

Factors Impacting 1-Year Retention of Fall 2017 First-time Undergraduate Students at UNCG

Office of Institutional Research at University of North Carolina at Greensboro (UNCG-IR)

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UNCG

Executive Summary (Page 1 of 6):

Previous research proved repeatedly that student demographics, pre-college characteristics, cognitive achievements, etc. correlated significantly with student retention. However, rarely did a researcher find a relationship between the works of the Student Service personnel and retention. Based on the Fall 2017 entering first-time full-time undergraduate cohort, expanding beyond the previous research, this round of the retention analysis intended to explore the impact of the intervention programs that were implemented by Student Services at UNCG.

The intervention programs included:

Transitional courses of FLS100, Bus105, HHS125 and the respective grades

Data collected by the Student Service division in Starfish that included: retention concerns, low quiz scores, excessive absences, and unsatisfactory course work. Through this round of research, we found that:

- Having a problem, any of the retention concerns, low quiz scores, excessive absences or unsatisfactory course work would significantly hurt the likelihood of retention as those who had a problem were retained to the next fall only 66% compared to 87% of those who did not have such a problem.
- The more problems one had the less likely s/he would be retained, evidenced by that those who had 4 or more problems were retained only 45% compared to 83% of those who had 3 or fewer problems.
- Missing classes hurt retention, as those who had excessive absences were retained only 56% compared to 82% of those who did not have excessive classes.
- The “retention concern”, which was that a student expressed in one way or another that s/he was going to drop out, was an effective predictor of retention, as those who demonstrated a retention concern were retained only 26% compared to 80% who did not have such a retention concern.
- “Unsatisfactory course work” was another powerful predictor of retention as those who had unsatisfactory course work were retained 54% compared to 82% who did not have any unsatisfactory course work.



Executive Summary (Page 2 of 6):

The intervention programs, those courses designed to teach the new students how to succeed in college, predicted student retention in a way because:

- Though whether taking FFL100 or not did not make a difference in the 1-year retention: those who did were retained 75% compared to 77% for those who did not, not a significant difference. However the performance measured by grades in FFL100 did matter to retention: those who had B or better were retained 83% compared to 47% of those who had C or below.
- Whether taking HHS125 did not make a significant difference: those who did were retained 78% to the next fall compared to 76% of those who did not take HHS125. However, just like with FFL100, grades in HHS mattered a great deal to retention: those who had B or better were retained 83% compared to 38% of those who had C or below.
- If taking Bus105 or not did not matter much as those who did were retained 79% compared to 76% of those who did not, the difference is there but not statistically significant. However, just like the case with FFL100 and HHS125, grades in Bus105 mattered significantly as the B or better were retained 90% compared to 61% of those who had C or below.



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Clearly the number of problems, the unsatisfactory course work, the retention concern, the low quiz scores, the excessive absences and the grades in FFL100, Bus105 and HHS125 together may have formulated an effective radar that warns which students are “at risk”.

Besides those student intervention programs that we researched on, this round of the study also confirmed, with the data for the Fall 2017 entering cohort, our previous findings that:

- Female students were retained significantly more than male students: 78% compared to 73%;
- Students from Guilford county were retained significantly less than students who were from other counties: 70% vs. 78%;
- Students from Wake county were retained significantly more than those from other counties: 81% compared to 76%;
- UNCG retained significantly better the students from out of state than the students from North Carolina: 84% vs. 76%;



Executive Summary (Page 4 of 6):

- White students were retained significantly less than non-White students: 74% compared to 79%;
- Black students were retained significantly more than non-Black students: 80% compared to 75%;
- Pell grant did not make a significant difference in the 1-year retention: 76% vs. 77%, based on the Fall 2017 data;
- There was a significant difference in the 1-year retention between the first-generation college students and the non-first-generation college students: 74% compared to 79%;
- There was no significant difference in the 1-year retention between low-income (defined by Strategic Plan) students and non-low-income students, based on the Fall 2017 cohort, 76% compared to 78%;
- There was no significant difference in the 1-year retention between rural students (defined by Strategic Plan) and non-rural students, based on the Fall 2017 cohort, 76% vs. 77%;
- SAT total 1030 or better vs. below did not make a significant difference in the 1-year retention of the Fall 2017 entering cohort: 78% vs. 78%;
- High school GPA (3.5 or better vs. below) made a huge significant difference in the 1-year retention: 82% vs. 66%;
- High school rank (70 or higher vs. below) made a significant difference in the 1-year retention: 82% vs. 70%;
- Those who brought in transfer hours (like AP credits) were retained significantly more than those who did not have any transfer hours: 82% vs. 74%;



Executive Summary (Page 5 of 6):

- Those who lived on campus were retained significantly more than those who lived off campus: 78% vs. 70%;
- Those who were in Honors class were retained significantly better than those who were not: 88% compared to 76%;
- Whether or not taking online hours did not make a significant difference in the 1-year retention of the Fall 2017 cohort;
- Fall term GPA made about the largest significant difference in the 1-year retention: those who had 2.5 or better were retained 89% compared to 53% for those who had a Fall term GPA below 2.5;
- Dropping at least one class in Fall 2017 vs. dropping no classes made a significant difference in 1-year retention: 57% of the former group vs. 86% for the latter group;
- The number of classes dropped in Fall 2017 correlated positively with the 1-year retention: those dropping no class were retained 86%, dropping one class retained 75%, dropping two classes retained 57%, dropping three classes retained 40%, dropping 4 + classes retained 13%;
- Those students in the College of Arts & Sciences were retained significantly less than the rest of the cohort: 74% compared to 80%;
- Those in the College of Visual and Performing Arts were retained significantly more than the rest of the cohort: 82% compared to 76%;



Executive Summary (Page 6 of 6):

While the one (independent variable) on one (dependent variable) correlations, like described in the above, were informative, the Regression results, controlling for the interactions of the independent variables, provided a final analysis of the independent variables that were more powerful predictors than others: in an order of strong to weak,

Fall term GPA,

Visual & Performing Arts,

Retention concern (negative),

Wake county,

High School GPA,

Dropping class in fall (negative),

White (negative),

Taking a transitional course (FFL100, HHS125, Bus105),

Transfer hours,

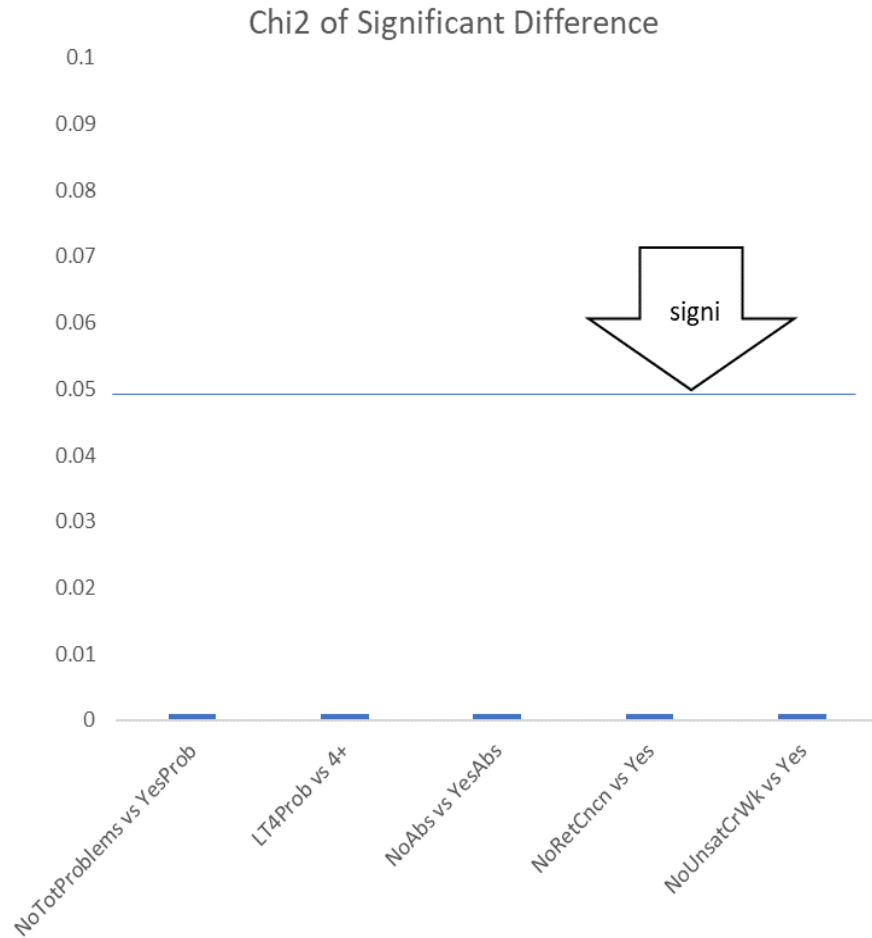
Unsatisfactory course work (negative),

all proved statistically significant to the 1-year retention of the Fall 2017 entering first-time full-time cohort of new undergraduate students.

If you need to compare the strengths or powers of these significant predictors, we can tell, for example, having a fall term GPA 2.5 is about three times ($2.79/0.96=2.91$) as important as in Visual and Performing Arts to retention. Another example is that having some transfer (AP) hours is just as important as taking a transitional class ($0.32/0.33=0.97$) to retention. Still another example is that having an unsatisfactory work is just as bad as missing a class ($0.27/0.23=1.2$) to retention.



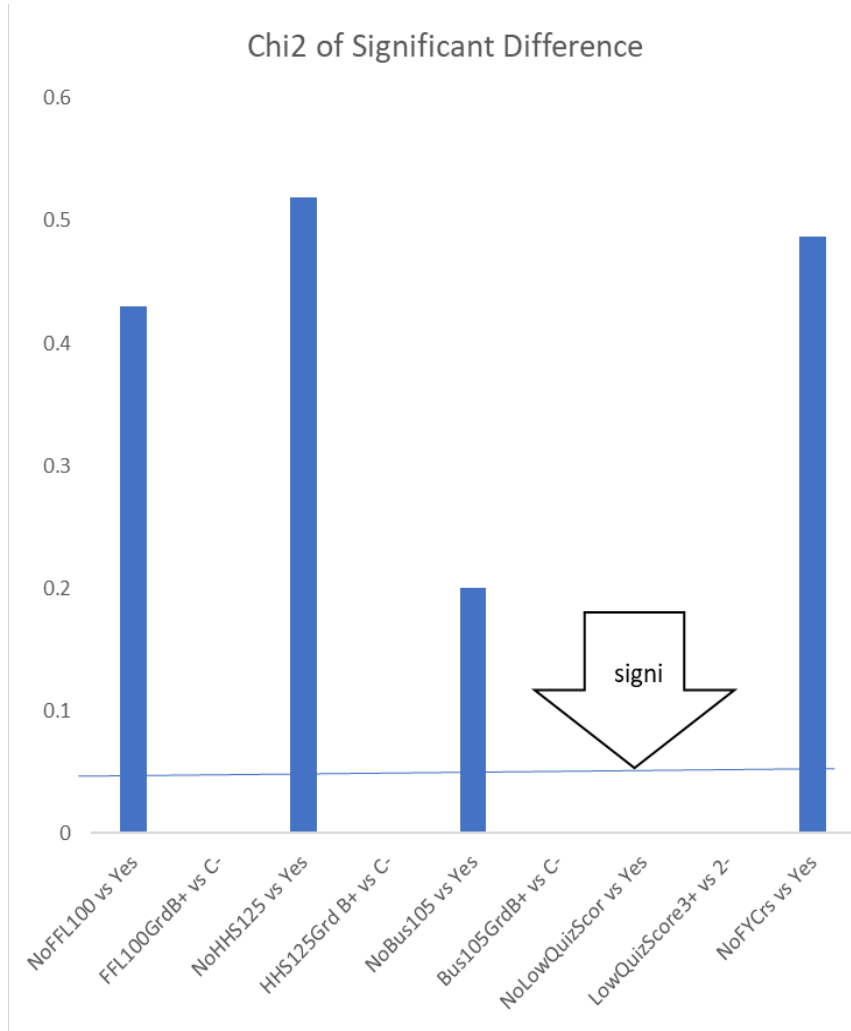
Descriptives:



Intervention Programs		Dropped	Retained	Total	Chi-Square
NoProblem	N	177	1196	1373	<.0001
	%	12.89	87.11		
Problems	N	471	924	1395	
	%	33.76	66.24		
LT4Probs	N	400	1915	2315	<.0001
	%	17.28	82.72		
4+Problems	N	248	205	453	
	%	54.75	45.25		
NotExtraAbs	N	387	1785	2172	<.0001
	%	17.82	82.18		
ExtraAbs	N	261	335	596	
	%	43.79	56.21		
NoRetConcrn	N	533	2080	2613	<.0001
	%	20.4	79.6		
RetConcrn	N	115	40	155	
	%	74.19	25.81		
NoUnsatCrWk	N	388	1815	2203	<.0001
	%	17.61	82.39		
UnsatCrWk	N	260	305	565	
	%	46.02	53.98		



Descriptives:

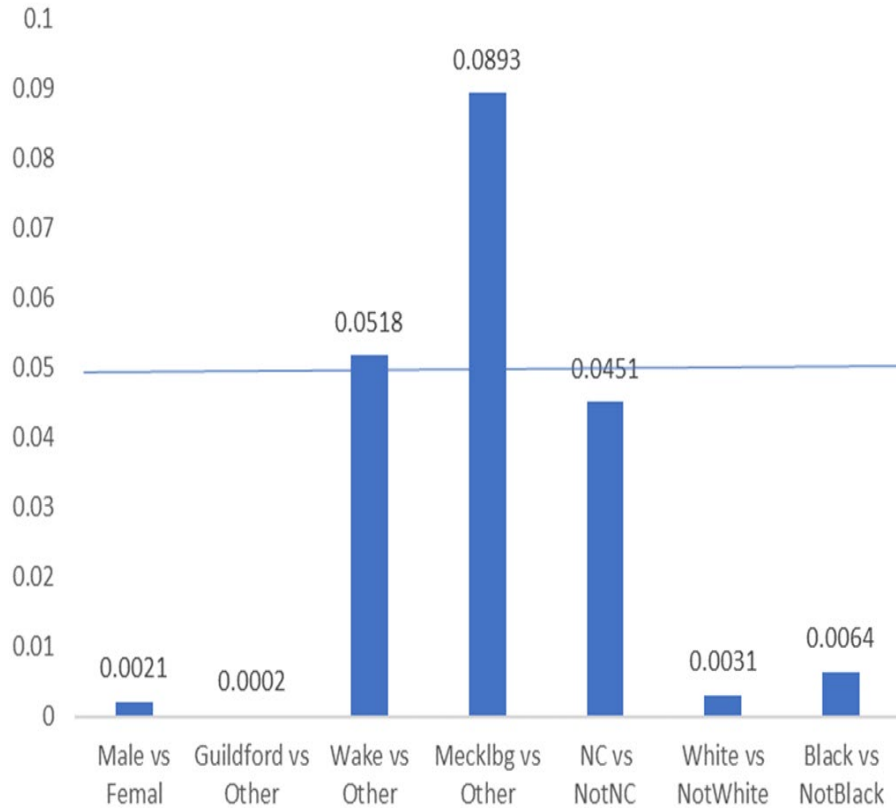


1-Year Retention of Fa17 Entering First-time Full-time New Students By Intervention Programs (2)					
		Dropped	Retained	Total	Chi-Square
NoFFL100	N	540	1794	2334	0.4296
	%	23.14	76.86		
YesFFL100	N	108	326	434	
	%	24.88	75.12		
FFL100GrdC-	N	48	43	91	<.0001
	%	52.75	47.25		
FFL100GrdB+	N	60	283	343	
	%	17.49	82.51		
NoHHS125	N	577	1868	2445	0.5187
	%	23.6	76.4		
YesHHS125	N	71	252	323	
	%	21.98	78.02		
HHS125GrdC-	N	21	13	34	<.0001
	%	61.76	38.24		
HHS125GrdB+	N	50	239	289	
	%	17.3	82.7		
NoBus105	N	578	1851	2429	0.1999
	%	23.8	76.2		
YesBus105	N	70	269	339	
	%	20.65	79.35		
Bus105GrdC-	N	48	74	122	<.0001
	%	39.34	60.66		
Bus105GrdB+	N	22	195	217	
	%	10.14	89.86		
NoLoQuizScor	N	250	1363	1613	<.0001
	%	15.5	84.5		
YesLoQuizScor	N	398	757	1155	
	%	34.46	65.54		
NoFYCrS	N	399	1273	1672	0.4867
	%	23.86	76.14		
YesFYCrS	N	249	847	1096	
	%	22.72	77.28		
Loquiz2-	N	216	593	809	<.0001
	%	26.7	73.3		
LoQuiz3+	N	182	164	346	
	%	52.6	47.4		



Descriptives:

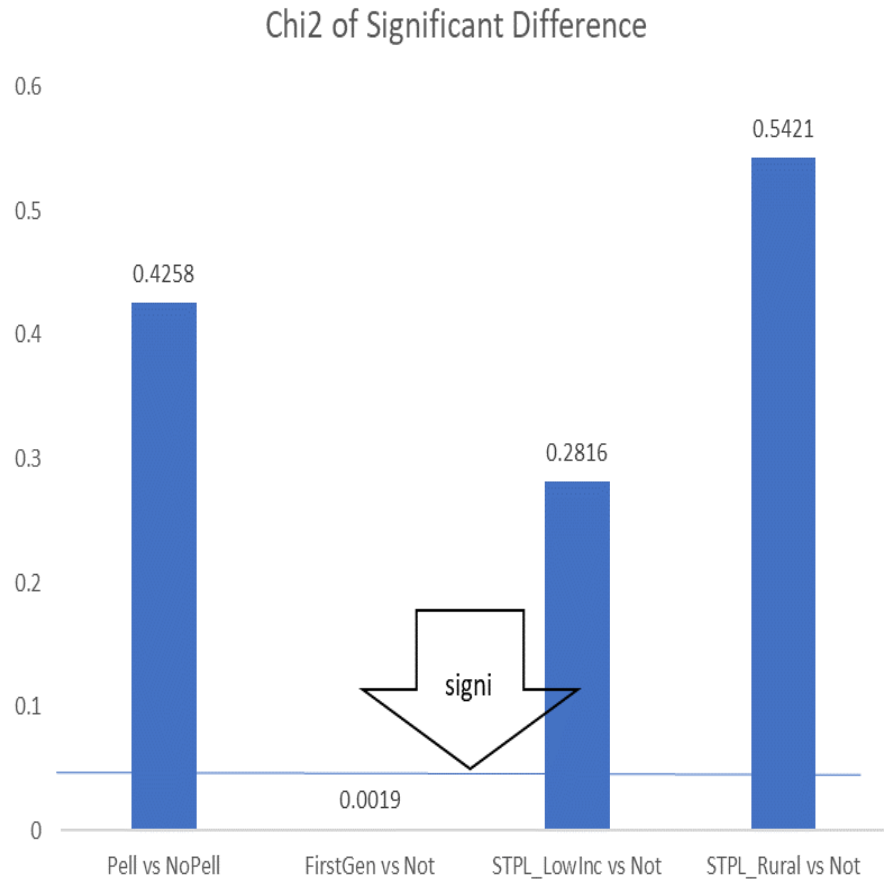
Chi2 of Significant Difference



1-Year Retention of Fall 2017 Entering First-time Full-time New Students By Demographic Factors					
		Dropped	Retained	Total	Chi-Square
Male	N	252	686	938	0.0021
	%	26.87	73.13		
Female	N	396	1434	1830	
	%	21.64	78.36		
OthCnty	N	497	1764	2261	0.0002
	%	21.98	78.02		
Guilford	N	151	356	507	
	%	29.78	70.22		
OthCnty	N	585	1854	2439	0.0518
	%	23.99	76.01		
Wake	N	63	266	329	
	%	19.15	80.85		
OthCnty	N	593	1891	2484	0.0893
	%	23.87	76.13		
Mecklbg	N	55	229	284	
	%	19.37	80.63		
NotNC	N	19	101	120	0.0451
	%	15.83	84.17		
NC	N	629	2019	2648	
	%	23.75	76.25		
NotWhite	N	347	1274	1621	0.0031
	%	21.41	78.59		
White	N	301	846	1147	
	%	26.24	73.76		
NotBlack	N	468	1410	1878	0.0064
	%	24.92	75.08		
Black	N	180	710	890	
	%	20.22	79.78		



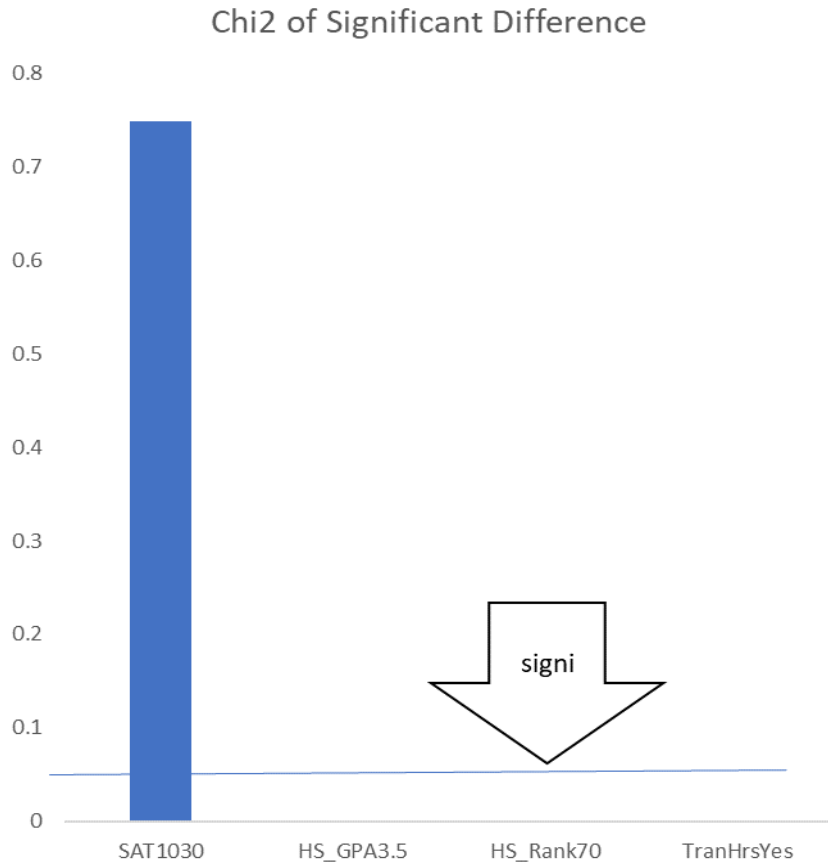
Descriptives:



1-Year Retention of Fall 2017 Entering First-time Full-time New Students By Special Demographic Factors					
		Dropped	Retained	Total	Chi-Square
NoPell	N	281	957	1238	0.4258
	%	22.7	77.3		
YesPell	N	367	1163	1530	
	%	23.99	76.01		
NotFirtG	N	235	899	1134	0.0019
	%	20.72	79.28		
YesFirstGen	N	263	732	995	
	%	26.43	73.57		
NonLowInc	N	294	1013	1307	0.2816
	%	22.49	77.51		
STPL_LowInc	N	354	1107	1461	
	%	24.23	75.77		
NonRural	N	430	1434	1864	0.5421
	%	23.07	76.93		
STPL_Rural	N	218	686	904	
	%	24.12	75.88		



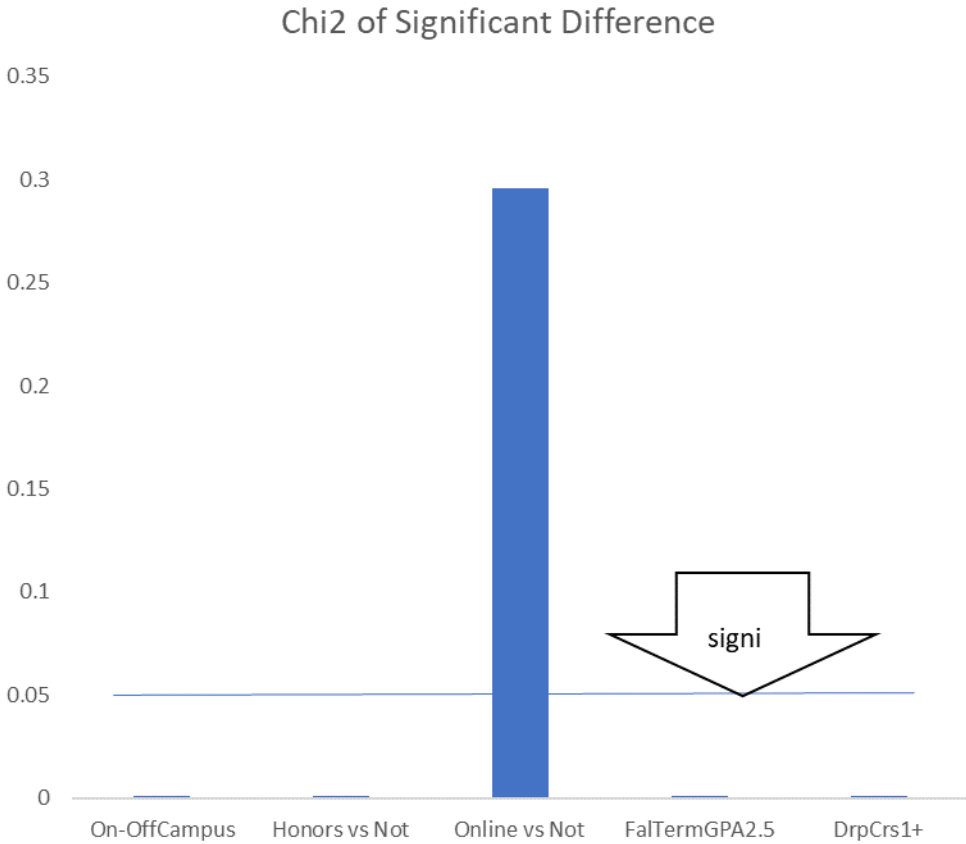
Descriptives:



1-Year Retention of Fall 2017 Entering First-time Full-time New Students by Pre-College Factors					
		Dropped	Retained	Total	Chi-Square
Satt<1030	N	129	449	578	0.7483
	%	22.32	77.68		
Satt=>1030	N	285	1031	1316	
	%	21.66	78.34		
HSgpa<3.5	N	311	616	927	<.0001
	%	33.55	66.45		
HSgpa3.5	N	334	1490	1824	
	%	18.31	81.69		
HSRank<70	N	399	945	1344	<.0001
	%	29.69	70.31		
HSRank=>70	N	212	994	1206	
	%	17.58	82.42		
NoTranHrs	N	486	1362	1848	<.0001
	%	26.3	73.7		
1+TranHrs	N	162	758	920	
	%	17.61	82.39		



Descriptives:

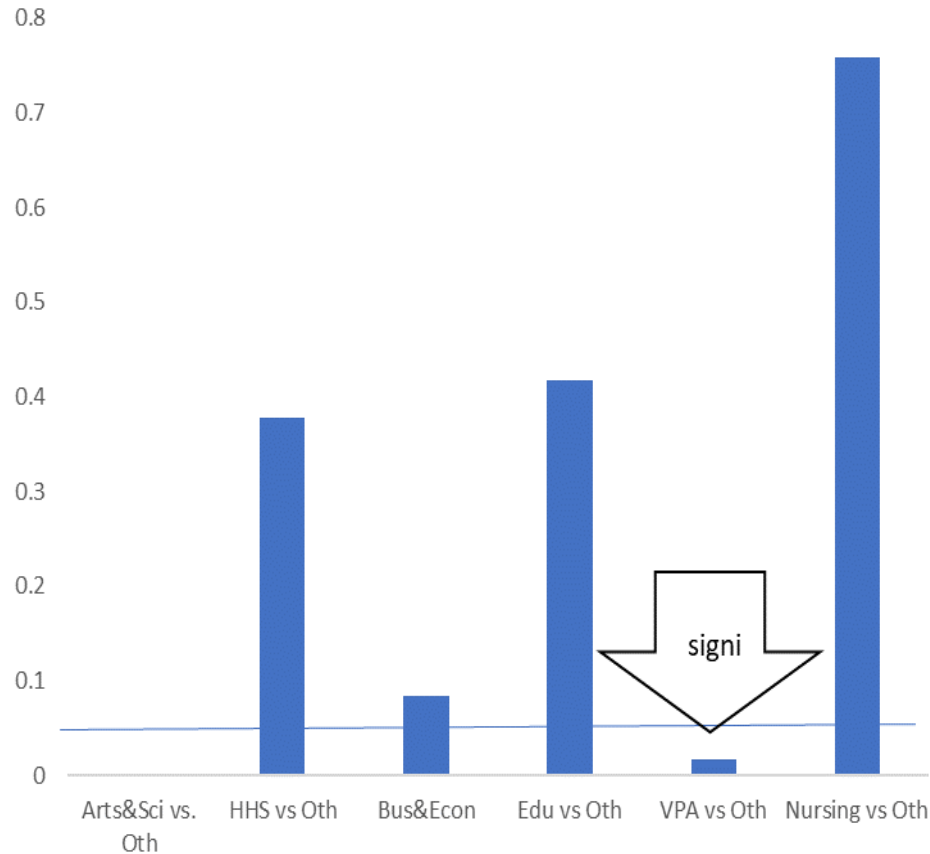


1-Year Retention of Fall17 Entering First-t Full-t New Students By After Arriving On Campus Factors					
		Dropped	Retained	Total	Chi-Square
OffCampus	N	176	409	585	<.0001
	%	30.09	69.91		
OnCampus	N	472	1711	2183	
	%	21.62	78.38		
Non_H	N	624	1947	2571	0.0001
	%	24.27	75.73		
Honors	N	24	173	197	
	%	12.18	87.82		
NoOnlineHr	N	563	1807	2370	0.2957
	%	23.76	76.24		
YesOnline	N	85	313	398	
	%	21.36	78.64		
FaTermGPA<2.5	N	440	498	938	<.0001
	%	46.91	53.09		
FaTermGPA2.5+	N	208	1622	1830	
	%	11.37	88.63		
NoDrpCrS	N	253	1606	1859	<.0001
	%	13.61	86.39		
Drop1+CrS	N	395	514	909	
	%	43.45	56.55		
DrpNoCrS	N	253	1606	1859	<.0001
	%	13.61	86.39		
Drp1CrS	N	114	349	463	
	%	24.62	75.38		
Drp2CrS	N	74	100	174	
	%	42.53	57.47		
Drp3CrS	N	67	44	111	
	%	60.36	39.64		
Drp4CrS	N	140	21	161	
	%	86.96	13.04		



Descriptives:

Chi2 of Significant Difference



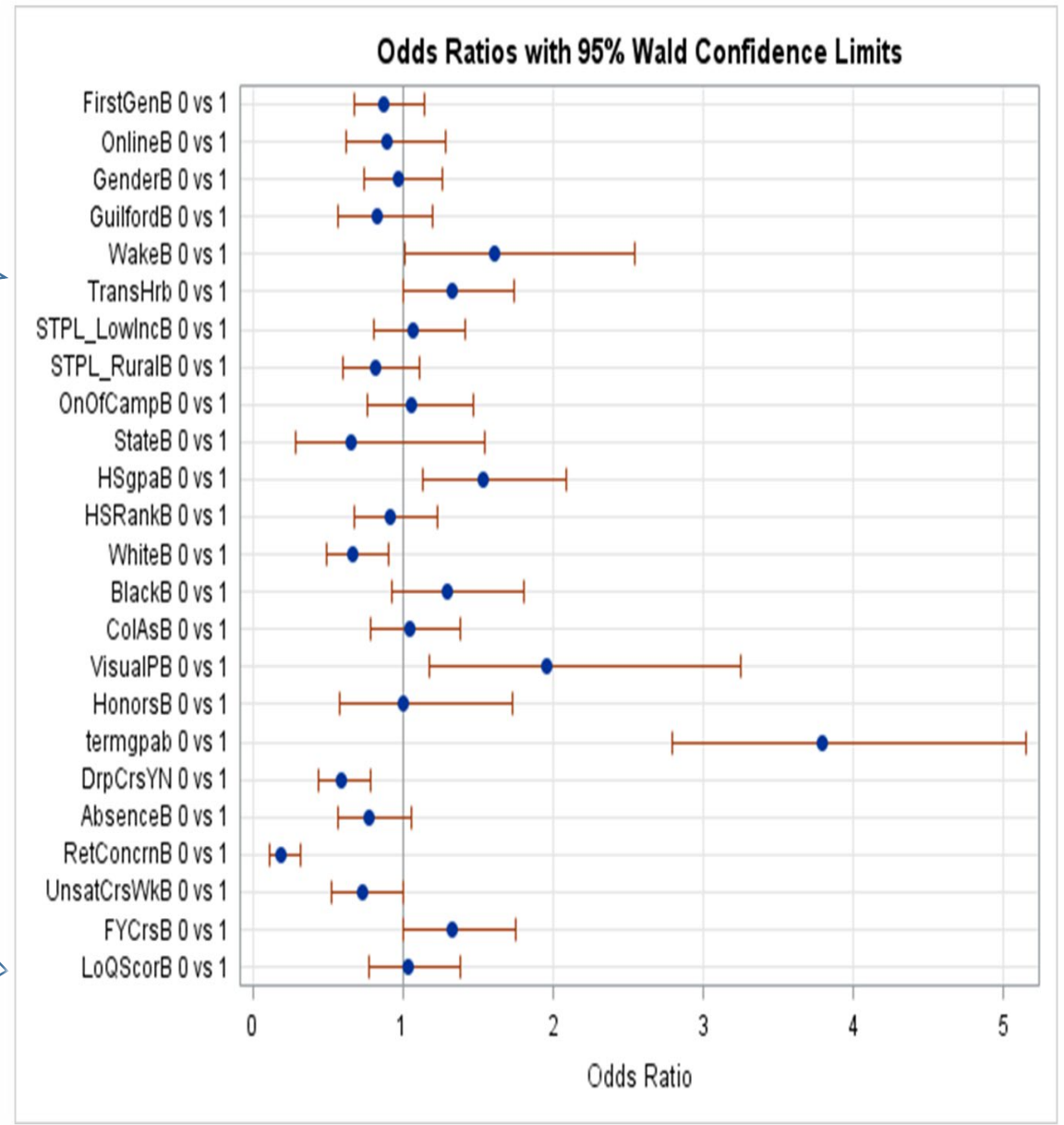
1-Year Retention of Fall 2017 Entering First-time Full-time New Students By Home College					
		Dropped	Retained	Total	Chi-Square
NotA&S	N	281	1097	1378	0.0002
	%	20.39	79.61		
Art&Sci	N	367	1023	1390	
	%	26.4	73.6		
NotHH	N	554	1782	2336	0.3776
	%	23.72	76.28		
HelthHuman	N	94	338	432	
	%	21.76	78.24		
NotBus&E	N	569	1804	2373	0.0838
	%	23.98	76.02		
Bus&Econ	N	79	316	395	
	%	20	80		
NotEdu	N	626	2033	2659	0.4169
	%	23.54	76.46		
Education	N	22	87	109	
	%	20.18	79.82		
NotVP	N	599	1892	2491	0.0178
	%	24.05	75.95		
Visual&Perf	N	49	228	277	
	%	17.69	82.31		
NotNursing	N	611	1992	2603	0.7577
	%	23.47	76.53		
Nursing	N	37	128	165	
	%	22.42	77.58		

Logistic Regression Findings (Full Model):

Odds Ratio Estimates and Wald Confidence Intervals					
Effect	Unit	Estimate	Abs Value	95% Confidence Limits	
FirstGenB 0 vs 1	1	0.87	0.13	0.67	1.14
OnlineB 0 vs 1	1	0.89	0.11	0.62	1.28
GenderB 0 vs 1	1	0.96	0.04	0.74	1.26
GuilfordB 0 vs 1	1	0.82	0.18	0.56	1.20
WakeB 0 vs 1	1	1.61	0.61	1.02	2.55
TransHrb 0 vs 1	1	1.32	0.32	1.01	1.74
STPL_LowIncB 0 vs 1	1	1.06	0.06	0.80	1.41
STPL_RuralB 0 vs 1	1	0.82	0.18	0.60	1.11
OnOfCampB 0 vs 1	1	1.06	0.06	0.76	1.47
StateB 0 vs 1	1	0.66	0.34	0.28	1.54
HSgpaB 0 vs 1	1	1.53	0.53	1.13	2.09
HSRankB 0 vs 1	1	0.91	0.09	0.67	1.23
WhiteB 0 vs 1	1	0.67	0.34	0.49	0.91
BlackB 0 vs 1	1	1.29	0.29	0.92	1.81
ColAsB 0 vs 1	1	1.04	0.04	0.79	1.38
VisualPB 0 vs 1	1	1.96	0.96	1.18	3.25
HonorsB 0 vs 1	1	1.00	0.00	0.58	1.73
termgpab 0 vs 1	1	3.79	2.79	2.79	5.15
DrpCrSvYN 0 vs 1	1	0.58	0.42	0.44	0.78
AbsenceB 0 vs 1	1	0.77	0.23	0.57	1.05
RetConcrnB 0 vs 1	1	0.19	0.81	0.12	0.32
UnsatCrSvWkB 0 vs 1	1	0.73	0.27	0.53	1.00
FYCrSB 0 vs 1	1	1.33	0.33	1.00	1.75
LoQScorB 0 vs 1	1	1.03	0.03	0.77	1.38

Odds Ratio indicates the change of the odds in 1-year retention associated with one unit change in the independent variable.

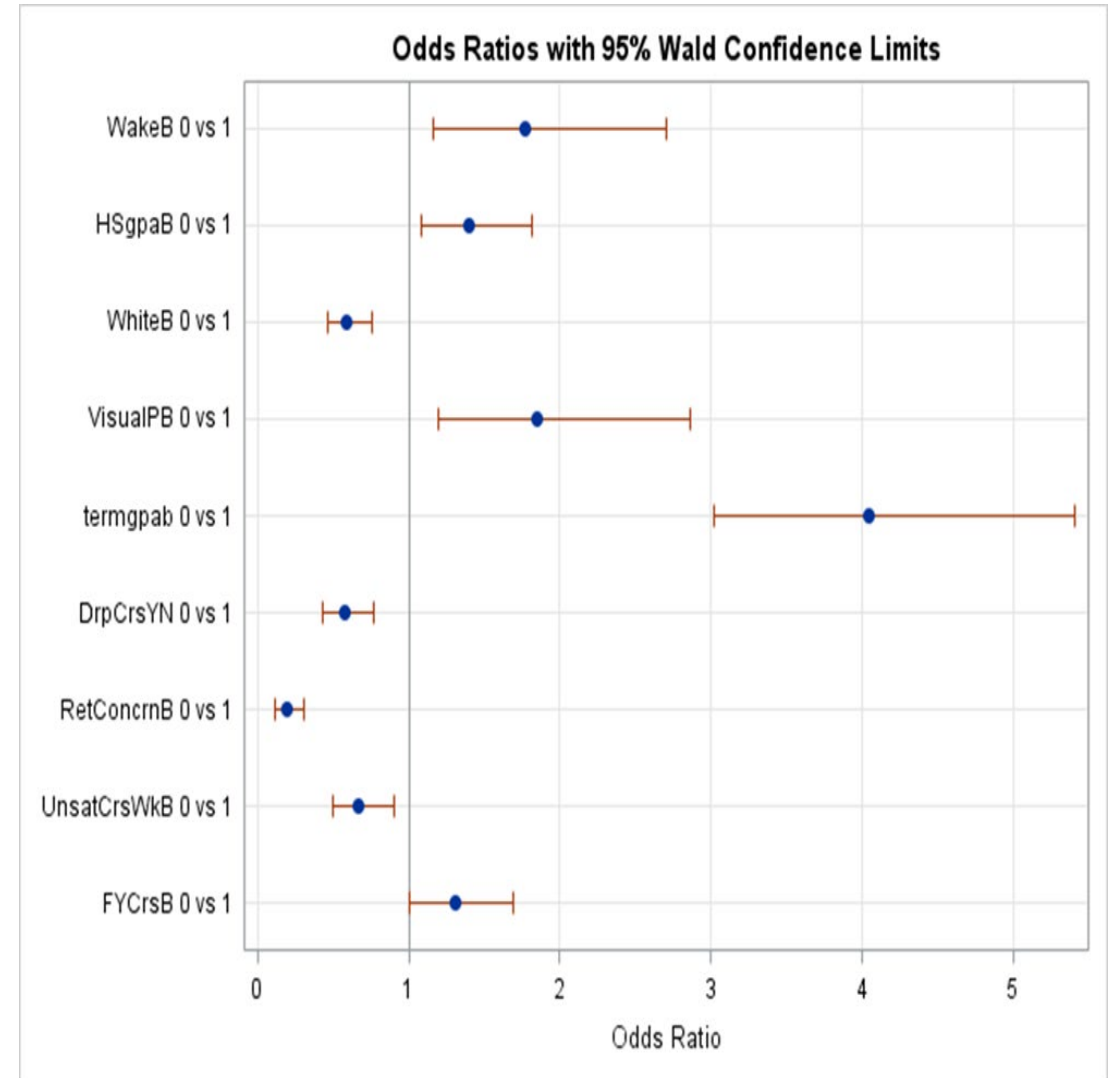
A dumb bell away from the Bar of 1 indicates a statistically significant impact, while a dumb bell across the Bar of 1 indicates no significant impact. The left region of the Bar of 1 indicates a negative impact while the right region indicates a positive impact.



Logistic Regression Findings (Stepwise Model):

Model Fit Statistics (Step 9)			
R-Square	0.2057	Max-rescaled R-Square	0.3087
Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	450.9005	9	<.0001
Score	467.7319	9	<.0001
Wald	339.0178	9	<.0001

Odds Ratio Estimates and Wald Confidence Intervals				
Effect	Unit	Abs Value	Estimate	95% Confidence Limits
WakeB 0 vs 1	1	0.77	1.77	1.16 2.70
HSgpaB 0 vs 1	1	0.40	1.40	1.08 1.82
WhiteB 0 vs 1	1	0.41	0.59	0.46 0.75
VisualPB 0 vs 1	1	0.85	1.85	1.19 2.87
termgpab 0 vs 1	1	3.04	4.04	3.02 5.41
DrpCrsYN 0 vs 1	1	0.42	0.58	0.44 0.77
RetConcrnB 0 vs 1	1	0.81	0.19	0.12 0.31
UnsatCrsWkB 0 vs 1	1	0.33	0.67	0.50 0.90
FYCrsB 0 vs 1	1	0.30	1.30	1.01 1.69





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