Freshman Survey for the College of Business

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Executive Summary

In the fall semester of 2007, we conducted our initial survey of freshman students in the BA100, Introduction to Business, course. Approximately 86 students were included in the survey's sample population, of which approximately 80 responded with statistically useable answers to survey questions. After collecting responses from these students on issues ranging from academic history to typical weekly activities to satisfaction with their Loyola and College of Business experience as freshmen, we performed a number of statistical analyses on the results in an attempt to better understand the freshman population and better predict retention levels.

In the spring semester of 2008, we conducted a follow-up survey of the same freshman students, across all courses. Approximately 33 students were included in the survey's sample population, of which approximately 20-25 responded with statistically useable answers to survey questions. We compared these results to the initial survey's results to track progress.

On average, according to the freshman survey, 20% of freshman students would not choose Loyola again if they could make their college choice over. Additionally, on average, 18% of freshmen will not return to Loyola for their sophomore year, and a further 5% of freshmen in the College of Business will transfer to a different college at Loyola. In the face of these grim statistics, we estimated two separate regressions and prepared a number of Pareto charts to uncover which elements of a freshman's experience at Loyola would cause them to leave.

In both regression analyses, the most strongly correlated predictors of retention were generally related to a sense of belongingness or community at Loyola and in the College of Business. Those students who indicated in the survey that they intended not to return to Loyola in the fall semester of 2008 or that they would not choose Loyola again consistently expressed agreement with such statements as "I feel like I do not fit in at Loyola," "I do not feel welcome at Loyola," "I feel lonely and homesick," or "I feel like I do not know my peers." Contrarily, those students who expressed intentions to return or satisfaction with their college choice consistently disagreed with the same statements. The statistical analysis also identified such social factors as the feeling of being "just another number to the university," perceived racism, and gender as significantly correlated predictors of retention. More traditionally expected factors affecting retention, such as financial trouble or academic dissatisfaction, were also found to be correlated to both the return intention and college choice decision. In particular, students who perceived a low level of faculty interest in their academic progress or who were dissatisfied with readings or lecture topics in BA100 were less likely to return to Loyola for their sophomore year.

The Pareto charts prepared to support the regression analysis present the most common or most strongly felt responses to survey questions in a rank ordering. Interpretation of such charts demands that attention be given primarily to those responses lying on the extreme ends of the frequency distribution, or to those responses in the middle that were expected or are desired to be found closer to one end. According to the Pareto analysis, the most significant factors affecting a freshman student's decision to leave Loyola in a coming semester are concerns with the safety of New Orleans, the lack of friends and family near Loyola, dissatisfaction with campus facilities and activities, the small size of the university, and dissatisfaction with the common curriculum. Many of these factors relate directly to a student's feeling of "community" or "belongingness," which were identified in the previous regression analysis as strong predictors of retention.

Survey Summary

The table below presents a summary of important responses to various survey questions:

Survey Question	Response	Fall	Spr
How many courses are you taking in the College of Business?	1 course	77%	75%
	2 courses	17%	22%
	3 courses	6%	3%
How many hours a week do you spend outside of class doing activities related to your classes (studying, writing, etc)?	<5 hours	7%	19%
	5-8 hours	27%	32%
	9-12 hours	22%	32%
How often have you interacted this semester with the following:			
Loyola faculty outside class?	Never*	4%	15%
Business faculty outside class?	Never	8%	11%
Your academic advisor?	Never	4%	4%
Your executive mentor?	Never	6%	15%
Friends at Loyola?	Never	2%	0%
How often this semester have you felt any of the following:			
Challenged in your courses?	Rarely*	12%	7%
Energized or excited about learning?	Rarely	23%	22%
Inspired by courses to think in new ways?	Rarely	7%	26%
Connected with the Loyola community?	Rarely	36%	23%
Connected with the College of Business?	Rarely	31%	37%
Self-confident or autonomous?	Rarely	26%	19%
Lonely or homesick?	Frequently*	14%	18%
Do you agree with any of the following statements:			
"Faculty are interested in students' academic progress?"	Disagree*	6%	4%
"Faculty are helpful when I have academic questions?"	Disagree	4%	4%
"Faculty are clear what they expect academically?"	Disagree	9%	8%
"Admissions portrayed the university accurately?"	Disagree	11%	10%
"My second semester improved my opinion of Loyola?"	Disagree	N/A	17%
Are you satisfied with the following elements of your freshman experience:			
Overall Loyola experience?	Dissatisfied*	5%	4%
Overall class quality at Loyola?	Dissatisfied	9%	0%
Overall faculty quality at Loyola?	Dissatisfied	11%	4%
Overall College of Business experience?	Dissatisfied	4%	4%
Class quality in the College of Business?	Dissatisfied	11%	8%
Faculty quality in the College of Business?	Dissatisfied	5%	4%
Executive Mentor program overall?	Dissatisfied	14%	24%

*These unsatisfactory response categories were chosen to emphasize areas needing improvement

Regressions

College Choice

Using data from the freshman survey, we prepared a linear multivariate regression analysis of the "ChooseAgain?" variable, which describes a student's likelihood of selecting Loyola again if they could make their college choice anew. This variable was coded as a number ranging from 1 to 5, with 1 representing a "Definitely would not choose Loyola again" response and 5 representing a "Definitely would choose Loyola again" response. The chosen independent variables were coded as numbers ranging from 1 to 4, with 1 representing the least dissatisfaction with the variable in question and 4 representing the most dissatisfaction. The expected outcome is that an increase in the value of any of the relevant independent variables, that is an increase in the student's level of dissatisfaction, would lead to a proportionate decrease in their likelihood of choosing Loyola again. The regression specified below accounts for 57% of the variance in the college choice decision variable using six continuous independent variables and one binary, or "dummy," independent variable. These were the primary independent variables with statistically significant correlation with the college choice decision, as well as an interpretable predicted sign.

ChooseAgain?	Coef.	Std. Err.	t	P>|t|
IsFemale	.5526771	.2307942	2.39	0.020
#Credits	-.7081419	.2291775	-3.09	0.003
DoNotFitIn	-.2517906	.1257372	-2.00	0.050
Belongingness	-.3525049	.1820034	-1.94	0.057
AcademicProg	-.8262271	.2475069	-3.34	0.001
TippingPoint	-.4959374	.1816682	-2.73	0.008
LectureQual	-.6587010	.2182557	-3.02	0.004

Because the dependent variable is measured on a five-point subjective scale rather than an easily interpretable binary yes/no scale, precise interpretation of these results is difficult. The coefficients express only the amount by which a student's satisfaction with their college choice moves along the five-point scale given an increase in the value of an independent variable, rather than any quantifiable amount by which their actual satisfaction or their likelihood of satisfaction increases. Nevertheless, some observations can be made concerning the college choice decision:

- Female students are more likely to be satisfied with their choice than males

- The more credits a student takes their first semester, the less satisfied they are likely to be

- The more a student feels that they do not fit in or belong at Loyola, the less likely they are to be satisfied with their college choice (homesickness was another relevant variable)

- The less faculty helpfulness and interest in their personal academic progress that a student perceives, the less likely they are to be satisfied with their college choice

- The less satisfied a student is with the quality of reading selections and lecture topics chosen for BA100, the less likely they are to be satisfied with their college choice

Using the same data, we also prepared a logistic multivariate regression analysis of the "ChooseAgain?" variable by transforming the dependent and independent variables to binary, or "dummy," variables first. The interpretation of such a regression analysis is both easier and more precise. The college choice variable was recoded as a binary variable by assigning a response of "Probably would choose Loyola again?" or "Definitely would choose Loyola again?" (choices #4 and #5 on the original scale) a value of 1, and every other choice a value of 0. Each of the various independent variables was transformed into a binary variable by assigning a value of 3 or 4 from the original scale a value of 1 on the new binary scale, and every other original value a new value of 0. After this transformation, some of the originally significant variables no longer showed any statistically significant correlation with the college choice decision, and some of the independent variables that were originally excluded from the analysis showed newly discovered statistically significant correlations to the college choice decision. The new logistic regression specified below accounts for approximately 31% of the variance in the transformed college choice decision using five transformed binary independent variables. The predicted coefficients are presented as "odds ratios" for ease of interpretation of the estimated results of the regression.

ChooseAgain?	Odds Ratio	Std. Err.	z	P>|z|
IsFemale	3.891497	2.643562	2.00	0.045
Connected	4.181546	2.638264	2.27	0.023
DoNotFitIn	.3006585	.1991224	-1.81	0.070
JustAnother#	.3059773	.1897035	-1.91	0.056
FeelHomesick	.2304020	.1585022	-2.13	0.033

The odds ratios presented above represent the relative odds of a student expressing satisfaction with their college choice if they have a value of 1 for the respective independent variable, as opposed to a value of 0. For example, the relative odds of a student being satisfied with their college choice if they are female, as opposed to male, is 3.89 to 1, meaning that the odds of a female student being satisfied with their choice are 3.89 times higher than the odds of a male student being satisfied with their choice, all else being equal. If the odds of a male student being satisfied with their choice were found to be 2 to 1 (2 students satisfied to every 1 student not satisfied), then the odds of a female student being satisfied would be 7.78 to 1 (3.89 times greater). It should be noted that the coefficients presented above are odds ratios, and not odds themselves. The difference is that the interpretation of the above results is an estimation only of the relationship between likelihoods of two distinct groups of students (e.g. females and males) rather than the actual likelihood of either group on its own being satisfied. From these results, it is possible only to compare odds, and not to state the exact likelihood that a particular student or group of students will be satisfied with their college choice. Observations that can be made are:

- Female students are 3.89 times more likely to be satisfied with their choice than males

- Students who feel connected to the university community are 4.18 times more likely to be satisfied with their college choice than students who do not feel connected to the university

- Students who feel homesick, like they don't fit in, or like they are just another number to the university are only about 1/4 to 1/3 as likely to be satisfied with their college choice as are students who feel welcome and a sense of belongingness at the university

Return Intention

      Using data from the freshman survey, we prepared a logistic multivariate regression analysis of the "ReturnInFall?" variable, which describes a student's academic intentions for both enrollment and course-load for the upcoming Fall 2008 semester. This return intention variable was originally coded as a number from 1 to 6. To focus on the return vs. not-return distinction, we recoded the variable as a binary return/not variable, with a value of 0 representing any decision not to return to Loyola, and a value of 1 representing a decision to return to Loyola in Fall of 2008. We also transformed the independent variables, all originally coded as numbers ranging from 1 to 4, to similar binary variables, with a value of 1 representing "Strongly agree"-"Agree," and a value of 0 representing "Strongly disagree"-"Disagree." The expected outcome is that positive responses to relevant "satisfaction" variables would lead to an increased likelihood of a student returning to Loyola, and positive responses to relevant "dissatisfaction" variables would lead to a decreased likelihood. The logistic regression specified below accounts for 64% of the variance in return intentions. The predicted coefficients are presented as odds ratios.

ReturnInFall?	Odds Ratio	Std. Err.	z	P>|z|
White*	6.169881	7.625076	1.47	0.141
StdTests	4.845993	4.791706	1.60	0.110
IsFemale	.1192501	.1565735	-1.62	0.105
FeelHomesick	.0556620	.0947420	-1.70	0.090
FeelDepressd	.0579807	.0816745	-2.02	0.043
FeelRacism	.0001737	.0005406	-2.78	0.005
FeelUnsafe	.0125737	.0273651	-2.01	0.044
NeedMoney	.0150791	.0302685	-2.09	0.037

      As before, the odds ratios presented above represent only relative odds, and not the odds of any particular type or group of students returning to Loyola in the Fall. A number of important observations about freshmen retention can be made from the results of this regression analysis:

- White students are more than 6 times more likely to express the intention to return to Loyola for their sophomore year than are students of any other race or ethnicity

- Students with higher high-school standardized test scores are 4.85 times more likely to express the intention to return to Loyola for each added 200 (SAT) or 4 (ACT) points

- Female students, though (from previous) more likely to be satisfied with their college choice, are 1/10 as likely to express the intention to return to Loyola as are male students

- Students who feel homesick or depressed their first year are approximately 1/20 as likely to express the intention to return to Loyola as are students who are emotionally stable, while students who experience racism or otherwise feel unsafe while on campus are 1/100 as likely to express the intention to return to Loyola as are students who feel safe

- Students who have concerns over their ability to continue to finance their education are about 1/100 as likely to express the intention to return to Loyola as are students with none

* Two separate logistic regressions were run to resolve multicolinearity issues between the White variable and various other variables and to isolate the effect of race on retention

Pareto Charts

Decision Factors

According to the freshman survey, the most important factors influencing the decision to attend Loyola are financial assistance offered, Loyola's academic reputation, the New Orleans culture, Loyola's size, Loyola's geographic location, the College of Business' major programs, and the job market benefits of a college degree. The least important factors are that the student could not afford their first choice, that their friends or boyfriend/girlfriend wanted them to attend Loyola, Loyola's athletic programs, that their family or relatives wanted them to attend Loyola, and the advice of their high-school teacher or guidance counselor. The Pareto chart below presents the influential factors of the attendance decision in rank order (4 = most important):
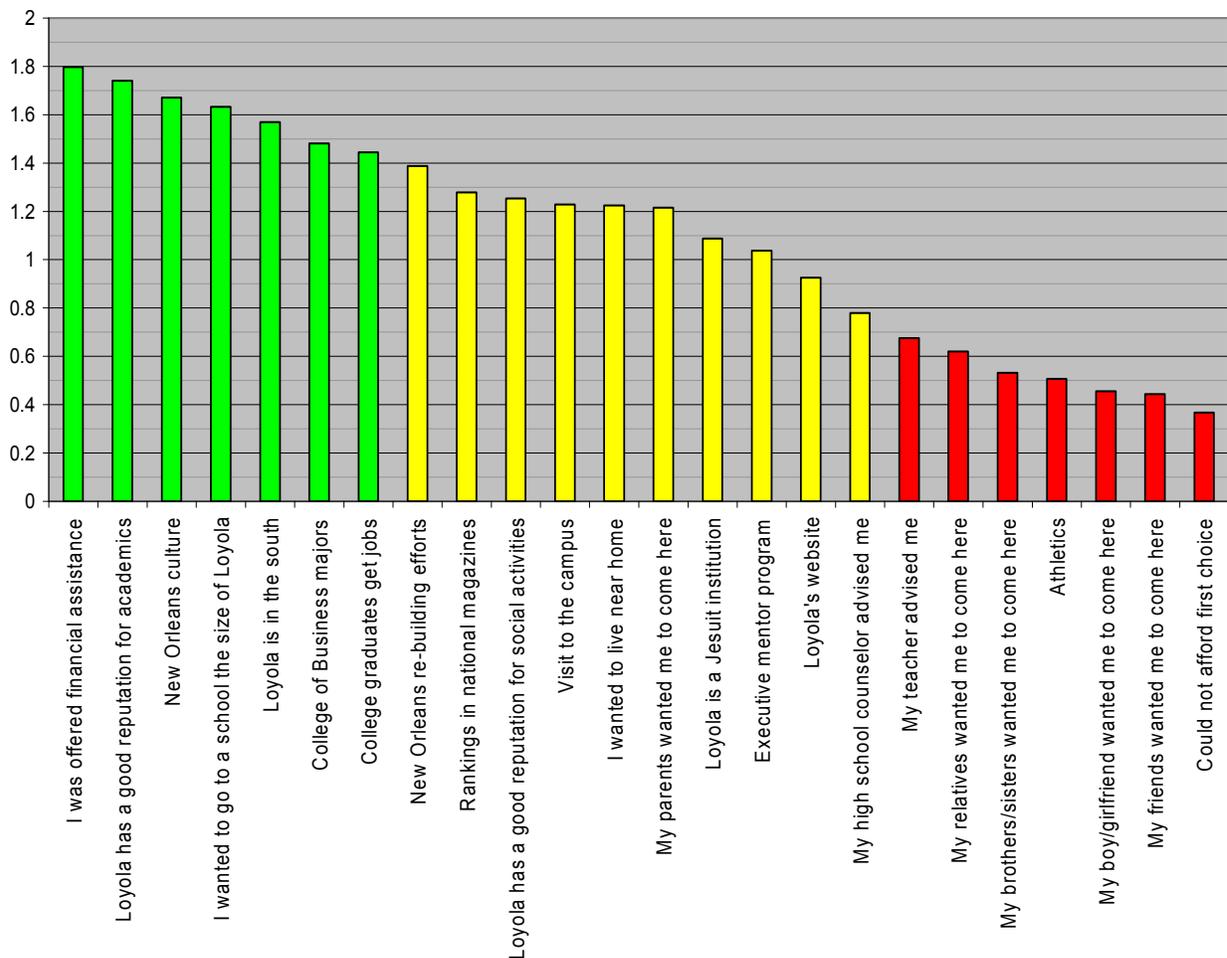
Retention Factors

Decision to Stay

According to the freshman survey, the factors that most influence freshmen to stay at Loyola in a coming semester are the business courses and curriculum, the executive mentor program, New Orleans culture, the business faculty, the academic challenge at Loyola and in the College of Business, their friends at Loyola, and the small size of Loyola. The factors with the least influence on the decision to stay at Loyola are the presence of the student's family, friends, or boy/girlfriend at Loyola, economics and accounting courses, and their roommates. The Pareto chart below presents these retention decision factors in rank order (% of students citing factor):
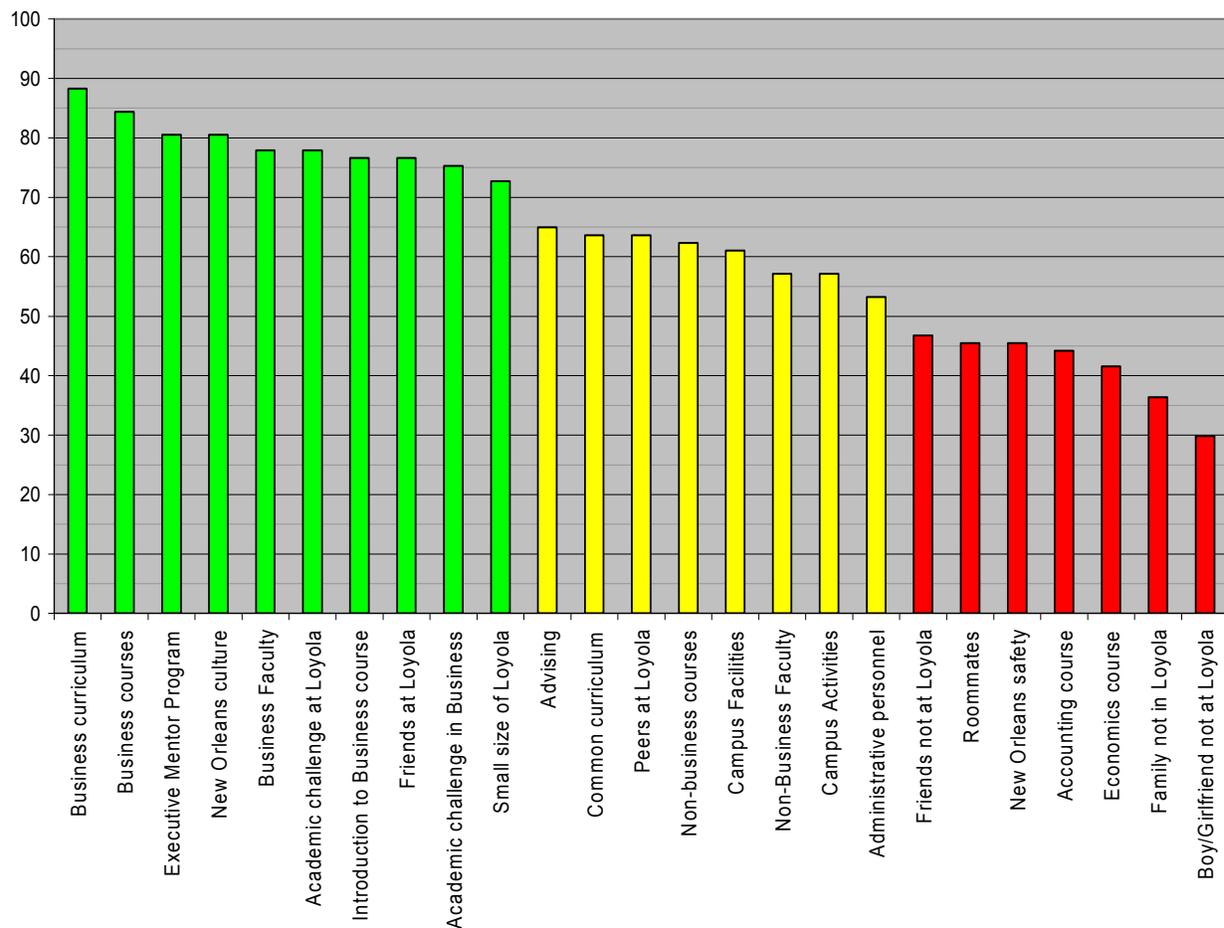
Decision to Leave

According to the freshman survey, the factors that most influence freshmen to leave Loyola in a coming semester are the safety of the city of New Orleans, displeasure with campus facilities, their friends at other universities, the common curriculum, displeasure with campus activities, and the small size of Loyola. The factors with the least influence on the decision to leave Loyola are the business faculty, the business curriculum, economics or accounting or general business courses, and the Executive Mentor program. The Pareto chart below presents the factors that influence the decision to leave Loyola in rank order (% of students citing factor):
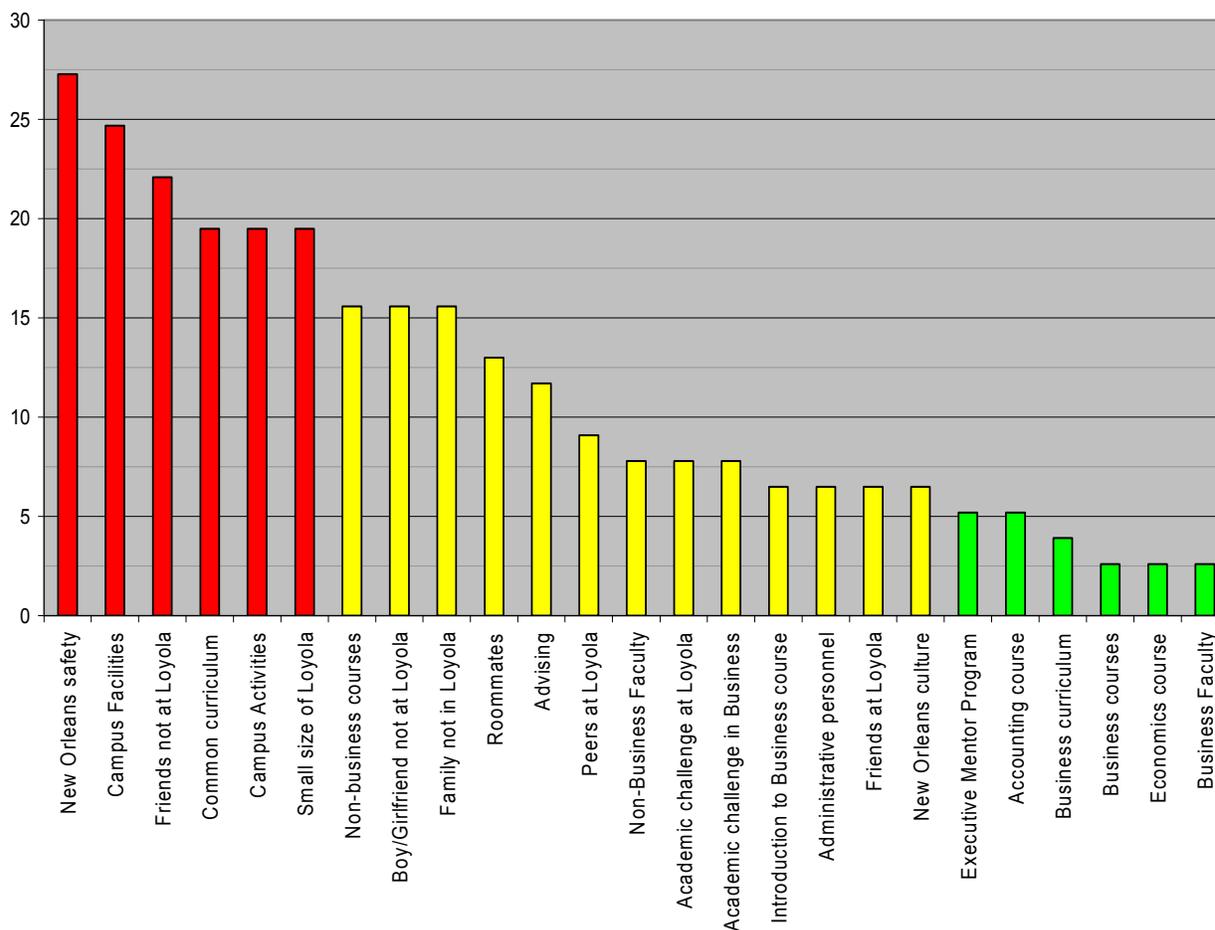
Retention Analysis

The most important and revealing factors influencing the decision to stay at or leave Loyola are those that rank poorly on the "decision to stay" chart and highly on the "decision to leave" chart. Such factors include the safety of New Orleans, students' friends or boy/girlfriend not at Loyola, students' family not at Loyola, and campus activities. These decision factors are well correlated with the results of the earlier regression analysis, which showed that students who felt disconnected, lonely, or homesick on campus were less likely to return to Loyola.

Loyola Satisfaction

According to the freshman survey, the elements of the overall Loyola experience that are most satisfying are the Monroe Library, the computer labs and study areas, typical class size, and faculty availability. The least satisfying elements are the dorm rooms, Health Services, the Dana Center, the recreation center, and counseling services. The Pareto chart below presents the full range of satisfaction levels of the overall Loyola experience in rank order (4 = most satisfying):
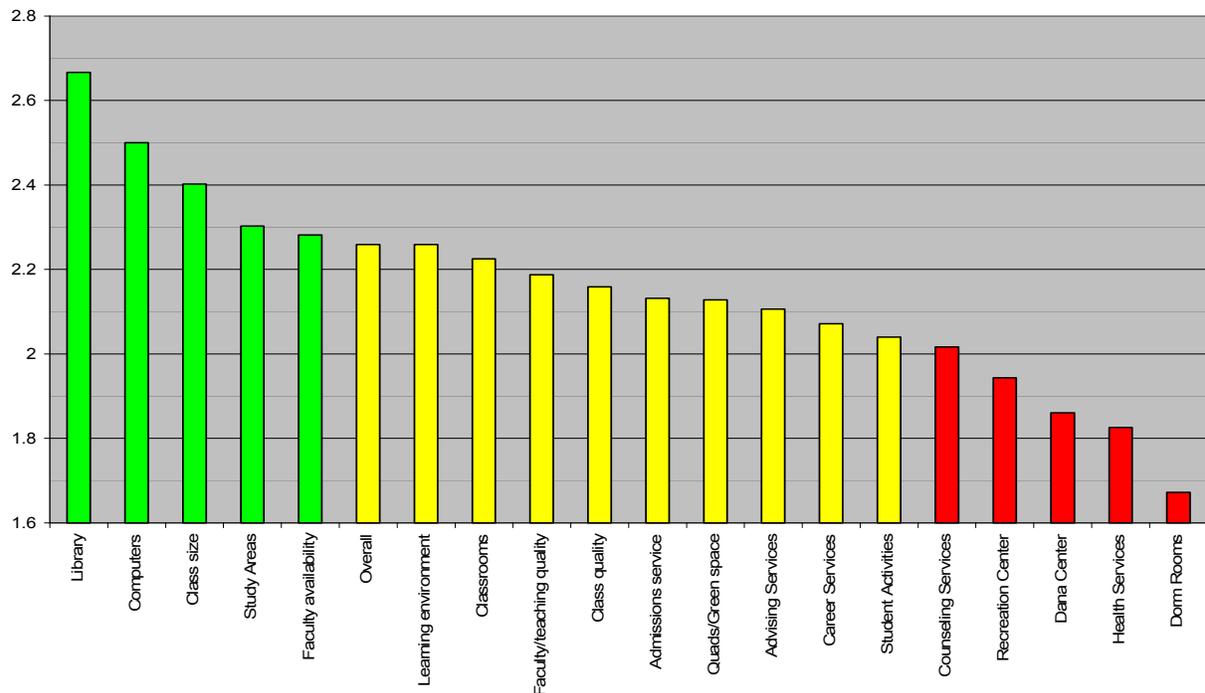

In addition, the freshman survey indicates that freshmen feel that the statements that best describe their overall Loyola freshman experience are that the faculty are interested in students' academic progress and are helpful when students have questions with assignments. The worst description of the first-year experience is that the faculty are interested in students' personal problems. The Pareto chart below presents the rank order of these factors (4 = most descriptive):
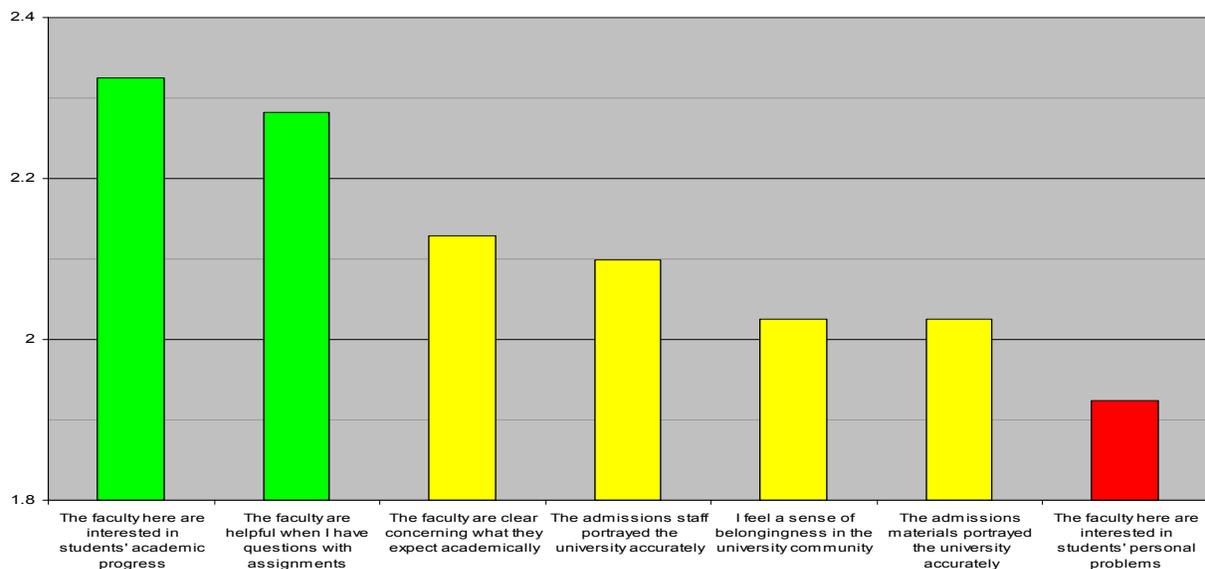
C.O.B. Satisfaction

According to the freshman survey, the elements of the overall College of Business experience that are most satisfying are class size, the quality of faculty, and class or computer facilities. The least satisfying are a sense of belonging or community and the quality of courses and advising. The Pareto chart below presents these elements in rank order (4 = most satisfying):
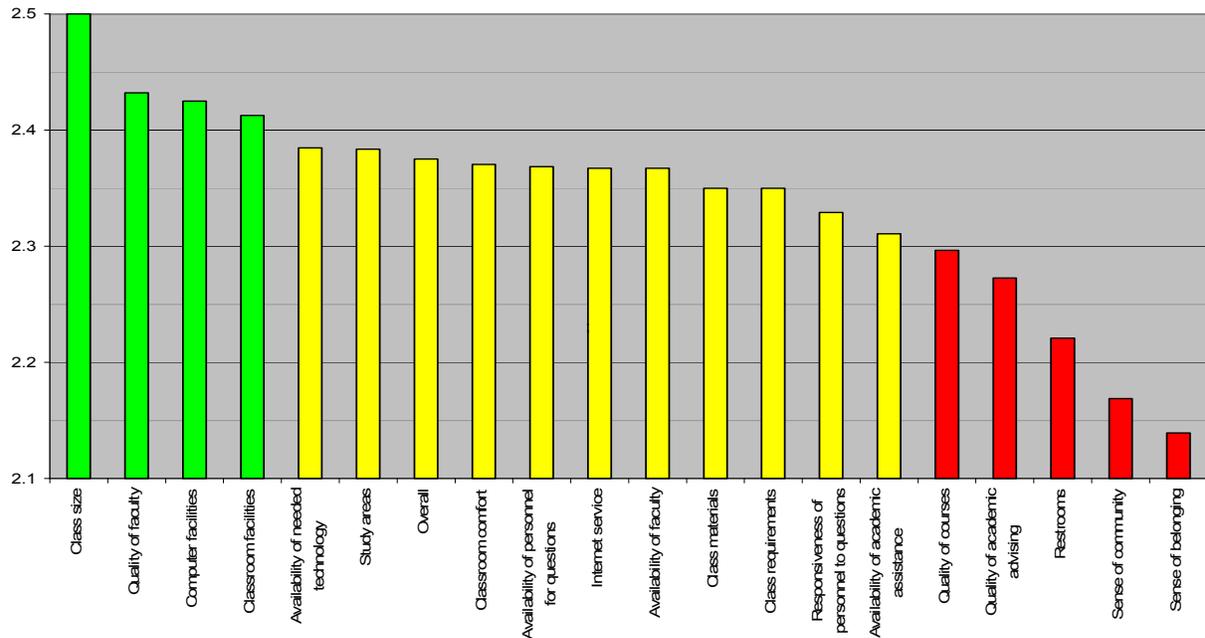

BA100 Satisfaction

According to the freshman survey, the elements of the BA100 course that are most satisfying are knowledgeable and caring faculty, the understanding gained in functional areas of business, and the guest speakers. The least satisfying elements are Thursday night classes, the textbook and assigned "Lexus and the Olive Tree" book, Simnet, and the marketing project. The Pareto chart below presents these satisfaction levels in rank order (4 = most satisfying):
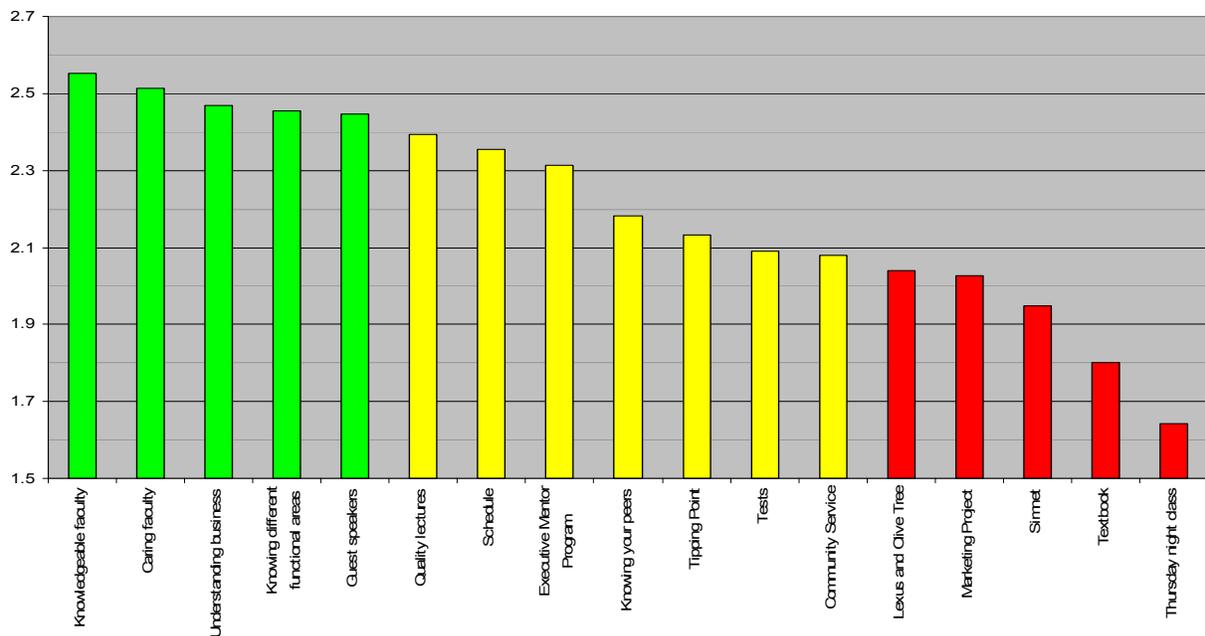
Student Activities

According to the freshman survey, the most common student activities during a typical week are socializing with friends, studying, partying, surfing the net, and exercising. The least common activities are playing video games, spiritual activities, volunteer work, and group study. The Pareto chart below presents the full range of activities in rank order (6 = most common):
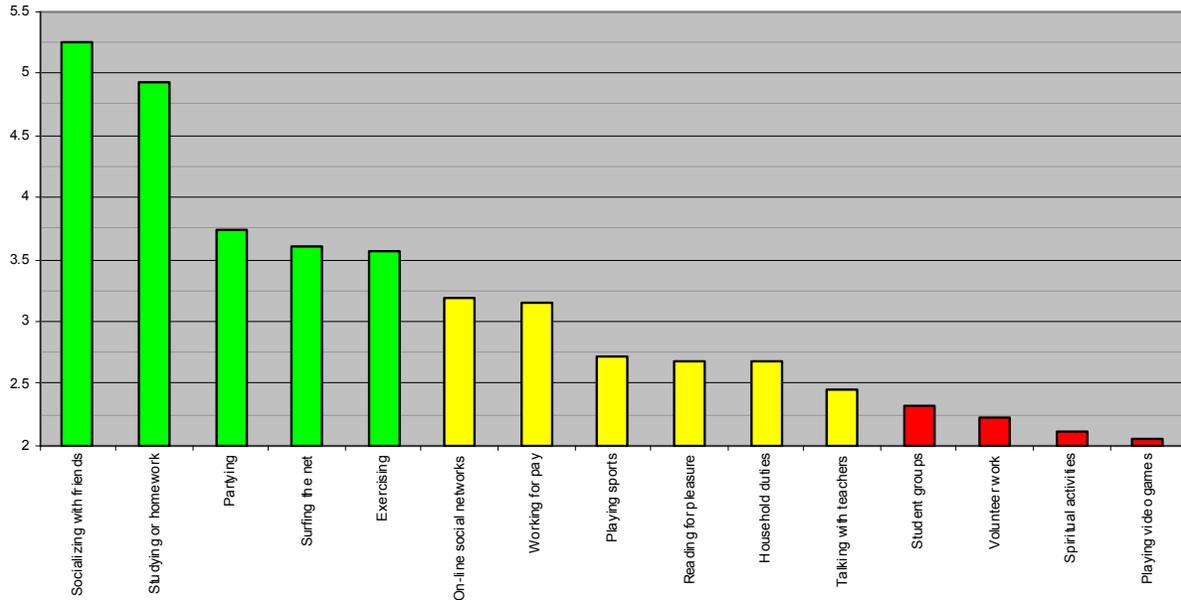

Student Interactions

According to the freshman survey, the most common student interactions during a typical freshman semester are with friends at Loyola, with parents and family, and with friends at other universities, while the least common student interactions are with academic and other advisors. The Pareto chart below presents these interactions in rank order (4 = most common):
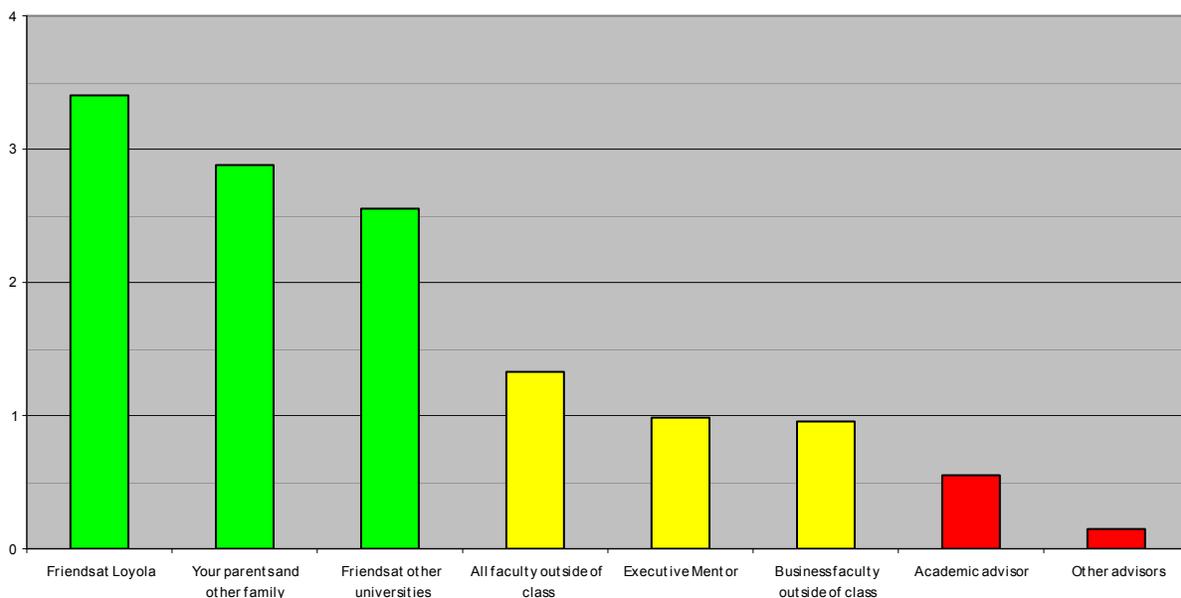
Positive Feelings

According to the freshman survey, the most strongly felt positive feelings by freshmen are self-confidence and academic challenge. The least strongly felt positive feelings are a sense of autonomy and connection to Loyola and to the College of Business. The Pareto chart below presents the strengths of the full range of positive feelings in rank order (4 = most strongly felt):
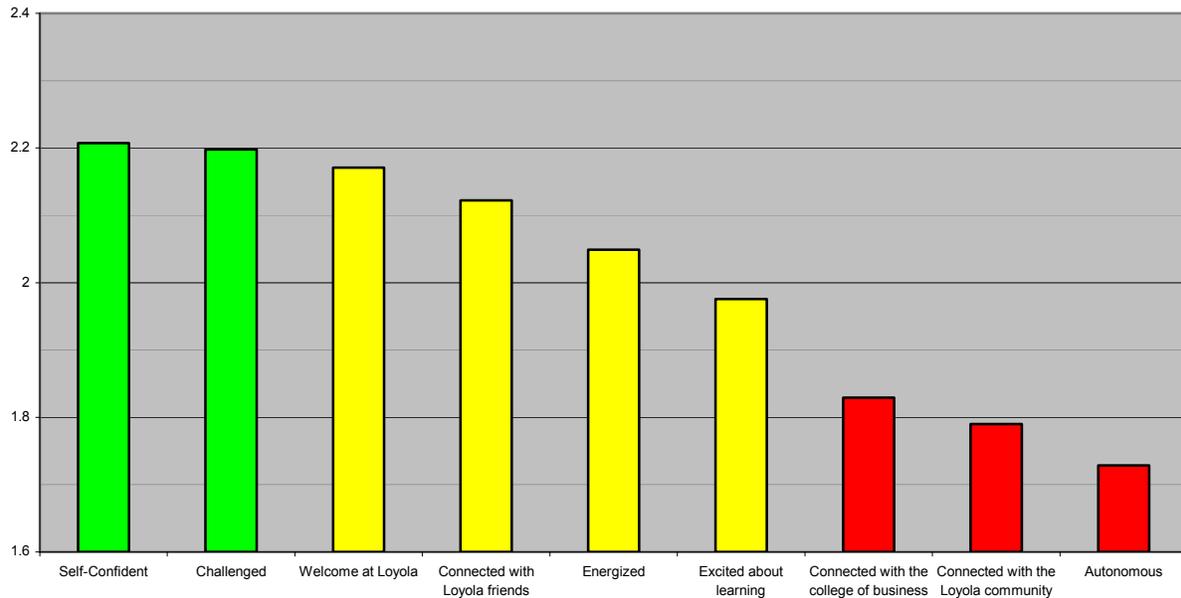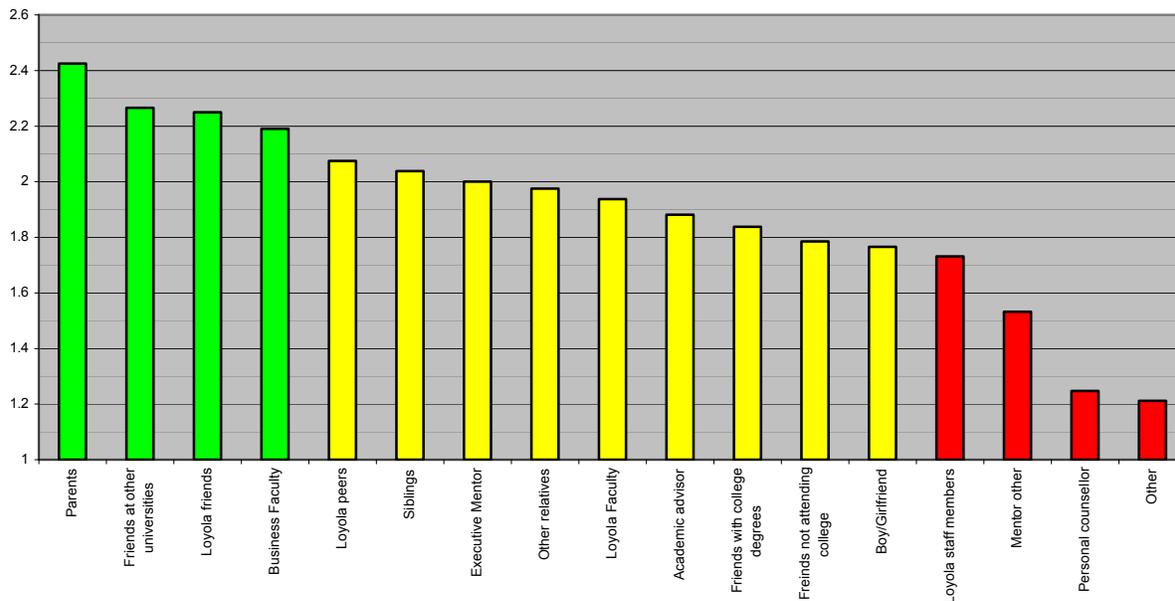

Negative Feelings

According to the freshman survey, the most strongly felt negative feelings by freshmen are boredom and anxiety. The least strongly felt negative feelings are a lack of safety on campus, homesickness, a sense of no academic challenge, and a sense of not fitting in. The Pareto chart below presents the strengths of these negative feelings in rank order (4 = most strongly felt):
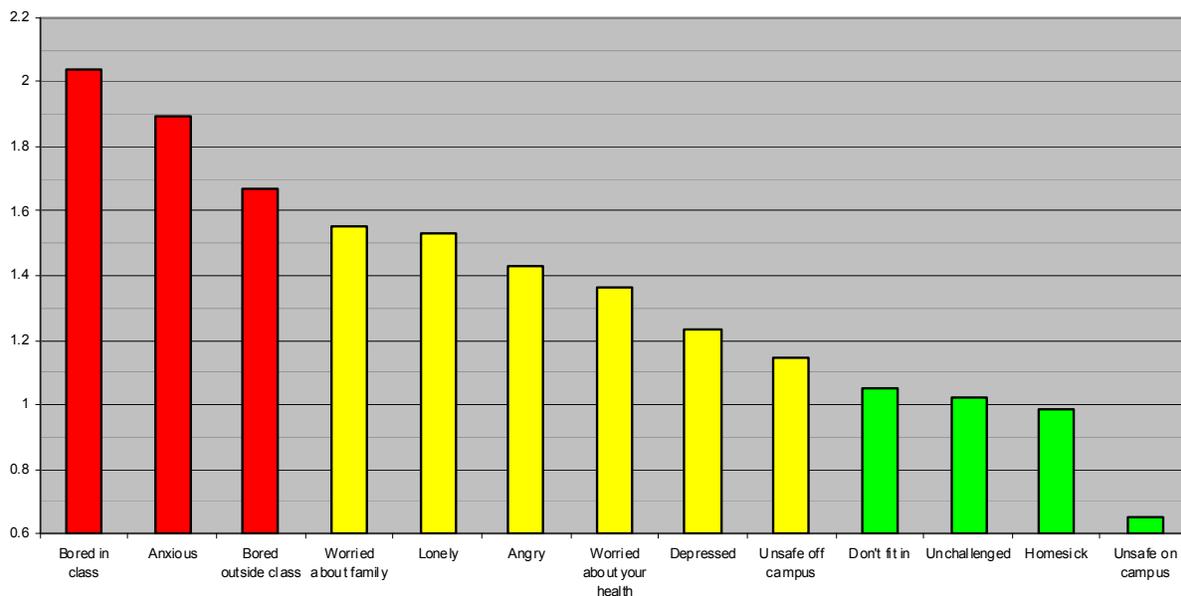
Positive Support

According to the freshman survey, the most common sources of positive support for freshmen are parents, friends at other universities and Loyola, and College of Business faculty. The least common sources of positive support are Loyola staff members, mentors, personal counselors, and other advisors. The Pareto chart below presents the full range of these sources of positive support for freshmen in rank order (4 = strongest felt source of positive support):

Negative Influence

According to the freshman survey, the most common negative influence experienced on campus by freshmen is the feeling that they are "just another number" to the university. The least common negative influence is discrimination on the basis of sexuality. The Pareto chart below presents the full range of negative influences on freshman in rank order (4 = most common):
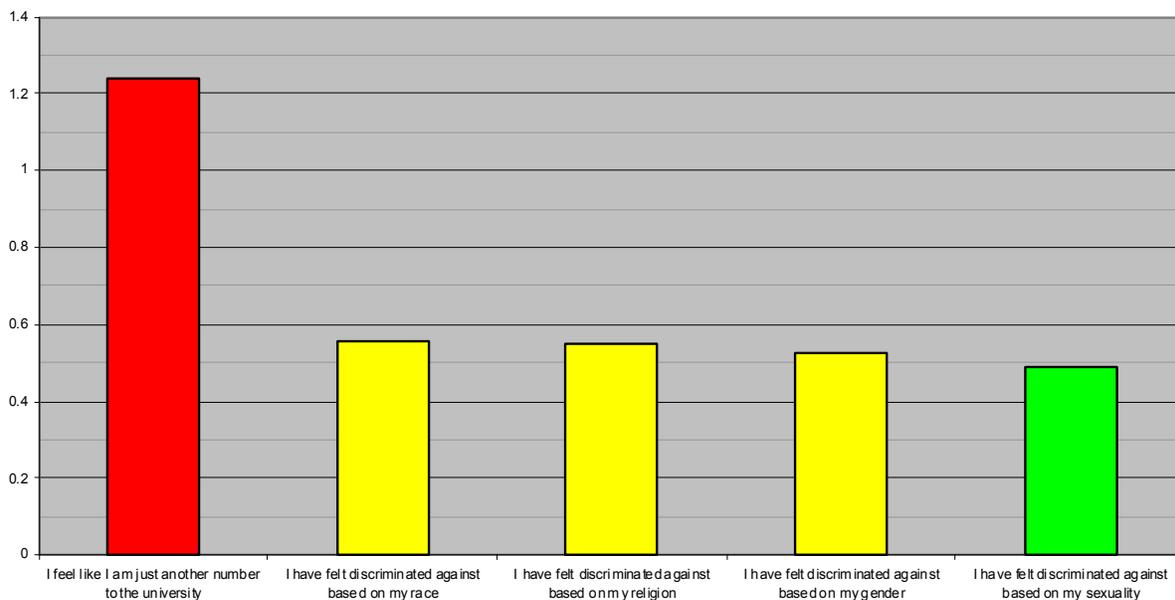
Recommendations

The results of the freshman survey analysis show that the primary factor affecting the retention of freshman students is the sense of welcome, belongingness, or community that they feel during their freshman year at Loyola. The development of a stronger and more robust first-year experience program should be a priority for improving retention levels. Efforts such as the Executive Mentor program and the large-format BA100 course should be studied carefully and expanded into an even more immersive and welcoming experience for first-year students of the College of Business. In particular, future efforts in this direction should be targeted towards minority groups, including women and non-white students, in order to counteract the negative effects identified in the above regression analyses. In addition, future first-year experience improvements should focus on providing emotional stability, physical security, and mental stamina to freshman students as they adapt to the unfamiliar university environment.

Future freshman surveys should be less time-consuming and more target-oriented than these initial surveys were. Numerous students complained about the length of the survey in the free comment sections at the end of the survey. In addition, incentives were necessary to achieve satisfactory response rates in the initial fall survey, and the lack of incentives in the spring survey coupled with the unchanged immense size led to a very low response rate that yielded very little actionable data for analysis. Now that a number of key decision areas and influential factors have been identified, future surveys can focus on these relevant issues so that students are more apt to complete the survey and their responses more likely to be useable for statistical analysis. In particular, future surveys should focus on the areas of financial concerns, courseloads taken, feelings of belongingness or community, gender and racial discrimination, academic concerns, and satisfaction with key elements of the first-year experience such as the Executive Mentor program and the BA100 course. Detailed departmental information is not relevant to the analysis of this survey, nor is excessively detailed information on student activities or interactions outside of class. The domain of the survey should include only those factors that can be changed or improved by the College of Business, and the focus should be on actionable analysis of results.