes help me study (Q68)	Sex (MALE)
Are you planning to return to Boise State (Q70)	Caucasian (WHITE)
Attending Boise State for athletics (Q08M001)	Hispanic background (HISPANIC)
Attending Boise State for social atmosphere (Q08M003)	Permanent address is Idaho (INSTATE)
Attending Boise State for outdoor recreation (Q08M004)	Has job on campus (CAMPUS_WORK)
Attending Boise State for convenience (Q08M005)	Full-time faculty taught all courses (ALL_FT)
To what extent has your first year experience fulfilled your expectations? (Q03)	Part-time faculty taught all courses (ALL_PT)
My commitment to completing my degree has increased since starting school (Q09)	Student enrolled only in core classes (ALLCORE)
I understand the requirements for the major I am considering (Q10)	Amount of unmet need after financial aid awarded (SUM_OF_UNMET_NEED)
Willpower (Hope Scale)	Amount of financial aid needed (SUM_OF_NEED)
Waypower (Hope Scale)	Amount of financial aid that consisted of benefits (e.g., veteran, voc rehab, etc) (B)
I am easily downed in an argument (Q18)	Amount of financial aid that consisted of grant (G)
I worry about my health (Q20)	Amount of financial aid that consisted of loans (L)
I usually find myself worrying about something (Q24)	Amount of financial aid that consisted of Promise scholarship monies (P)
I feel safe on campus (Q29)	Amount of financial aid that consisted of other scholarship monies (S)
The quality of financial aid services is… (Q31)	Total amount of financial aid awarded (TOTALAID)
On average, how many hours of sleep do you get each night? (Q39)	Number of courses taken (NCOURSES)
How many hours do you work per week (Q40)	Cumulative GPA at the end of Fall 2003 (CUM_GPA)
I find I have enough time in the day to accomplish my tasks (Q41)	Number of credits student enrolled for (UNT_TAKEN_PRGRSS)
How many alcoholic drinks do you typically consume per day when you drink (Q43)	Age (AGE)
If you use controlled substances, how many time per week do you use them (Q45)	Admissions Index score (SCORE)
I feel as though I am treated like a number by the administrative staff (Q57)	
How many hours per week do you spend on campus outside of classes? (Q14N)	

Table 3. Logistic Regression Based Solely on Data Available Through PeopleSoft for all enrolled students (N=1708)

Parameter	Estimate	Std Error	Wald χ^2	Prob	Odds Ratio
Intercept	-1.0681	0.5504	3.7662	0.0523	
Cum GPA	0.8370	0.0712	138.1418	<.0001	2.310
Total Aid	0.000350	0.000041	72.3165	<.0001	1.420[1]
Ncourses	0.3160	0.0644	24.0448	<.0001	1.372
ENGL102	-1.0672	0.2858	13.9399	0.0002	0.344[2]
Age	-0.0434	0.0183	5.6294	0.0177	0.958[3]
Promise scholarship	0.000837	0.000393	4.5289	0.0333	1.233[4]
MATH25	0.5292	0.2557	4.2832	0.0385	1.698

Table 4. Logistic Regression Equation for All Students Who Answered the Survey (N=595)

Parameter	Estimate	Std Error	Wald χ^2	Prob	Odds Ratio
Intercept	-5.8809	1.6644	12.4850	0.0004	
Degree	1.4574	0.7459	3.8171	0.0507	4.295
Class attendance (Q63)	1.3178	0.3691	12.7481	0.0004	3.735
Feel safe on campus (Q29)	0.6851	0.2402	8.1370	0.0043	1.984
Total Aid Awarded	0.000241	0.000090	7.1759	0.0074	1.272[5]

[1] Based on each $1000 increase in aid
[2] When inverted, the odds ratio becomes 2.91 indicating that students who do *not* enroll in ENGL 102 are 2.91 times more likely to return
[3] When inverted, the odds ratio becomes 1.04 indicating that for each year that age *decreases*, students are 4% more likely to return
[4] Based on each $250 increase in Promise scholarship monies (students either had a scholarship of $250 or $500)
[5] Based on each $1000 increase in aid

Table 5. Simple Relationships between Spring Return and Statistically Significant Variables (based on Fall 2003 full-time students only)

Variable	Relationship
SURVEY VARIABLES	
Took Survey (SURVEY)***	Students who took the survey were more likely to return in the spring (97% vs. 86%)
Plan to get a degree at Boise State (DEGREE)*	Students who were planning to get a degree were more likely to return in the spring (98% vs. 89%)
How likely are you to stay at Boise State next year? (Q47)***	Students who said they were more likely to stay at Boise State next year were also more likely to return in the spring (99% vs. 94%)
I attend class (Q63)***	The more often that students reported attending class, the more likely they were to return (99% vs. 94%)
Are you planning to return to Boise State (Q70)***	Students who planned to return to Boise State were more likely to return (98% vs. 82%)
To what extent has your first year experience fulfilled your expectations? (Q03)*	Students who returned felt more strongly that college had fulfilled their expectations (mean of 3.1 vs. 2.7)
I feel safe on campus (Q29)*	Students who returned felt safer on campus (mean of 4.0 vs. 3.6)
How many hours do you work per week (Q40)*	Students who returned worked fewer hours (mean of 2.8 vs. 3.6)
I find I have enough time in the day to accomplish my tasks (Q41)*	Students who returned felt they had more time to accomplish tasks (mean of 3.1 vs. 2.5)
PEOPLESOFT VARIABLES	
Student enrolled in ENGL101***	Enrollees were more likely to return (93% vs. 85%)
Student enrolled in MUS100*	Enrollees were less likely to return (85% vs. 91%)
Student enrolled in ENGL102**	Enrollees were less likely to return (82% vs. 91%)
All classes had enrollments of 50 or more (ALL_LARGE)**	Students who were exclusively enrolled in large classes were less likely to return (57% vs. 91%)
Student lived on-campus (ONCAMPUS)***	Students who lived on campus were more likely to return (96% vs. 89%)
Student was white non-Hispanic (WHITE)*	Students who were white non-Hispanic were more likely to return (91% vs. 87%)
Permanent address is Idaho (INSTATE)*	Students who lived in-state were less likely to return (90% vs. 95%)
Amount of financial aid needed (SUM_OF_NEED)***	Students who returned had more need (mean of $11,122 vs. $5557)
Amount of financial aid that consisted of benefits (e.g., veteran, voc rehab, etc) (B)*	Students who returned received more benefits (mean of $207 vs. $18)
Amount of financial aid that consisted of grant (G)***	Students who returned received more grant funds (mean of $1176 vs. $472)
Amount of financial aid that consisted of federal loans (L)***	Students who returned received more federal loans (mean of $1897 vs. $625)
Amount of financial aid that consisted by Promise scholarship monies (P)**	Students who returned received more Promise scholarship monies (mean of $283 vs. $217)
Amount of financial aid that consisted of scholarship monies (S)**	Students who returned received more scholarship dollars (mean of $329 vs. $102)
Total amount of financial aid awarded (TOTALAID)***	Students who returned received more financial aid (mean of $5226 vs. $1658)
Number of courses taken (NCOURSES)***	Students who returned took more courses (4.9 vs. 4.5)
Cumulative GPA at the end of Fall 2003 (CUM_GPA)***	Students who returned had higher GPAs (2.44 vs. 1.09)
Number of credits student enrolled for (UNT_TAKEN_PRGRSS)**	Students who returned took more credits (13.8 vs. 13.2)
Admissions Index score (SCORE)***	Students who returned had higher scores (49.0 vs. 42.5)

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 6. Variables carried forward to the logistic regression for full-time students only

Variables from the Survey	Variables from PeopleSoft
Student completed survey (SURVEY)	Student enrolled in ENGL101
Overall, how likely would you be to select this College/University again based on your first year experience? (Q04)	Student enrolled in PSYC101
Plan to get a degree at Boise State (DEGREE)	Student enrolled in MUS100
Marital status is married (MARRIED)	Student enrolled in THEA101
How likely are you to stay at Boise State next year? (Q47)	Student enrolled in MATH25
I have met with an academic advisor (Q60)	Student enrolled in ENGL102
I can project my GPA for end of semester vs. I have no idea what my GPA will be (KNOWGPA)	Student enrolled in SOC101
Projected GPA is 2.0 or better (GPAOK)	All classes had enrollments of 50 or more (ALL_LARGE)
I attend class (Q63)	Student lived on-campus (ONCAMPUS)
I read my textbooks (Q66)	Sex (MALE)
My notes help me study (Q68)	Caucasian (WHITE)
Are you planning to return to Boise State (Q70)	Permanent address is Idaho (INSTATE)
Attending Boise State for social atmosphere (Q08M003)	Has job on campus (CAMPUS_WORK)
Attending Boise State for convenience (Q08M005)	Faculty were part-time for all courses enrolled in (ALL_PT)
To what extent has your first year experience fulfilled your expectations? (Q03)	Amount of financial aid needed (SUM_OF_NEED)
My commitment to completing my degree has increased since starting school (Q09)	Amount of financial aid that consisted of benefits (e.g., veteran, voc rehab, etc) (B)
I understand the requirements for the major I am considering (Q10)	Amount of financial aid that consisted of grant (G)
I am easily downed in an argument (Q18)	Amount of financial aid that consisted of loans (L)
I usually find myself worrying about something (Q24)	Amount of financial aid that consisted of Promise scholarship monies (P)
I feel safe on campus (Q29)	Amount of financial aid that consisted of other scholarship monies (S)
I am aware of services offered to me by Boise State (Q30)	Total amount of financial aid awarded (TOTALAID)
The quality of financial aid services is… (Q31)	Number of courses taken (NCOURSES)
How many hours do you work per week (Q40)	Cumulative GPA at the end of Fall 2003 (CUM_GPA)
I find I have enough time in the day to accomplish my tasks (Q41)	Number of credits student enrolled for (UNT_TAKEN_PRGRSS)
If you use controlled substances, how many time per week do you use them (Q45)	Admissions Index score (SCORE)
How many hours per week do you spend on campus outside of classes? (Q14N)	

Table 7. Logistic Regression for Full-Time Students Based Solely on Data Available Through PeopleSoft (N=1333)

Parameter	Estimate	Std Error	Wald χ^2	Prob	Odds Ratio
Intercept	-0.9275	0.2483	13.9497	.0002	
ENGL101	0.7915	0.2209	12.8333	.0003	2.207
THEA101	-0.5986	0.3064	3.8162	.0508	0.550[6]
ALL PT	-0.6179	0.2628	5.5284	.0187	0.539[7]
Cum GPA	1.1039	0.1056	109.2520	<.0001	3.016
Total Aid	0.000338	0.000047	50.7781	<.0001	1.402[8]

Table 8. Logistic Regression for Full-time Students Who Answered the Survey (N=517)

Parameter	Estimate	Std Error	Wald χ^2	Prob	Odds Ratio
Intercept	-4.4536	2.1419	4.3232	.0376	
ENGL101	1.7797	0.6937	6.5829	.0103	5.928
Planning to return (Q70)	2.6162	0.7541	12.0354	.0005	13.684
Attends class (Q63)	1.8241	0.5554	10.7877	.0010	6.197
Reads texts (Q66)	-0.8153	0.3924	4.3164	.0377	0.443
Total Aid	0.000279	0.000120	5.4126	.0200	1.322*

*Based on each $1000 increase in aid

[6] When inverted the odds ratio is 1.82, indicating that students who do *not* enroll in THEA101 are 82% more likely to re-enroll.
[7] When inverted the odds ratio is 1.86, indicating that students who do *not* have all part-time instructors are 86% more likely to re-enroll.
[8] Based on each $1000 increase in financial aid

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