Fall 2012 Freshman Cohort Retention Report

Executive Summary

This report summarizes the retention of 1,886 students in the University of South Alabama (USA) Fall 2012 first-time full-time baccalaureate degree-seeking freshman cohort. The retention rate for the Fall 2012 freshman cohort was 68%. Results indicated retention of students with lower high school GPAs and students with lower ACT Composite scores is a concern. As with the Fall 2007, Fall 2008, Fall 2009, Fall 2010, and Fall 2011 cohorts, the orientation session the student attended provided a significant predictor of student persistence. Students attending the earlier Freshman Summer orientation sessions were more likely to persist than students attending the later orientation sessions. As with earlier studies, the importance of awarding freshman scholarships for students was clear. In addition, freshmen who participated in a learning community, lived on campus, or took Freshman Seminar were significantly more likely to return to USA the following year.

Overview

The following report provides a detailed analysis about the retention of the 1,886 first-time full-time baccalaureate degree-seeking freshmen students in the University of South Alabama (USA) Fall 2012 freshman cohort. Retention in the context of this report is defined as whether or not freshmen students persisted and enrolled one year later in the Fall 2013 semester. Similar to reports written by Institutional Research, Planning & Assessment about the Fall 2007, Fall 2008, Fall 2009, Fall 2010, and Fall 2011 freshman cohorts, the input-environment-outcome (IEO) model developed by Alexander W. Astin[1] was used as a conceptual framework to guide this analysis[2].

Cross tabular results for each variable and whether or not the student returned are reported. Comparisons for each subgroup are made to the overall retention rate of the cohort (68%). Significant mean differences for the input, environmental, and outcome variables are also indicated.

Additionally, three logistic regression models were tested. The first model included the input[3] variables. The second model included the input and the environmental[4] variables. The final model included two outcome[5] variables. The predictive power of each model for explaining whether or not the student returned (Yes/No) is reported as well as which variables were significant in each of the three models.

Cross Tabular Results

Cross tabular results for each variable and whether or not the student returned are summarized in the following section. Comparisons are made for each subgroup of the variable to the retention rate (68%) of

[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] University of South Alabama Fall 2007 Freshman Cohort Retention Report available for reference at http://www.southalabama.edu/irpa/highpriority/fall07cohortfreshretenreport.pdf
[3] Input variables: Gender, race/ethnicity, age, region, high school GPA, and ACT Composite score.
[4] Environmental variables: Freshman scholarship, other scholarship, housing, learning community, Freshman Seminar, college, and orientation session attended.
[5] Outcome variables: USA hours earned and USA GPA.

the 1,886 freshmen in the cohort. These comparisons illustrate which subgroups of students persisted at higher, similar, or lower rates than the overall cohort retention rate of 68 percent. In addition, significant mean differences for the input, environmental, and outcome variables are reported.

Input Variable Cross Tabular Results

For the input variables included in this analysis (see Table 1), female students (71%) persisted at a higher rate than male students (64%) and the retention rate mean difference was statistically significant (see Appendix: Independent T-Test Tables). In terms of race/ethnicity, African-American students (66%), Hispanic students (60%), and students included in the "Other" race/ethnicity subgroup[6] (44%) persisted at a rate lower than the cohort retention rate (68%). The mean difference between retention of Asian students to students in the "Other" race/ethnicity subgroup was statistically significant (see Appendix: ANOVA Tables).

Table 1: Comparisons of Input Variables to Fall 2012 Cohort Retention Rate

Variable	Retention Rate >= 68%	Count	Retention Rate < 68%	Count
**Gender*				
	*Female (71%)	1,032	Male (64%)	854
**Race/Ethnicity*				
	*Asian (83%)	58	African-American (66%)	468
	Non-Resident Alien (80%)	20	Hispanic (60%)	55
	White (69%)	1,179	Other (44%)	34
	Multiracial (68%)	72		
**Age*				
	*18 years old (70%)	1,545	19 years old (57%)	161
	17 years old or younger (70%)	110	20 years or older (49%)	70
Region				
	International (80%)	20	Rest of Alabama (67%)	627
	Mississippi Service Area (74%)	141	Rest of United States (67%)	94
	Mobile or Baldwin County (68%)	912	Florida Service Area (64%)	92
**High School GPA*				
	*3.51-4.0 (82%)	818	3.01-3.5 (64%)	559
			2.51-3.0 (52%)	385
			2.5 or lower (49%)	69
**ACT Composite Score*				
	24-26 (78%)	415	21-23 (66%)	452
	30 or higher (78%)	116	19-20 (62%)	320
	27-29 (75%)	205	*18 or lower (57%)	247

Note: *Significant mean difference at .05 p level based on Independent T-Test for two group comparisons or at least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.

Retention comparisons based on age showed students who were 19 or older persisted at rates less than 58 percent. The mean difference between retention of students who were 18 years old and students who were either 1) 19 years old or 2) 20 years old or older was statistically significant (see Appendix: ANOVA Tables). Comparisons based on what region the student came from showed that only international students (80%) and students from the Mississippi service area (74%) returned at a rate higher than the overall cohort (68%).

[6] Due to the small number of students with a Hawaiian/Pacific Islander, Native-American, and Unknown IPEDS race/ethnicity, these three subgroups were combined into an "Other" race/ethnicity group.

Finally, for the most part, as high school GPA or ACT Composite score declined, retention also decreased. Students who had a high school GPA ranging between 3.01-3.5 or lower persisted at rates lower than the rate for the overall cohort (68%). Similarly, students who had an ACT Composite score ranging between 21-23 or lower persisted at rates lower than the cohort retention rate (68%). The mean difference between retention of students with a high school GPA of 3.51 or higher in comparison to all other high school GPA groups was statistically significant (see Appendix: ANOVA Tables). The mean difference between retention of students with an ACT Composite score of 18 or lower in comparison to students with an ACT Composite score ranging between 24-26, between 27-29, or ACT Composite score of 30 or higher was also statistically significant.

Environmental Variable Cross Tabular Results

For the environmental variables included in this analysis, persistence rates illustrated that receiving scholarships positively affected retention (see Table 2). Students receiving a freshman scholarship (78%) or other scholarship[7] (71%) persisted at rates higher than the cohort retention rate (68%). Additionally, the mean difference between students who received a freshman scholarship compared to students who did not receive a freshman scholarship was statistically significant (see Appendix: Independent T-Test Tables). Similarly, the mean difference between students who received some other type of scholarship compared to students who did not receive this other type of scholarship was statistically significant.

Table 2: Comparisons of Environmental Variables to Fall 2012 Cohort Retention Rate

Variable	Retention Rate >= 68%	Count	Retention Rate < 68%	Count
**Freshman Scholarship*				
	*Yes (78%)	894	No (58%)	992
**Other Scholarship*				
	*Yes (71%)	220	No (67%)	1,666
**Housing*				
	*On campus (69%)	1,006	Off campus (66%)	880
**Learning Community*				
	*Yes (74%)	717	No (64%)	1,169
**Freshman Seminar*				
	*Yes (69%)	1,233	No (65%)	653
College[8]				
	Allied Health (71%)	367	Nursing (67%)	278
	Arts & Sciences (68%)	665	Education (67%)	123
	Business (68%)	138	Engineering (64%)	230
			Computing (64%)	84
**Orientation Session*				
	Summer Session 1 (79%)	280	Summer Session 5 (64%)	298
	Summer Session 2 (76%)	276	Summer Session 6 (56%)	249
	Summer Session 4 (72%)	283	*August/Adult/Transfer Sessions (44%)	160
	May Session (72%)	69		
	Summer Session 3 (71%)	271		

Note: *Significant mean difference at .05 p level based on Independent T-Test for two group comparisons or at least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.

Students who lived on campus (69%), participated in a learning community (74%), and who took freshman seminar (69%) persisted at a higher rate than the cohort retention rate (68%). In all of these

[7] Other scholarship includes third party private scholarships that are not considered a USA Freshman scholarship.
[8] Continuing Education retention is not reported since there was only one student from Continuing Education in this cohort.

three comparisons, the mean difference between retention of 1) students who lived on campus and students who did not live on campus, 2) students who participated in a learning community and students who did not participate in a learning community, and 3) students who took Freshman Seminar and students who did not take Freshman Seminar was statistically significant (see Appendix: Independent T-Test Tables).

Retention comparisons based on the college housing the major the student initially selected showed only Allied Health (71%) students persisted at a higher rate than the overall cohort (68%). However, no college based comparison was statistically significant (see Appendix: ANOVA Tables).

Finally, in terms of the orientation session attended, persistence rates of students who attended the May Orientation session or one of the first four Freshman Summer orientation sessions were higher than the persistence rate of the overall cohort (68%). Persistence rates based on the orientation session attended ranged from a high of 79 percent for students who attended the Freshman Session one orientation to a low of 44 percent for students who attended either the August, Adult, or a Transfer[9] orientation session. When using the students who attended either the August, Adult, or a Transfer orientation session as a comparison group, there was a significant mean difference between the August, Adult, or Transfer orientation session group in comparison to the May Orientation session and the first five Freshman Summer orientation sessions (see Appendix: ANOVA Tables).

Outcome Variable Cross Tabular Results

The outcome variables incorporated into this analysis included the number of hours earned through Summer 2013 at USA and the USA GPA through Summer 2013. Unsurprisingly, as the number of USA hours earned increased the persistence rate also increased (see Table 3). Similarly, students with a higher USA GPA were more likely to return than students with a lower USA GPA.

Table 3: Comparisons of Outcome Variables to Fall 2012 Cohort Retention Rate

Variable	Retention Rate >= 68%	Count	Retention Rate < 68%	Count
**USA Hours Earned*				
	*30.5 or more (95%)	627	12.5-18 (40%)	171
	24.5-30 (85%)	433	6.5-12 (19%)	160
	18.5-24 (75%)	274	0-6 (7%)	185
**USA GPA*				
	3.51-4.0 (94%)	336	*2.0 or lower (31%)	508
	3.01-3.5 (87%)	386		
	2.51-3.0 (78%)	340		
	2.01-2.5 (74%)	280		

Note: *At least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.

Students who completed 18.5-24 or more hours at USA through Summer 2013 persisted at a higher rate (at least 75%) compared to students completing 12.5-18 or fewer hours (at most 40%). The mean difference for students who completed 30.5 or more hours at USA compared to students in all other USA hours earned groups was statistically significant (see Appendix: ANOVA Tables).

Students with a USA GPA ranging between 2.01-2.5 or higher through Summer 2013 persisted at a higher rate (at least 74%) than the cohort rate (68%) while students with a USA GPA of 2.0 or lower

[9] Ten students attended the Adult orientation session or one of three Transfer orientation sessions held in the evening to accommodate adult/working students. As with previous freshman cohort retention reports, the retention results for students who attended one of these orientation sessions were combined for this analysis.

persisted at a much lower rate (31%). Furthermore, the mean difference for students who had a USA GPA of 2.0 or lower compared to students in all other USA GPA groups was statistically significant (see Appendix: ANOVA Tables).

Logistic Regression Results

The focus of the study was to determine which student characteristics (inputs) and environmental characteristics (institutional/other support characteristics) can be used to best predict the persistence of USA freshmen students. Since the focus of this study was prediction and classification of a dichotomous outcome variable, stepwise logistic regression was used. This technique allows for the identification of significant variables that contribute to the classification of individuals by using an algorithm to determine the importance of predictor variables. Stepwise logistic regression was used to identify significant variables in the model for predicting the outcome variable. Results of the final step for the model are reported including the classification rate for the model. Additionally, an analysis of the proportionate change in odds for significant variables is provided.

As a part of this study, three logistic models were tested. The first model included the input variables. The second model included the input variables and the environmental variables. The third model tested the outcome variables which were number of USA hours earned through Summer 2013 and USA GPA through Summer 2013 to see what happened when these outcomes were used as predictors of retention.

The number of students (selected cases) included in each model varied based on what variables were included in the final model. Some students in the cohort had missing data, typically high school GPA and/or ACT Composite score. Because complete cases were required to compute the results, the final number of students used for each model ranged from a low of 1,738 students for the first and second models to a high of 1,850 students for the third model. The retention rate for this subset of 1,738 students was 69 percent. With a similar retention rate (69% compared to 68%) and 1,738 students representing 92 percent of the entire cohort, the models tested provided a solid representation of retention for this population. Since the focus for the models tested was to predict *returning* students, the outcome was coded with students not returning as a "0" and students *returning* as a "1". This focus meant results would predict the odds of whether the student would *return* one year later.

Model 1: Logistic Regression with Input Variables Only

The first model consisted of four steps (see Table 4). The final step (step 4) of the first model showed the model correctly classified students in this cohort who *returned* 91.1 percent of the time and students who did not return 19.0 percent of the time for an overall classification rate of 68.8 percent.

Table 4: Input Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	31	506	5.8
		Yes	28	1173	97.7
	Overall Percentage				69.3
Step 2	Returned	No	110	427	20.5
		Yes	108	1093	91.0
	Overall Percentage				69.2
Step 3	Returned	No	87	450	16.2
		Yes	64	1137	94.7
	Overall Percentage				70.4
Step 4	Returned	No	102	435	19.0
		Yes	107	1094	91.1
	Overall Percentage				68.8

a. The cut value is .500

For each variable included in the first model, a comparison group was selected (gender=male, race/ethnicity=White, age=20 years or older, region=Florida service area, high school GPA=2.5 or lower, and ACT Composite score=18 or lower). Values greater than "1" (Exp *B*) indicated the odds of the outcome (student *returning*) were higher compared to the selected comparison group. Values less than "1" indicated the odds of the outcome (student *returning*) were lower compared to the selected comparison group.

In the first model (see Table 5), high school GPA, gender, race/ethnicity, and ACT Composite score were significant in the final step of the model (step 4). The final step of the model showed the odds (Exp *B*) of a student *returning* were greater for students with a higher high school GPA (3.01-3.5=1.814 and 3.51-4.0=4.077) than for students with a high school GPA of 2.5 or lower. Additionally, the confidence intervals (95%) indicated that except for students with a high school GPA of 2.51-3.0 (CI=.632-1.964), the odds of a student *returning* were greater for students with a higher high school GPA than for students with a high school GPA of 2.5 or lower since the confidence intervals did not encompass an odds value less than one (3.01-3.5 CI=1.042-3.156 and 3.51-4.0 CI=2.301-7.222).

Table 5: Input Model Final Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	HS GPA 2.5 or lower			121.217	3	.000			
	HS GPA 2.51-3.0	.165	.282	.342	1	.559	1.179	.679	2.049
	HS GPA 3.01-3.5	.688	.276	6.219	1	.013	1.989	1.159	3.416
	HS GPA 3.51-4.0	1.599	.276	33.458	1	.000	4.948	2.878	8.506
	Constant	-.102	.261	.152	1	.696	.903		
Step 2[b]	Gender Female	.263	.109	5.851	1	.016	1.301	1.051	1.611
	HS_GPA 2.5 or lower			115.440	3	.000			
	HS_GPA 2.51-3.0	.100	.284	.125	1	.724	1.105	.634	1.927
	HS_GPA 3.01-3.5	.615	.278	4.895	1	.027	1.849	1.073	3.187
	HS_GPA 3.51-4.0	1.514	.279	29.500	1	.000	4.546	2.632	7.852
	Constant	-.169	.263	.414	1	.520	.845		
Step 3[c]	Gender Female	.259	.110	5.584	1	.018	1.296	1.045	1.606
	White			12.727	6	.048			
	African-American	.279	.132	4.432	1	.035	1.321	1.019	1.713
	Asian	.797	.382	4.349	1	.037	2.219	1.049	4.694
	Hispanic	-.411	.302	1.847	1	.174	.663	.366	1.199
	Multiracial	.257	.293	.773	1	.379	1.294	.729	2.296
	Non-Resident Alien	.407	1.179	.119	1	.730	1.503	.149	15.152
	Other Race	-.421	.422	.995	1	.318	.656	.287	1.501
	HS GPA 2.5 or lower			116.934	3	.000			
	HS GPA 2.51-3.0	.069	.285	.058	1	.809	1.071	.613	1.873
	HS GPA 3.01-3.5	.626	.280	5.008	1	.025	1.870	1.081	3.236
	HS GPA 3.51-4.0	1.559	.282	30.481	1	.000	4.753	2.733	8.266
	Constant	-.261	.269	.940	1	.332	.770		
Step 4[d]	Gender Female	.322	.113	8.162	1	.004	1.380	1.106	1.722
	White			17.629	6	.007			
	African-American	.469	.149	9.919	1	.002	1.599	1.194	2.141
	Asian	.860	.387	4.942	1	.026	2.362	1.107	5.039
	Hispanic	-.341	.305	1.252	1	.263	.711	.391	1.292
	Multiracial	.304	.294	1.075	1	.300	1.356	.763	2.411
	Non-Resident Alien	.615	1.200	.263	1	.608	1.849	.176	19.410
	Other Race	-.296	.429	.476	1	.490	.744	.321	1.725
	HS GPA 2.5 or lower			73.821	3	.000			
	HS GPA 2.51-3.0	.108	.289	.139	1	.709	1.114	.632	1.964
	HS GPA 3.01-3.5	.595	.283	4.432	1	.035	1.814	1.042	3.156
	HS GPA 3.51-4.0	1.405	.292	23.206	1	.000	4.077	2.301	7.222
	ACT 18 or lower			12.405	5	.030			
	ACT 19-20	.207	.188	1.210	1	.271	1.229	.851	1.777
	ACT 21-23	.284	.189	2.247	1	.134	1.328	.916	1.925
	ACT 24-26	.696	.212	10.793	1	.001	2.006	1.324	3.040
	ACT 27-29	.494	.248	3.973	1	.046	1.638	1.008	2.662
	ACT 30 or higher	.520	.299	3.024	1	.082	1.682	.936	3.022
	Constant	-.640	.321	3.977	1	.046	.527		

a. Variable(s) entered on step 1: HS GPA.
b. Variable(s) entered on step 2: Gender.
c. Variable(s) entered on step 3: Race.
d. Variable(s) entered on step 4: ACT.

When looking at the gender of the student, the final step (step 4) of the first model showed the odds (Exp *B*) of a student *returning* were greater for female students (1.380) than for male students. The confidence intervals (95%) also supported this finding that the odds of a female student *returning* were greater than for male students since the confidence intervals did not encompass an odds value less than one.

A review of the final step (step 4) results of the first model for the race/ethnicity of the student showed the odds (Exp *B*) of a student *returning* were greater for Asian (2.362) students and African-American (1.599) students than for White students. In addition, the confidence intervals (95%) indicated that the odds of a student *returning* were greater for Asian (CI=1.107-5.039) students and African-American (CI=1.194-2.141) students than for White students since the confidence intervals did not encompass an odds value less than one.

In terms of the ACT Composite score of the student, the final step (step 4) of the first model showed the odds (Exp *B*) of a student *returning* were greater for students with an ACT Composite score of 24-26 (2.006) and ACT Composite score of 27-29 (1.638) than for students with an ACT Composite score of 18 or lower. Additionally, the confidence intervals (95%) indicated that the odds of a student *returning* were greater for students with an ACT Composite score of 24-26 (CI=1.324-3.040) and ACT Composite score of 27-29 (CI=1.008-2.662) than for students with an ACT Composite score of 18 or lower since the confidence intervals did not encompass an odds value less than one.

Model 2: Logistic Regression with Input and Environmental Variables
The second model included the input and also the environmental variables. For each environmental variable included in the second model a comparison group was selected (whether the student received a freshman scholarship=no, whether the student received an "other" scholarship=no, whether the student lived on or off campus=off campus, whether the student participated in a learning community=no, whether the student took Freshman Seminar=no, which college housed the major the student selected at initial enrollment=Arts & Sciences, and orientation session attended=August, Adult, or a Transfer orientation session).

The second model consisted of two steps (see Table 6). In comparison to the first model, the correct classification rate for the second model increased to 91.4 percent for *returning* students while the classification rate for the second model increased to 23.5 percent for students who did not return. The overall correct classification rate for the second model was 70.4 percent.

Table 6: Input and Environmental Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	123	414	22.9
		Yes	103	1098	91.4
	Overall Percentage				70.3
Step 2	Returned	No	126	411	23.5
		Yes	103	1098	91.4
	Overall Percentage				70.4

a. The cut value is .500

Once again, high school GPA, gender, race/ethnicity, and ACT Composite score were included in the final step (step 2) of the second model (see Table 7). In addition, orientation session and freshman scholarship were included in the final step of the second model (step 2).

Table 7: Input and Environmental Model Final Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 2[b]	Gender Female	.304	.115	6.987	1	.008	1.355	1.082	1.698
	White			25.520	6	.000			
	African-American	.628	.154	16.647	1	.000	1.874	1.386	2.535
	Asian	.984	.398	6.103	1	.013	2.675	1.225	5.838
	Hispanic	-.334	.314	1.131	1	.288	.716	.387	1.326
	Multiracial	.379	.303	1.570	1	.210	1.461	.807	2.644
	Non-Resident Alien	1.794	1.187	2.282	1	.131	6.012	.586	61.632
	Other Race	.025	.449	.003	1	.955	1.025	.425	2.473
	HS GPA 2.5 or lower			49.264	3	.000			
	HS GPA 2.51-3.0	-.067	.297	.050	1	.822	.935	.522	1.675
	HS GPA 3.01-3.5	.324	.295	1.211	1	.271	1.383	.776	2.464
	HS GPA 3.51-4.0	1.055	.307	11.837	1	.001	2.871	1.574	5.234
	ACT 18 or lower			4.278	5	.510			
	ACT 19-20	.221	.190	1.358	1	.244	1.248	.860	1.810
	ACT 21-23	.081	.201	.161	1	.688	1.084	.731	1.608
	ACT 24-26	.261	.253	1.064	1	.302	1.299	.790	2.134
	ACT 27-29	-.042	.290	.021	1	.884	.958	.543	1.692
	ACT 30 or higher	-.066	.339	.038	1	.846	.936	.482	1.820
	Freshman Scholarship Yes	.531	.191	7.752	1	.005	1.701	1.170	2.472
	August/Adult/Transfer			38.620	7	.000			
	May Orientation	1.442	.389	13.768	1	.000	4.231	1.975	9.064
	Freshman Session 1	1.328	.274	23.572	1	.000	3.774	2.208	6.450
	Freshman Session 2	1.298	.266	23.722	1	.000	3.661	2.172	6.171
	Freshman Session 3	1.074	.260	17.018	1	.000	2.928	1.758	4.879
	Freshman Session 4	1.040	.261	15.852	1	.000	2.830	1.696	4.723
	Freshman Session 5	.843	.253	11.130	1	.001	2.324	1.416	3.814
	Freshman Session 6	.578	.257	5.059	1	.024	1.782	1.077	2.949
	Constant	-1.386	.390	12.656	1	.000	.250		

a. Variable(s) entered on step 1: Orientation.
b. Variable(s) entered on step 2: Freshman Scholarship.

The final step (step 2) of the second model showed that except for students with a high school GPA of 2.51-3.0 (.935) the odds (Exp *B*) of a student *returning* were greater for students with a higher high school GPA (3.01-3.5=1.383 and 3.51-4.0=2.871) than for students with a high school GPA of 2.5 or lower. However, the confidence intervals (95%) only showed that the odds of a student *returning* were greater for students with a high school GPA of 3.51-4.0 (CI=1.574-5.234) than students with a high school GPA of 2.5 or lower, because the confidence intervals did not encompass an odds value less than one.

When looking at the gender of the student, the final step (step 2) of the second model showed the odds (Exp *B*) of a student *returning* were greater for female students (1.355) than for male students. The confidence intervals (95%) also supported this finding because the odds of a female student *returning* were greater than for male students since the confidence intervals did not encompass an odds value less than one.

A review of the final step (step 2) results of the second model for the race/ethnicity of the student showed the odds (Exp *B*) of a student *returning* were greater for Asian (2.675) students and African-American (1.874) students than for White students. In addition, the confidence intervals (95%) indicated that the odds of a student *returning* were greater for Asian (CI=1.225-5.838) students and African-American

(CI=1.386-2.535) students than for White students since the confidence intervals did not encompass an odds value less than one.

In terms of the ACT Composite score of the student, the final step (step 2) of the second model showed the odds (Exp *B*) of a student *returning* were greater for students with an ACT Composite score of 19-20 (1.248), ACT Composite score of 21-23 (1.084), and ACT Composite score of 24-26 (1.299) than for students with an ACT Composite score of 18 or lower. However, when comparing all of the ACT Composite score groups to an ACT Composite score of 18 or lower, none of the comparisons were significant. All of the ACT Composite score group comparisons to an ACT Composite score of 18 or lower encompassed an odds value of one suggesting that ACT Composite score could have been excluded from this second model.

In relation to the orientation session attended, the final step (step 2) of the second model showed the odds of a student *returning* were the greatest for students attending the earlier Freshman Summer orientation sessions. Students attending the earlier orientation sessions had greater odds for *returning* than a student who attended either the August, Adult, or a Transfer orientation session (May=4.231, Summer 1=3.774, Summer 2=3.661, Summer 3=2.928, Summer 4=2.830, Summer 5=2.324, and Summer 6=1.782). In addition, the confidence intervals (95%) supported this finding because in all cases the odds of a student *returning* for students attending the earlier Freshman Summer orientation sessions were greater than for students who attended either the August, Adult, or a Transfer orientation session since the confidence intervals did not encompass an odds value less than one.

Lastly, when considering the impact of freshman scholarships, the final step (step 2) of the second model showed the odds (Exp *B*) of a student *returning* were greater for students who received a freshman scholarship (1.701) than for students who did not receive a freshman scholarship. The confidence intervals (95%) also supported this finding because the odds for students *returning* who received a freshman scholarship were greater than for students who did not receive a freshman scholarship since the confidence intervals did not encompass an odds value less than one.

Model 3: Logistic Regression with Outcome Variables Only
Since outcomes of student success are different from inputs (student characteristics or institutional/other support characteristics), the third model only included the outcomes of interest: number of hours earned through the Summer of 2013 and the USA GPA the student attained through the Summer of 2013. The first and second models can be used based on data known before or at least early on after the student comes to campus. However, this third model can only be used after Summer 2013 has ended.

For the third model a comparison group was selected for the number of hours earned and the USA GPA the student attained through the Summer of 2013 (number of hours earned=0-6 hours and USA GPA=2.0 or lower). The third model (see Table 8) consisted of two steps. Compared to the second model, the correct classification rate for the third model was slightly lower (91.3) for *returning* students. However, in comparison to the other two models, the correct classification rate of the third model dramatically increased to 69.5 percent for students who did not return since this snapshot was based on data representing Summer 2013 student success outcomes instead of pre-Fall 2012 student characteristics and institutional or other support characteristics. The overall correct classification rate for the third model was 84.6 percent.

Table 8: Outcome Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	404	166	70.9
		Yes	112	1168	91.3
	Overall Percentage				85.0
Step 2	Returned	No	396	174	69.5
		Yes	111	1169	91.3
	Overall Percentage				84.6

a. The cut value is .500

In the final step (step 2) of the third model, both the hours earned at USA and USA GPA variables were significant (see Table 9). The final step (step 2) of the third model showed the odds (Exp *B*) of a student *returning* were greater for students with more hours earned (6.5-12=3.164, 12.5-18=8.511, 18.5-24=40.704, 24.5-30=71.748, 30.5 or more=205.027) than for students with six or fewer hours earned by Summer 2013. Furthermore, confidence intervals (95%) for all USA hours earned comparison groups did not encompass an odds value less than one.

Table 9: Outcome Model Final Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	USA Hours Earned 0-6			510.824	5	.000			
	USA Hours Earned 6.5-12	1.157	.350	10.900	1	.001	3.179	1.600	6.318
	USA Hours Earned 12.5-18	2.167	.327	43.838	1	.000	8.735	4.599	16.592
	USA Hours Earned 18.5-24	3.671	.320	132.013	1	.000	39.309	21.013	73.534
	USA Hours Earned 24.5-30	4.316	.318	184.749	1	.000	74.907	40.199	139.579
	USA Hours Earned 30.5 or more	5.505	.340	262.036	1	.000	246.010	126.316	479.121
	Constant	-2.583	.288	80.611	1	.000	.076		
Step 2[b]	USA Hours Earned 0-6			270.674	5	.000			
	USA Hours Earned 6.5-12	1.152	.353	10.658	1	.001	3.164	1.585	6.317
	USA Hours Earned 12.5-18	2.141	.337	40.492	1	.000	8.511	4.401	16.460
	USA Hours Earned 18.5-24	3.706	.346	114.768	1	.000	40.704	20.661	80.190
	USA Hours Earned 24.5-30	4.273	.368	134.718	1	.000	71.748	34.868	147.634
	USA Hours Earned 30.5 or more	5.323	.398	178.820	1	.000	205.027	93.967	447.353
	USA GPA 2.0 or lower			9.909	4	.042			
	USA GPA 2.01-2.5	.023	.219	.011	1	.917	1.023	.665	1.573
	USA GPA 2.51-3.0	-.252	.231	1.184	1	.277	.777	.494	1.224
	USA GPA 3.01-3.5	.081	.254	.101	1	.751	1.084	.659	1.783
	USA GPA 3.51-4.0	.659	.315	4.381	1	.036	1.932	1.043	3.580
	Constant	-2.580	.288	80.456	1	.000	.076		

a. Variable(s) entered on step 1: USA Hours Earned.
b. Variable(s) entered on step 2: USA GPA.

The final step (step 2) of the third model showed the odds (Exp *B*) of a student *returning* were greater for students with a USA GPA of 3.51-4.0 (1.932) at the end of Summer 2013 than for students with a USA GPA of 2.0 or lower at that same time. The confidence intervals (95%) also supported this finding because the odds of students with a USA GPA of 3.51-4.0 *returning* were greater than for students with a USA GPA of 2.0 or lower since the confidence intervals did not encompass an odds value less than one.

Peer Comparisons

Finally, to gain a better idea about how USA retention rates compared to retention at peer institutions, the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) Data Center was used to compare retention rates at USA to 47 peer institutions (see Table 10). A five year retention rate trend based on the latest available retention rate data in IPEDS showed USA had lower retention rates than most peer institutions over this five year time period. The USA retention rate over this five year time period ranged from a low of 65% for the 2010 freshman cohort to a high of 70% for the 2006 freshman cohort. The retention rate of peer institutions over this five year time period ranged from a low of 50% for the Auburn University at Montgomery 2010 freshman cohort to a high of 94% for the University of Georgia 2008, 2009, and 2010 freshman cohorts.

Table 10: Five Year Retention Rate Peer Comparisons * Ranked by 2010 Cohort Retention Rate * High to Low

Institution Name	2010 Cohort Retention	2009 Cohort Retention	2008 Cohort Retention	2007 Cohort Retention	2006 Cohort Retention
University of Georgia	94	94	94	93	93
Florida State University	92	92	91	89	89
Auburn University	89	87	86	87	86
University of South Florida-Main Campus	88	88	86	88	81
University of Central Florida	87	87	87	86	84
University of Alabama	86	85	83	84	87
Louisiana State University	84	84	84	85	85
Georgia College & State University	83	85	84	84	81
Georgia State University	83	84	83	82	82
Mississippi State University	83	82	82	84	83
Florida International University	82	83	81	81	84
University of Mississippi	81	83	81	78	80
University of North Florida	81	83	83	78	77
Florida Atlantic University	79	80	79	75	74
University of Alabama at Birmingham	79	80	82	80	75
University of Alabama in Huntsville	79	75	76	77	77
Kennesaw State University	77	77	75	76	75
University of Memphis	77	78	76	75	73
University of Montevallo	77	72	79	74	75
Southern Polytechnic State University	76	74	75	79	76
Louisiana Tech University	74	74	74	72	72
Troy University	74	73	72	75	68
University of Louisiana at Lafayette	74	73	76	74	75
University of West Georgia	74	73	74	75	73
Tennessee Technological University	73	76	72	71	73
University of Tennessee-Martin	73	71	72	71	71
University of West Florida	73	73	79	71	73
University of Southern Mississippi	72	77	74	72	73
University of North Alabama	71	65	71	66	65
Columbus State University	70	70	66	70	71
East Tennessee State University	70	72	70	67	69
Middle Tennessee State University	70	73	73	71	70
Austin Peay State University	69	69	67	68	66
Northwestern State University of Louisiana	69	71	69	69	66
Southeastern Louisiana University	69	67	67	64	62
University of Tennessee at Chattanooga	69	68	67	61	65
University of Louisiana-Monroe	69	72	72	66	66
Augusta State University	67	69	70	69	64
Clayton State University	67	60	66	59	61
University of New Orleans	67	64	69	69	69
Valdosta State University	67	68	72	71	72
University of South Alabama	65	66	67	67	70
Armstrong Atlantic State University	65	72	71	69	69
Georgia Southwestern State University	65	66	69	76	64
Louisiana State University-Shreveport	65	69	62	61	60
Delta State University	61	59	63	64	61
University of West Alabama	57	63	65	62	71
Auburn University at Montgomery	50	54	58	61	54

Source: National Center for Education Statistics IPEDS Data Center

Implications
Based on what we know about a student before the student steps foot on campus (input variables), retention of students with lower high school GPAs and students with lower ACT Composite scores is a concern. This prompts further reflection regarding admission standards and the allocation of resources to support at risk students.

When we look at the institutional support and other support provided to a student (environmental variables), just like with the Fall 2007, Fall 2008, Fall 2009, Fall 2010, and Fall 2011 cohorts, the orientation session students in the Fall 2012 cohort attended provided a significant predictor of student persistence, with students attending the earlier Freshman Summer orientation sessions more likely to persist than students attending the later orientation sessions. The orientation session attended by students continues to provide a key factor for identifying at-risk freshmen students early in their college experience.

Previous IRPA studies have looked at the contribution of freshman scholarships to recruitment and retention goals. As with earlier studies, the importance of awarding freshman scholarships for students was clear. Additional freshman scholarships should also be considered in order to attract top students to the institution since the data suggests students with freshman scholarships are also very likely to return to continue their studies at USA the following year.

This annual retention study also compared retention of freshmen who participated in a learning community to freshmen who did not participate in a learning community in his/her first Fall semester at USA. Freshmen who participated in a learning community were significantly more likely to return to USA the following year. Additionally, freshmen who took Freshman Seminar or who lived on campus were also significantly more likely to return to USA. Learning communities typically include a Freshman Seminar and are required in some cases, depending on the residence hall, for students who live on campus. Therefore, expanding the number of learning communities for freshmen to participate in should also receive further consideration.

Future Retention Research
This report is the first of two retention studies about the Fall 2012 freshman cohort that will be completed by Institutional Research, Planning & Assessment during the Fall 2013 semester. The second retention study will use National Student Clearinghouse data to explore the issue of "Where did USA Fall 2012 freshmen non returning students go?" This study will determine how many non returning freshmen students transferred to another college or university or "stopped out" of college altogether.

APPENDIX

Independent T-Test Tables

Gender * Group Statistics

	Gender T-Test	N	Mean	Std. Deviation	Std. Error Mean
Returned	Male	854	.64	.481	.016
	Female	1032	.71	.452	.014

Gender * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	47.103	.000	-3.536	1884	.000	-.076	.022	-.118	-.034
	Equal variances not assumed			-3.516	1772.845	.000	-.076	.022	-.119	-.034

Freshman Scholarship * Group Statistics

	Freshman Scholarship	N	Mean	Std. Deviation	Std. Error Mean
Returned	No	992	.58	.493	.016
	Yes	894	.78	.412	.014

Freshman Scholarship * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	346.299	.000	-9.524	1884	.000	-.200	.021	-.242	-.159
	Equal variances not assumed			-9.613	1873.159	.000	-.200	.021	-.241	-.160

Other Scholarship * Group Statistics

	Other Scholarship	N	Mean	Std. Deviation	Std. Error Mean
Returned	No	1666	.67	.469	.011
	Yes	220	.71	.455	.031

Other Scholarship * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	4.862	.028	-1.027	1884	.304	-.034	.034	-.100	.031
	Equal variances not assumed			-1.050	283.858	.294	-.034	.033	-.099	.030

Housing * Group Statistics

	Housing	N	Mean	Std. Deviation	Std. Error Mean
Returned	Off Campus	880	.66	.473	.016
	On Campus	1006	.69	.462	.015

Housing * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	6.762	.009	-1.309	1884	.191	-.028	.022	-.070	.014
	Equal variances not assumed			-1.307	1838.705	.191	-.028	.022	-.071	.014

Learning Community * Group Statistics

	Learning Community	N	Mean	Std. Deviation	Std. Error Mean
Returned	No	1169	.64	.481	.014
	Yes	717	.74	.436	.016

Learning Community * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	104.791	.000	-4.840	1884	.000	-.107	.022	-.150	-.063
	Equal variances not assumed			-4.954	1626.508	.000	-.107	.022	-.149	-.064

Freshman Seminar * Group Statistics

	Took Freshman Seminar	N	Mean	Std. Deviation	Std. Error Mean
Returned	No	653	.65	.477	.019
	Yes	1233	.69	.462	.013

Freshman Seminar * Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Returned	Equal variances assumed	11.766	.001	-1.781	1884	.075	-.040	.023	-.085	.004
	Equal variances not assumed			-1.764	1292.013	.078	-.040	.023	-.085	.005

ANOVA Tables

Race * Multiple Comparisons
Dependent Variable: Returned
Games-Howell

(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
White	African-American	.021	.026	.984	-.06	.10
	Asian	-.142	.052	.103	-.30	.02
	Hispanic	.085	.068	.869	-.12	.29
	Multiracial	.005	.057	1.000	-.17	.18
	Non-Resident Alien	-.115	.093	.872	-.42	.19
	Other	.244	.087	.106	-.03	.52
African-American	White	-.021	.026	.984	-.10	.06
	Asian	-.163	.055	.055	-.33	.00
	Hispanic	.065	.070	.968	-.15	.28
	Multiracial	-.016	.059	1.000	-.20	.16
	Non-Resident Alien	-.135	.094	.777	-.44	.17
	Other	.223	.089	.187	-.05	.50
Asian	White	.142	.052	.103	-.02	.30
	African-American	.163	.055	.055	.00	.33
	Hispanic	.228	.083	.101	-.02	.48
	Multiracial	.147	.075	.438	-.08	.37
	Non-Resident Alien	.028	.105	1.000	-.30	.36
	Other	.386*	.100	.005	.08	.69
Hispanic	White	-.085	.068	.869	-.29	.12
	African-American	-.065	.070	.968	-.28	.15
	Asian	-.228	.083	.101	-.48	.02
	Multiracial	-.081	.087	.967	-.34	.18
	Non-Resident Alien	-.200	.113	.579	-.55	.15
	Other	.159	.109	.770	-.17	.49
Multiracial	White	-.005	.057	1.000	-.18	.17
	African-American	.016	.059	1.000	-.16	.20
	Asian	-.147	.075	.438	-.37	.08
	Hispanic	.081	.087	.967	-.18	.34
	Non-Resident Alien	-.119	.107	.919	-.45	.22
	Other	.239	.103	.246	-.07	.55
Non-Resident Alien	White	.115	.093	.872	-.19	.42
	African-American	.135	.094	.777	-.17	.44
	Asian	-.028	.105	1.000	-.36	.30
	Hispanic	.200	.113	.579	-.15	.55
	Multiracial	.119	.107	.919	-.22	.45
	Other	.359	.126	.087	-.03	.75
Other	White	-.244	.087	.106	-.52	.03
	African-American	-.223	.089	.187	-.50	.05
	Asian	-.386*	.100	.005	-.69	-.08
	Hispanic	-.159	.109	.770	-.49	.17
	Multiracial	-.239	.103	.246	-.55	.07
	Non-Resident Alien	-.359	.126	.087	-.75	.03

*. The mean difference is significant at the 0.05 level.

Age * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) Age Logistic	(J) Age Logistic	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
20 years or older	17 years or younger	-.214*	.074	.024	-.41	-.02
	18 years old	-.212*	.061	.005	-.37	-.05
	19 years old	-.080	.072	.686	-.27	.11
17 years or younger	20 years or older	.214*	.074	.024	.02	.41
	18 years old	.002	.045	1.000	-.12	.12
	19 years old	.135	.059	.103	-.02	.29
18 years old	20 years or older	.212*	.061	.005	.05	.37
	17 years or younger	-.002	.045	1.000	-.12	.12
	19 years old	.133*	.041	.008	.03	.24
19 years old	20 years or older	.080	.072	.686	-.11	.27
	17 years or younger	-.135	.059	.103	-.29	.02
	18 years old	-.133*	.041	.008	-.24	-.03

*. The mean difference is significant at the 0.05 level.

Region * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) Region	(J) Region	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Mobile or Baldwin County	Rest of Alabama	.012	.024	.996	-.06	.08
	Mississippi Service Area	-.066	.040	.566	-.18	.05
	Florida Service Area	.037	.053	.980	-.12	.19
	Rest of United States	.009	.051	1.000	-.14	.16
	International	-.121	.093	.780	-.41	.17
Rest of Alabama	Mobile or Baldwin County	-.012	.024	.996	-.08	.06
	Mississippi Service Area	-.078	.041	.414	-.20	.04
	Florida Service Area	.025	.054	.997	-.13	.18
	Rest of United States	-.004	.052	1.000	-.15	.15
	International	-.133	.094	.713	-.43	.16
Mississippi Service Area	Mobile or Baldwin County	.066	.040	.566	-.05	.18
	Rest of Alabama	.078	.041	.414	-.04	.20
	Florida Service Area	.103	.062	.561	-.08	.28
	Rest of United States	.074	.061	.827	-.10	.25
	International	-.055	.099	.993	-.36	.25
Florida Service Area	Mobile or Baldwin County	-.037	.053	.980	-.19	.12
	Rest of Alabama	-.025	.054	.997	-.18	.13
	Mississippi Service Area	-.103	.062	.561	-.28	.08
	Rest of United States	-.029	.070	.998	-.23	.17
	International	-.159	.105	.657	-.48	.16
Rest of United States	Mobile or Baldwin County	-.009	.051	1.000	-.16	.14
	Rest of Alabama	.004	.052	1.000	-.15	.15
	Mississippi Service Area	-.074	.061	.827	-.25	.10
	Florida Service Area	.029	.070	.998	-.17	.23
	International	-.130	.104	.809	-.45	.19
International	Mobile or Baldwin County	.121	.093	.780	-.17	.41
	Rest of Alabama	.133	.094	.713	-.16	.43
	Mississippi Service Area	.055	.099	.993	-.25	.36
	Florida Service Area	.159	.105	.657	-.16	.48
	Rest of United States	.130	.104	.809	-.19	.45

High School GPA * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) HS GPA	(J) HS GPA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2.5 or lower	2.51-3.0	-.029	.066	.970	-.20	.14
	3.01-3.5	-.148	.064	.104	-.32	.02
	3.51-4.0	-.323*	.062	.000	-.49	-.16
2.51-3.0	2.5 or lower	.029	.066	.970	-.14	.20
	3.01-3.5	-.118*	.033	.002	-.20	-.03
	3.51-4.0	-.293*	.029	.000	-.37	-.22
3.01-3.5	2.5 or lower	.148	.064	.104	-.02	.32
	2.51-3.0	.118*	.033	.002	.03	.20
	3.51-4.0	-.175*	.024	.000	-.24	-.11
3.51-4.0	2.5 or lower	.323*	.062	.000	.16	.49
	2.51-3.0	.293*	.029	.000	.22	.37
	3.01-3.5	.175*	.024	.000	.11	.24

*. The mean difference is significant at the 0.05 level.

ACT Composite * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) ACT	(J) ACT	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18 or lower	19-20	-.047	.042	.869	-.17	.07
	21-23	-.084	.039	.247	-.19	.03
	24-26	-.203*	.038	.000	-.31	-.10
	27-29	-.176*	.044	.001	-.30	-.05
	30 or higher	-.210*	.050	.000	-.35	-.07
19-20	18 or lower	.047	.042	.869	-.07	.17
	21-23	-.037	.035	.895	-.14	.06
	24-26	-.156*	.034	.000	-.25	-.06
	27-29	-.129*	.041	.019	-.25	-.01
	30 or higher	-.163*	.047	.008	-.30	-.03
21-23	18 or lower	.084	.039	.247	-.03	.19
	19-20	.037	.035	.895	-.06	.14
	24-26	-.119*	.030	.001	-.21	-.03
	27-29	-.092	.038	.144	-.20	.02
	30 or higher	-.125	.044	.058	-.25	.00
24-26	18 or lower	.203*	.038	.000	.10	.31
	19-20	.156*	.034	.000	.06	.25
	21-23	.119*	.030	.001	.03	.21
	27-29	.027	.037	.977	-.08	.13
	30 or higher	-.006	.043	1.000	-.13	.12
27-29	18 or lower	.176*	.044	.001	.05	.30
	19-20	.129*	.041	.019	.01	.25
	21-23	.092	.038	.144	-.02	.20
	24-26	-.027	.037	.977	-.13	.08
	30 or higher	-.033	.049	.984	-.17	.11
30 or higher	18 or lower	.210*	.050	.000	.07	.35
	19-20	.163*	.047	.008	.03	.30
	21-23	.125	.044	.058	.00	.25
	24-26	.006	.043	1.000	-.12	.13
	27-29	.033	.049	.984	-.11	.17

*. The mean difference is significant at the 0.05 level.

College * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) College	(J) College	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
AS	AH	-.033	.030	.928	-.12	.06
	BU	.000	.044	1.000	-.13	.13
	CS	.038	.056	.993	-.13	.21
	ED	.015	.046	1.000	-.12	.15
	EG	.038	.036	.946	-.07	.15
	NU	.012	.034	1.000	-.09	.11
AH	AS	.033	.030	.928	-.06	.12
	BU	.033	.046	.992	-.10	.17
	CS	.071	.058	.880	-.10	.24
	ED	.047	.049	.960	-.10	.19
	EG	.070	.039	.560	-.05	.19
	NU	.045	.037	.888	-.06	.15
BU	AS	.000	.044	1.000	-.13	.13
	AH	-.033	.046	.992	-.17	.10
	CS	.038	.066	.997	-.16	.24
	ED	.014	.058	1.000	-.16	.19
	EG	.038	.051	.990	-.11	.19
	NU	.012	.049	1.000	-.13	.16
CS	AS	-.038	.056	.993	-.21	.13
	AH	-.071	.058	.880	-.24	.10
	BU	-.038	.066	.997	-.24	.16
	ED	-.024	.068	1.000	-.23	.18
	EG	-.001	.061	1.000	-.18	.18
	NU	-.026	.060	.999	-.20	.15
ED	AS	-.015	.046	1.000	-.15	.12
	AH	-.047	.049	.960	-.19	.10
	BU	-.014	.058	1.000	-.19	.16
	CS	.024	.068	1.000	-.18	.23
	EG	.023	.053	.999	-.13	.18
	NU	-.002	.051	1.000	-.15	.15
EG	AS	-.038	.036	.946	-.15	.07
	AH	-.070	.039	.560	-.19	.05
	BU	-.038	.051	.990	-.19	.11
	CS	.001	.061	1.000	-.18	.18
	ED	-.023	.053	.999	-.18	.13
	NU	-.026	.042	.997	-.15	.10
NU	AS	-.012	.034	1.000	-.11	.09
	AH	-.045	.037	.888	-.15	.06
	BU	-.012	.049	1.000	-.16	.13
	CS	.026	.060	.999	-.15	.20
	ED	.002	.051	1.000	-.15	.15
	EG	.026	.042	.997	-.10	.15

Orientation * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) Orientation	(J) Orientation	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
August/Adult/Transfer	May Orientation	-.281*	.067	.001	-.49	-.07
	Freshman Session 1	-.346*	.046	.000	-.49	-.20
	Freshman Session 2	-.313*	.047	.000	-.46	-.17
	Freshman Session 3	-.268*	.048	.000	-.42	-.12
	Freshman Session 4	-.277*	.048	.000	-.42	-.13
	Freshman Session 5	-.201*	.048	.001	-.35	-.05
	Freshman Session 6	-.118	.050	.270	-.27	.04
May Orientation	August/Adult/Transfer	.281*	.067	.001	.07	.49
	Freshman Session 1	-.065	.059	.958	-.25	.12
	Freshman Session 2	-.033	.060	.999	-.22	.15
	Freshman Session 3	.012	.061	1.000	-.18	.20
	Freshman Session 4	.004	.060	1.000	-.18	.19
	Freshman Session 5	.080	.061	.889	-.11	.27
	Freshman Session 6	.162	.063	.170	-.03	.36
Freshman Session 1	August/Adult/Transfer	.346*	.046	.000	.20	.49
	May Orientation	.065	.059	.958	-.12	.25
	Freshman Session 2	.032	.036	.986	-.08	.14
	Freshman Session 3	.077	.037	.420	-.03	.19
	Freshman Session 4	.068	.036	.558	-.04	.18
	Freshman Session 5	.145*	.037	.003	.03	.26
	Freshman Session 6	.227*	.040	.000	.11	.35
Freshman Session 2	August/Adult/Transfer	.313*	.047	.000	.17	.46
	May Orientation	.033	.060	.999	-.15	.22
	Freshman Session 1	-.032	.036	.986	-.14	.08
	Freshman Session 3	.045	.038	.934	-.07	.16
	Freshman Session 4	.036	.037	.977	-.08	.15
	Freshman Session 5	.113	.038	.060	.00	.23
	Freshman Session 6	.195*	.041	.000	.07	.32
Freshman Session 3	August/Adult/Transfer	.268*	.048	.000	.12	.42
	May Orientation	-.012	.061	1.000	-.20	.18
	Freshman Session 1	-.077	.037	.420	-.19	.03
	Freshman Session 2	-.045	.038	.934	-.16	.07
	Freshman Session 4	-.009	.038	1.000	-.13	.11
	Freshman Session 5	.068	.039	.664	-.05	.19
	Freshman Session 6	.150*	.042	.009	.02	.28
Freshman Session 4	August/Adult/Transfer	.277*	.048	.000	.13	.42
	May Orientation	-.004	.060	1.000	-.19	.18
	Freshman Session 1	-.068	.036	.558	-.18	.04
	Freshman Session 2	-.036	.037	.977	-.15	.08
	Freshman Session 3	.009	.038	1.000	-.11	.13
	Freshman Session 5	.077	.039	.492	-.04	.19
	Freshman Session 6	.159*	.041	.003	.03	.28
Freshman Session 5	August/Adult/Transfer	.201*	.048	.001	.05	.35
	May Orientation	-.080	.061	.889	-.27	.11
	Freshman Session 1	-.145*	.037	.003	-.26	-.03
	Freshman Session 2	-.113	.038	.060	-.23	.00
	Freshman Session 3	-.068	.039	.664	-.19	.05
	Freshman Session 4	-.077	.039	.492	-.19	.04
	Freshman Session 6	.082	.042	.515	-.05	.21
Freshman Session 6	August/Adult/Transfer	.118	.050	.270	-.04	.27
	May Orientation	-.162	.063	.170	-.36	.03
	Freshman Session 1	-.227*	.040	.000	-.35	-.11
	Freshman Session 2	-.195*	.041	.000	-.32	-.07
	Freshman Session 3	-.150*	.042	.009	-.28	-.02
	Freshman Session 4	-.159*	.041	.003	-.28	-.03
	Freshman Session 5	-.082	.042	.515	-.21	.05

*. The mean difference is significant at the 0.05 level.

USA Hours Earned * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) USA Hours Earned	(J) USA Hours Earned	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0-6 hours	6.5-12 hours	-.123*	.037	.011	-.23	-.02
	12.5-18 hours	-.327*	.042	.000	-.45	-.21
	18.5-24 hours	-.678*	.032	.000	-.77	-.59
	24.5-30 hours	-.780*	.026	.000	-.85	-.71
	30.5 or more hours	-.879*	.021	.000	-.94	-.82
6.5-12 hours	0-6 hours	.123*	.037	.011	.02	.23
	12.5-18 hours	-.204*	.049	.001	-.34	-.06
	18.5-24 hours	-.554*	.041	.000	-.67	-.44
	24.5-30 hours	-.656*	.036	.000	-.76	-.55
	30.5 or more hours	-.755*	.033	.000	-.85	-.66
12.5-18 hours	0-6 hours	.327*	.042	.000	.21	.45
	6.5-12 hours	.204*	.049	.001	.06	.34
	18.5-24 hours	-.351*	.046	.000	-.48	-.22
	24.5-30 hours	-.452*	.041	.000	-.57	-.33
	30.5 or more hours	-.551*	.039	.000	-.66	-.44
18.5-24 hours	0-6 hours	.678*	.032	.000	.59	.77
	6.5-12 hours	.554*	.041	.000	.44	.67
	12.5-18 hours	.351*	.046	.000	.22	.48
	24.5-30 hours	-.102*	.031	.016	-.19	-.01
	30.5 or more hours	-.201*	.028	.000	-.28	-.12
24.5-30 hours	0-6 hours	.780*	.026	.000	.71	.85
	6.5-12 hours	.656*	.036	.000	.55	.76
	12.5-18 hours	.452*	.041	.000	.33	.57
	18.5-24 hours	.102*	.031	.016	.01	.19
	30.5 or more hours	-.099*	.019	.000	-.15	-.04
30.5 or more hours	0-6 hours	.879*	.021	.000	.82	.94
	6.5-12 hours	.755*	.033	.000	.66	.85
	12.5-18 hours	.551*	.039	.000	.44	.66
	18.5-24 hours	.201*	.028	.000	.12	.28
	24.5-30 hours	.099*	.019	.000	.04	.15

*. The mean difference is significant at the 0.05 level.

USA GPA * Multiple Comparisons

Dependent Variable: Returned

Games-Howell

(I) USA GPA	(J) USA GPA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2.0 or lower	2.01-2.5	-.434*	.033	.000	-.53	-.34
	2.51-3.0	-.477*	.030	.000	-.56	-.39
	3.01-3.5	-.568*	.027	.000	-.64	-.50
	3.51-4.0	-.632*	.024	.000	-.70	-.57
2.01-2.5	2.0 or lower	.434*	.033	.000	.34	.53
	2.51-3.0	-.043	.035	.724	-.14	.05
	3.01-3.5	-.134*	.031	.000	-.22	-.05
	3.51-4.0	-.198*	.029	.000	-.28	-.12
2.51-3.0	2.0 or lower	.477*	.030	.000	.39	.56
	2.01-2.5	.043	.035	.724	-.05	.14
	3.01-3.5	-.091*	.028	.011	-.17	-.01
	3.51-4.0	-.155*	.026	.000	-.23	-.08
3.01-3.5	2.0 or lower	.568*	.027	.000	.50	.64
	2.01-2.5	.134*	.031	.000	.05	.22
	2.51-3.0	.091*	.028	.011	.01	.17
	3.51-4.0	-.064*	.022	.024	-.12	-.01
3.51-4.0	2.0 or lower	.632*	.024	.000	.57	.70
	2.01-2.5	.198*	.029	.000	.12	.28
	2.51-3.0	.155*	.026	.000	.08	.23
	3.01-3.5	.064*	.022	.024	.01	.12

*. The mean difference is significant at the 0.05 level.