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Attrition Analysis of the
2004 First-Time Freshman Cohort

Office of Institutional Research

September 7, 2007

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This report summarizes the results of additional analyses conducted by the Office of Institutional Research (OIR) while trying to identify predictors of student attrition at USF.

Sample

During the summer of 2007, the Office of Institutional Research conducted a logistic regression analysis of extant demographic variables that potentially predict freshman-to-sophomore attrition rates at USF. The original sample included all 932 students who enrolled at USF as first-time freshmen in the fall of 2004, including the 130 students from the Fall 2004 cohort who did not continue at USF after their freshman year. By the end of the sophomore year, this number had increased to 150. This report continues the work conducted in spring of 2007 to identify potential variables that differentiated students who continued at USF from those who did not return for their second year. Logistic regression analysis was used to gain a deeper understanding of the relationship between these variables.

Two salient variables that emerged as possible predictors from the initial study were students withdrawing (after Census Day) and receiving a D or below in the first semester. To create a more sensitive variable, the difference between the units attempted and units completed was computed. In addition to capturing the presence or absence of withdrawals and F's this variable also captures the magnitude of these effects, such as withdrawing from a one-unit class or a four-unit class. Furthermore, this variable also takes into consideration the effect of multiple withdrawals or F's.

For the purposes of this study, the first-time 2004 freshman cohort (N=932) was divided into three groups:
1. Fist-time freshmen who entered with a High School GPA of 3.0, or below, regardless of their USF GPA at the end of the first year (N=120*)
2. First-time freshmen who entered with a High School GPA above 3.0, but whose USF GPA was equal to or below 3.0 by the end of their freshman year (N=269*)
3. First-time freshmen who entered with a High School GPA above 3.0 and whose USF GPA at the end of the first year was above 3.0 (N=502*)

*41 students were excluded from analysis due to missing data on one of the variables.

Key Findings

An initial logistic regression analysis was conducted including a large number of potential predictors and the total number of students who left USF after one year. This analysis showed that there were no strong large-scale predictors, supporting the notion found in the literature that first-year attrition of undergraduate students is a very complex phenomenon that cannot be explained by one predictor variable.

Subsequent analyses separating attrits according to their high school and college performance produced the following results:

For those who entered with a high school GPA equal to or below 3.0, there were two statistically significant predictors (p<.05):
1. The difference between units attempted and units completed during the spring semester of the first year
2. The USF GPA at the end of the fall semester

For this group academic performance variables were good predictors.

For those students who entered with a GPA above 3.0 but whose cumulative end of the freshman year GPA was equal to or below 3.0, the statistically significant predictors were:
1. The difference between units attempted and units completed during the spring semester of the first year
2. Majoring in the visual and performing arts during the first semester
3. Changing majors during the second year.

For this group, the predictor variables comprised both academic performance variables, such as the difference between units attempted and completed in the spring semester, and variables which could be directly related to academic performance, such as changing majors. Whereas the difference between units attempted and units completed during the spring semester was statistically significant at the p<.001 level, majoring in visual and performing arts, and changing majors were statistically significant at the p<.05 level. While the first two categories increase the likelihood of leaving the USF, the third category, changing majors, decreased the likelihood of leaving USF—a result that could reflect students changing into a more appropriate major.

For the third group, those who entered with a High School GPA above 3.0 and had a cumulative GPA above 3.0 at the end of the freshman year, three indicators were statistically significant:
1. Changing majors during the second year
2. Majoring in the visual and performing arts during the first semester
3. Non-California residency

The first two variables were statistically significant at the p<.05 level, whereas Non-California residence was statistically significant at the p<.001 level. Students whose residency was outside of California were more likely to leave USF than students whose residency was in California—a result that could be related to perceived lack of support or a decreased sense of belonging..

In interpreting these data, it is important to remember this analysis was constrained by the size of the data set. A more detailed analysis based on combined data sets would enable us to refine out predictor variables by taking other factors such as gender and ethnicity into consideration.