2019 Freshman Cohort Retention Report

Executive Summary

This report summarizes the one-year retention of 1,600 students in the University of South Alabama (USA) 2019 first-time full-time baccalaureate degree-seeking

the input-environment-outcome (IEO) model developed by Alexander W. Astin[1] was used as a conceptual framework to guide this analysis.

Cross tabular results for each variable and whether the student returned are reported. Comparisons for each subgroup are made to the overall retention rate of the cohort (76%). Significant mean differences for the input, environmental, and outcome variables are also indicated.

Additionally, five logistic regression models were tested. The first model included the input[2] variables. The second model included the input and the environmental[3] variables. The third model included two outcome variables known midway through or after the end of the Fall 2019 semester[4]. The fourth model and fifth model tested a different outcome variable known after the end of the Summer 2020 semester[5]. The predictive power of each model for explaining whether the student would return (Yes/No) is reported as well as which variables were significant in each of the five models.

Cross Tabular Results

Cross tabular results for each variable and whether the student returned are summarized in the following section. Comparisons are made for each subgroup of the variable to the one-year retention rate (76%) of the 1,600 freshmen in the cohort. These comparisons illustrate which subgroups of students returned at higher, similar, or lower rates than the overall cohort retention rate of 76%. In addition, significant mean differences for the input, environmental, and the outcome variables known midway through or after the end of the Fall 2019 semester and after the end of the Summer 2020 semester are reported.

Input Variable Cross Tabular Results

For the input variables included in this analysis (see Table 1), female students (79%) returned at a higher rate than male students (72%). The mean difference between female students and male students was statistically significant (see Appendix: Independent T-Test Tables).

[1] Astin, A. W. (2002). Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education. American Council on Education, Oryx Press.

[2] Input variables: Gender, race/ethnicity, age, region, first generation status, high school GPA, and

Table 1: Comparison of Input Variables to 2019 Cohort Retention Rate

Variable	Retention Rate >= 76%	Count	Retention Rate < 76%	Count
**Gender*				
	*Female (79%)	1,003	Male (72%)	597
Race/Ethnicity				
	Asian (86%)	62	African-American (75%)	279
	Other (79%)	70	Multiracial (71%)	82
	Non-Resident Alien (78%)	18	Hispanic (70%)	69
	White (77%)	1,020		

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Environmental Variable Cross Tabular Results

For the environmental variables included in this analysis, USA Day attendance results (see Table 2) showed students who attended one or more USA Day (at least 80%) returned at a higher rate than the overall cohort (76%). Retention comparisons based on the college housing the major the student initially selected showed Arts and Sciences (71%) students returned at a lower rate than the overall cohort (76%). In addition, students who lived on campus (77%) returned at a higher rate than the overall cohort (76%).

Table 2: Comparison of Environmental Variables to 2019 Cohort Retention Rate W nr8.001re W1.2558 q

Variable	Retention Rate >= 7

When looking at the number of at-risk (D, F, or U) midterm grades in Fall 2019, the odds (Exp *B*) of a student *returning* was greater for a student who had three or fewer at-risk midterm grades in Fall 2019 (no at-risk midterm grades=4.774, one at-risk midterm grade=3.612, two at-risk midterm grades=1.668, and three at-risk midterm grades=1.982) than for a student who had four or more at-risk midterm grades in Fall 2019. Except for students with two at-risk midterm grades in Fall 2019, the confidence intervals (95%) also indicated the odds of a student *returning* was greater for a student with fewer at-risk midterm grades in Fall 2019 than a student who had four or more at-risk midterm grades in Fall 2019.

Model 4: Logistic Regression with USA Hours Earned After Summer 2020
The fourth model included the USA hours earned after the end of the Summer 2020 semester. The comparison group selected for the fourth model was zero to six hours earned after the end of the Summer 2020 semester. Since the fourth model only included one variable, the model consisted of one step (see Appendix: Logistic Regression Tables). The correct classification rate for the fourth model for *returning* students was 95.5% and the correct classification rate for students who did not return was 70.1%. The overall correct classification rate for the fourth model was 89.7%.

The fourth model showed the odds (Exp *B*) of a student *returning* was greater for a student with 6.5-12 or more hours earned (6.5-12=2.575, 12.5-18=13.664, 18.5-24=95.990, 24.5-30=158.909, 30.5 or more=594.598) than for a student with six or fewer hours earned at the end of Summer 2020. Additionally, the confidence intervals (95%) indicated the odds of a student *returning* was greater for a student in the four higher USA hours earned comparison groups than for a student with zero to six USA hours earned.

Model 5: Logistic Regression with USA GPA After Summer 2020
The fifth model included the USA GPA after the end of the Summer 2020 semester. The comparison group selected for the fifth model was an USA GPA of 2.0 or lower after the end of the Summer 2020 semester. Since the fifth model only included one variable, the model consisted of one step (see Appendix: Logistic Regression Tables). The correct classification rate for the fifth model for *returning* students was 96.5% and the correct classification rate for students who did not return was 53.4%. The overall correct classification rate for the fifth model was 86.7%.

The fifth model showed the odds (Exp *B*) of a student *returning* was greater for a student with an USA GPA of 2.01-2.5 or higher (2.01-2.5=10.820, 2.51-3.0=20.763, 3.01-3.5=36.534, 3.51-4.0=54.586) than for a student with an USA GPA of 2.0 or lower at the end of Summer 2020. In addition, the confidence intervals (95%) indicated the od(d)2 Tj 0n(m)1d91 -1.141 Td ( )Tj8lsm299rddsoe

APPENDIX

2019 Freshman Cohort Retention Report Cross Tabs

		No	Yes	
Count		210	793	1003
% within Gender		20.9%	79.1%	100.0%
Count		167	430	597
% within Gender		28.0%	72.0%	100.0%
Count		377	1223	1600
% within Gender		23.6%	76.4%	100.0%

			One-Year Retention		
			No	Yes	Total
Race	White	Count	235	785	1020
		% within Race	23.0%	77.0%	100.0%
	African-American	Count	69	210	279
		% within Race	24.7%	75.3%	100.0%
	Asian	Count	9	53	62
		% within Race	14.5%	85.5%	100.0%
	Hispanic	Count	21	48	69
		% within Race	30.4%	69.6%	100.0%
	Multiracial	Count	24	58	82
		% within Race	29.3%	70.7%	100.0%
	Non-Resident Alien	Count	4	14	18
		% within Race	22.2%	77.8%	100.0%
	Other	Count	15	55	70
		% within Race	21.4%	78.6%	100.0%
Total		Count	377	1223	1600
		% within Race	23.6%	76.4%	100.0%

2019 Cohort * Under Represented Minority * One-Year Retention Crosstabulation

			One-Year Retention		
			No	Yes	Total
Under Represented Minority	Non URM/Unknown	Count	286	957	1243
		% within Under Represented Minority	23.0%	77.0%	100.0%
	Under Represented Minority	Count	91	266	357
		% within Under Represented Minority	25.5%	74.5%	100.0%
Total		Count	377	1223	1600
		% within Under Represented Minority	23.6%	76.4%	100.0%

2019 Freshman Cohort Retention Report Cross Tabs

	No	Yes	
Count	58	88	146
% within High School GPA	39.7%	60.3%	100.0%
Count	123	251	374
% within High School GPA	32.9%	67.1%	100.0%
Count	194	877	1071
% within High School GPA	18.1%	81.9%	100.0%
Count	375	1216	1591
% within High School GPA	23.6%	76.4%	100.0%

2019 Freshman Cohort Retention Report Cross Tabs

2019 Cohort * Orientation * One-Year Retention Crosstabulation

			One-Year Retention		
			No	Yes	Total
Orientation	August/Transfer/Unknown Orientation	Count	24	43	67
		% within Orientation	35.8%	64.2%	100.0%
	May Orientation	Count	8	51	59
		% within Orientation	13.6%	86.4%	100.0%
	Freshman Session 1	Count	28	138	166
		% within Orientation	16.9%	83.1%	100.0%
	Freshman Session 2	Count	24	136	160
		% within Orientation	15.0%	85.0%	100.0%
	Freshman Session 3	Count	34	141	175
		% within Orientation	19.4%	80.6%	100.0%
	Freshman Session 4	Count	37	152	189
		% within Orientation	19.6%	80.4%	100.0%
	Freshman Session 5	Count	47	138	185
		% within Orientation	25.4%	74.6%	100.0%
	Freshman Session 6	Count	39	129	168
		% within Orientation	23.2%	76.8%	100.0%
	Freshman Session 7	Count	49	105	154
		% within Orientation	31.8%	68.2%	100.0%
	Freshman Session 8	Count	30	76	106
		% within Orientation	28.3%	71.7%	100.0%
	Freshman Session 9	Count	30	61	91
		% within Orientation	33.0%	67.0%	100.0%
	Freshman Session 10	Count	27	53	80
		% within Orientation	33.8%	66.3%	100.0%
Total		Count	377	1223	1600
		% within Orientation	23.6%	76.4%	100.0%

2019 Cohort * College * One-Year Retention Crosstabulation

			One-Year Retention		
			No	Yes	Total
College	AH	Count	49	186	235
		% within College	20.9%	79.1%	100.0%
	AS	Count	140	344	484
		% within College	28.9%	71.1%	100.0%
	BU	Count	39	124	163
		% within College	23.9%	76.1%	100.0%
	CS	Count	19	82	101
		% within College	18.8%	81.2%	100.0%
	ED	Count	37	133	170
		% within College	21.8%	78.2%	100.0%
	EG	Count	36	132	168
		% within College	21.4%	78.6%	100.0%
	NU	Count	57	222	279
		% within College	20.4%	79.6%	100.0%
Total		Count	377	1223	1600
		% within College	23.6%	76.4%	100.0%

2019 Freshman Cohort Retention Report Cross Tabs

	No	Yes	
Count	187	479	666
% within Freshman Scholarship	28.1%	71.9%	100.0%
Count	190	744	934
% within Freshman Scholarship	20.3%	79.7%	100.0%
Count	377	1223	