

RESEARCH BRIEF



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FIRST SPRING AND SECOND FALL RETENTION OF THE FIRST-TIME IN COLLEGE COHORT

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***About the Research Brief/Report Series:** The Research Brief/Reports Series provides a review of the activities of the Data Analytics and Research arm of the Office of Institutional Research and Enterprise Data Management. Each publication in the Research Report Series contains two documents: A single, executive summary called the Research Brief, and a follow-on document called the Research Report that contains the full report. You can request a copy of these documents from the Office of Institutional Research and Enterprise Data Management.*

SUMMARY

This Research Brief compares the pre-academic and academic profiles of first-time in college (FTIC) students who retain into their first Spring and second Fall with those who do not. The purpose of this research was to investigate if the 2021-22 cohort changed appreciably compared to the 2017-2020 cohorts in terms of demography, academic preparation, resources, and, if these differences exist, do they influence first-term and/or first-year retention. In particular, we looked for the expression of patterns in the relationship between commonly used predictors to assess change in the cohorts to help us develop better predictors of retention. We were especially curious to assess the effect of the COVID year on both the cohort and on the retention model.

DATA

The population for this research was UNCG's first-time in college cohorts from Fall 2017 through Fall 2021. First-time in college cohorts consist of degree-seeking undergraduate students who are entering college for the first time. Data were pulled from the Student Data Mart as well as directly from Banner. An imputation procedure was performed for the unmet need and primary expected family contribution variables to correct for missing data.

METHODOLOGY

Spring and fall retention Model 1 look at the pre-academic variables and their associated effect on a student continuing to either the spring or fall semester. Spring and fall Model 2 seek to determine if these effects change once accounting for academic performance. Changes in the pattern of the independent variables (IV) for different cohorts for the term and year retention models are shown in the table below. Significant IVs are shaded in green and the '+' or '-' signs for categorical variables indicate whether the comparison category (listed first) will be more or less likely to retain than the reference category (listed second) and for continuous variables whether a one unit change in the comparison category will have a positive or negative effect on retention.

Has the composition of the first time in college cohort changed across the past five years?

- The overall FTIC entering cohort size dropped 8.9% between 2017 and 2021.
- Although the cohorts have remained between 66% and 68% female across all five years, they have become decidedly more diverse, ethnically. White students made up 41% of the cohort in 2017, but only 32% in 2021.
- The cohorts have also become less rural (33% in 2017 to 30% in 2021), less financially able (average unmet need increased from \$2,446 in 2017 to \$3,689 in 2021), and less academically prepared (high school GPA of 3.8 in 2017 and 3.6 in 2021; high school percentile of 35% in 2017 and 40% in 2021).
- The percentage of first-generation students has also increased from 47.7% in 2017 to 52.5% in Fall 2021.
- The percentage of Pell eligible students only increased slightly from 56.5% to 58.0%.
- Regarding academic performance between the 2017 and 2021 cohorts, first term GPA is down from 2.78 to 2.64, first spring term GPA is down from 2.80 to 2.72 and the first year overall GPA dropped from 2.74 to 2.62.

How does the relationship between pre-college predictors and retention change when we account for college academic performance and has this changed over the last five years?

Spring Retention Models

- For the majority of cohorts Black, Asian, and Hispanic students are more likely to return than White students. This holds true for both Spring Model 1 and 2 meaning adding first term GPA does not change the significance.
- For the most part gender does not influence spring retention after accounting for all other variables in the model for both Spring Models 1 and 2.
- Rural and first-generation students were less likely to continue in the spring for many of the cohort years for Model 1 however that effect was mostly eliminated once accounting for first term GPA in Model 2.
- Unmet need had a significant negative influence in cohort years 2017 through 2019 for both Spring Models 1 and 2 but a possible COVID effect negated the influence of this financial predictor for the 2020 and 2021 cohorts.
- The number of hours attempted in the fall semester had a significant positive influence on spring retention for both Spring Models 1 and 2.
- In Spring Model 1 high school GPA is one of the most significant predictors of spring retention. Interestingly, once first term GPA is added in Spring Model 2, this predictor remains significant but flips direction; we attribute this to a statistical anomaly related to multicollinearity between high school GPA and 1st term GPA.
- In spring Model 2 the effect of first term GPA is a very strong predictor of spring retention across all five cohort years.

SIGNIFICANT VARIABLES FOR ALL COHORTS FOR MODELS 1 AND 2																					
	Spring 1 Retention Model 1					Spring 1 Retention Model 2						Fall 2 Retention Model 1					Fall 2 Retention Model 2				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021		2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
IVs: COVARIATES											IVs: COVARIATES										
1 st Term Fall GPA						+	+	+	+	+	1 st Year Cum GPA						+	+	+	+	+
IVs: ETHNICITY											IVs: ETHNICITY										
Is Black vs White	+	+	+	+	+	+	+	+	+	+	Is Black vs White	+	+	+	+	+	+	+	+	+	+
Is Asian vs White	+	+	+	+	+	+	+	+	+	+	Is Asian vs White										
Is Hispanic vs White	+	+	+	+	+	+	+	+	+	+	Is Hispanic vs White			+	+	+			+	+	+
All Others vs White											All Others vs White			+	+	+			+	+	+
IVs: DEMOGRAPHICS											IVs: DEMOGRAPHICS										
Male vs Female								+			Male vs Female										
Rural vs N/A										-	Rural vs N/A					-					-
Rural vs Not Rural		-	-								Rural vs Not Rural										
IVs: STATE AT ADMISSION											IVs: STATE AT ADMISSION										
High School GPA at Admission	+	+	+	+	+		-	-	-	-	High School GPA at Admission	+	+	+	+	+	-				-
1 st Generation vs N/A											1 st Generation vs N/A										
1 st Generation vs Not 1 st Generation											1 st Generation vs Not 1 st Generation										
Pell Eligible vs Not Pell Eligible											Pell Eligible vs Not Pell Eligible						+				
Unmet Need in \$1,000	-	-	-			-	-	-			Unmet Need in \$1,000										
Primary etc in \$1,000											Primary etc in \$1,000										
IVs: UNGC ACADEMIC RECORD											IVs: UNGC ACADEMIC RECORD										
Hours attempted in 1 st fall	+	+	+		+	+	+	+		+	Hours attempted in 1 st fall			+		+			+		+
											SAP Spring Term	+	+	+	+	+	+	+		+	+

Fall Retention Models

- Black and Hispanic students for the most part were more likely to return for their second year than White students. The significance seen with the spring Models of Asian students retaining at higher rates than White students is no longer true for fall retention. We are aware that the one-year Black retention rate for the fall 2021 cohort dropped significantly compared to prior years as has Hispanic retention. When all other factors are accounted for in our models the coefficient for these two groups are positive suggesting an increasing rate rather than decreasing rate. This result is being investigated further.
- Again, as was seen in the spring Models, gender does not influence fall retention after accounting for all other variables in both fall Models 1 and 2.
- Rural students were no more likely to retain than non-rural students.
- First-generation students were less likely to continue in the fall for Model 1 in only the 2020 and 2021 cohorts, however that effect was eliminated once first year cumulative GPA was added in Model 2.
- Models for spring and fall retention are very different, spring retention being more influenced by financial factors, fall retention much less so. In fact, unlike in spring, unmet need and primary expected family contribution were not statistically significant.
- The number of hours attempted in the fall semester remained significant for three of the five cohort years in fall Model 1 but only for the 2019 and 2021 cohorts in fall Model 2.
- As discussed for spring, high school GPA is one of the most significant predictors of fall retention as well until first year cumulative GPA is added in Model 2. However, for fall, high school GPA remained significant for only two of the fall Model 2 cohort years and again, this predictor flips direction. This is likely a statistical anomaly as before.
- In fall Model 2 the effect of first year cumulative GPA is a very strong predictor of fall retention across all five cohort years.
- Having made satisfactory academic progress (SAP) in the first fall greatly increased a student's likelihood of retaining in spring. The positive, significant effects of SAP on fall retention were apparent even after accounting for UNCG first-year GPA.

COVID

As revealed in the table above, the most apparent difference between the COVID years of 2020 and 2021 is the sudden absence of a significant effect for the financial IVs unmet need and primary expected family contribution. The simple explanation is that those with the most need either did not return at all, or that stimulus funds were used to reduce the financial strain that would normally be evident in that student population. Another interesting trend is the sudden non-significance of 1st fall hours attempted for the 2020 cohort spring models.

LIMITATIONS

Given the multitude of factors that may impact retention, it is emphasized that the models presented here are a starting point for studying these questions and are by no means exhaustive or definitive. This study was limited by both time and data constraints. Additional variables that may be considered for future research include how many hours the student spent working outside of school, the distance a student must commute to UNCG, or the number of courses a freshman enrolls in that have historically high Drop-Fail-Withdrawal (DFW) rates.