Low-Income Student Persistence to Timely Graduation As a Function of the Academic Experience

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INTRODUCTION

"Access to success, not simply access, must be the goal."
(*Preserving The American Dream*, College Board, 2008)

This study seeks to build on and contribute to research about the access to academic success of economically disadvantaged university students. The researchers aimed to answer the broad question, "How can a public university most effectively and efficiently facilitate the access to academic success and on-time degree completion of low-income students?"

Information and data were collected from three large, public universities for comparison and analysis of the persistence and timely graduation of their low-income freshmen participating in *access and success* programs at each institution. Each institution has developed and implemented a robust access and success program and are all operating at different phases of development. At the time of this study, the Emerald Eagle Scholars program at the University of North Texas was in its inaugural year, the Florida Opportunity Scholars program at the University of Florida was serving its second cohort of freshmen, and the Carolina Covenant at the University of North Carolina, Chapel Hill was in its fourth year and is the most mature program.

The study provides predictive characteristics identifying those students who may be most at risk for academic underachievement in their first year. The study also provides insight into student perceptions of program strengths and weaknesses. Taken together, these outcomes may inform the efforts of institutions to more effectively allocate resources in support of low-income student academic success initiatives.

OVERVIEW

Policymakers have focused their attention, and rightly so, on improving the accessibility of higher education to students from low-income backgrounds (Corrigan, 2003). In an affordability study commissioned by the National Association of State Universities and Land Grant Colleges (NASULGC) in 2008, the compounded annual growth of tuition at public research institutions increased two and a half times faster than the increases in consumer prices (CPI) and two times faster than the increases in median family income from 1996 to 2006 (Table 1).

Table 1: Percent Increase Compounded Annually, 1996 to 2006.

	% Increase
CPI	2.4%
Median Family Income	3.3%
Tuition – Private	5.9%
Tuition – 4 yr. Public	6.0%
Tuition – 2 yr. Public	3.8%

Source: University Tuition, Consumer Choice and College Affordability, NASULGC, 2008

The study also reports on projected tuition cost increases at both private and public institutions through 2036, and the proportion of family income that will be required to meet these costs should current trends continue (Table 2).

Table 2: Proportion of Family Income Required to Pay Tuition		
	2006	**2036**
Tuition – Private	57.3%	97.9%
Tuition – 4 yr. Public	11.1%	28.5%
Tuition – 2 yr. Public	5.5%	6.4%

Source: Source: University Tuition, Consumer Choice and College Affordability, NASULGC, 2008

Meanwhile, need-based aid has not kept pace with rising college costs.

> "According to the American Council on Education, in inflation-adjusted dollars, the maximum grant reached its highest value in 1975-1976 and has not returned to that level since. Today, the Pell Grant, which at its maximum covered 99 percent of the average costs of attendance at public two-year institutions, 77 percent at public four-year institutions and 36 percent at private colleges and universities, promises at best to cover 62 percent, 36 percent and 15 percent respectively, of these costs." (College Board, 2008)

Whereas need-based state grant aid for college students increased 59 percent collectively from 1997 to 2007, the average award in the 2006-2007 academic year for a full-time baccalaureate student ranged from a high of $1043 in New York to $0 in South Dakota with a national average of $440 per student (College Board, 2008). Since the average total cost of tuition and fees, and room and board were more than $13,000 for the 2006-2007 academic year, it is clear that the average need-based state grant award meets only a small portion of the need (College Board, 2007).

However, resolving the problem of affordability for financially disadvantaged students is only one step toward accessibility to a baccalaureate degree. Providing low-income students with the financial aid necessary to afford a post-secondary education is not the only assistance many of these students require in order to progress toward and successfully earn a baccalaureate degree. When participation, academic achievement and completion rates are compared, research has shown that low-income students face more obstacles in the pursuit of access to post-secondary education and academic success in college than their more affluent peers.

According to Vincent Tinto (2004) "…only a quarter of low-income youth were academically well-prepared for college – measured as high school grade point averages of B+ to A – at the time of high school graduation, and only half of those students (or about 13 percent of all low-income youth) gained access to a four-year college or university." In a 2002 report, the National Center for Education Statistics reports that only 77 percent of low-income students earn a high school diploma, as compared with 90 percent of middle- and upper-income students. The study also reports that more low-income students (25 percent) earn SAT and ACT scores in the bottom quartile than their more affluent peers (12 percent), and conversely less (21 percent) earn scores in the top quartile than middle- and upper-income students (34 percent).

Whereas low-income status *alone* is not a significant predictor of academic underachievement, there is evidence that it does impact the student's time to graduation: "Although no differences were found in the overall persistence rate at 4-year institutions, recipients of Pell Grants were less likely than non-recipients to attain a bachelor's degree within 6 years" (NCES, 2003). And utilizing Census data, the Pell Institute (2005) reported on the degree completion rates of low-income traditional students: "In 2000-01, low-income students were much less likely to have completed their bachelor's degree by the age of 24 than students in the higher income groups. Six percent of low-income students had completed a bachelor's degree by age 24, compared to 19 and 52 percent for the middle and high income groups respectively."

Whereas variables associated with lower rates of persistence have been identified, there are inconsistencies in the findings:

- Wei and Horn (2002) found that African Americans had lower persistence rates than White students. However, Paulsen and St. John (2002) find that, on the basis of background characteristics, "among poor (low-income) and working class students (lower-middle-income) students, African Americans were more likely than White students (the base group) to persist…"
- Wei and Horn (2002) report that attending a public 2-year college versus a public 4-year institution was associated with lower persistence rates, but Paulsen and St. John (2002) found that "attending a four-year college was negatively associated with persistence."
- Wei and Horn (2002) attribute lower levels of persistence to the lack of a high school diploma, whereas Paulsen and St. John (2002) report that "low-income students with no high-school and GED degrees were more likely than high-school graduates to persist in college..."
- Wei and Horn (2002) report that older students are less likely to persist than traditional-age students. However, Paulsen and St. John (2002) report that among "the poor and middle-income classes, older students were more likely than younger students to persist."

Given the inconsistency in findings, the variables that have been associated with lower levels of achievement and persistence are not generalizeable to all financially disadvantaged students. This in turn poses a challenge for institutions and organizations committed to access and success for low-income students.

Access and Success Programs

In response to the increasing cost of higher education and the lower timely graduation rate of low-income students, universities began to develop and deploy access and success programs intended to help those most in need of aid and at risk of attrition. Leading the charge was the University of North Carolina (UNC) - Chapel Hill, and in 2006 the university hosted a national conference themed *The Politics of Inclusion: Higher Education at a Crossroads*.

Distributed at the 2006 conference was an inventory of initiatives established by twenty-four colleges and universities to facilitate the access of students from lower-income families to higher education[1] wherein seven institutions described programs that co-joined the goal of affordability and access with support for student academic success: among them, UNC-Chapel Hill's *Carolina Covenant* and the University of Florida's *Florida Opportunity Scholars* program.

In 2007, the University of North Texas (UNT) joined UNC-Chapel Hill and the University of Florida in a demonstrated committed to increasing access for and the academic success rates of low-income students. UNT[2] carefully studied the Carolina Covenant and the Florida Opportunity Scholars program and utilized empirical data to develop and implement its Emerald Eagle Scholars (EES) program.

More than just financial assistance initiatives, the programs at UNC-Chapel Hill, University of Florida and UNT provide campus acclimation support for academically capable but financially disadvantaged freshmen in recognition of the fact that the challenges of university life for low-income students extend well beyond financial need.

The Carolina Covenant – UNC-Chapel Hill

Carolina Covenant Scholars are first-year or transfer students from families with adjusted gross incomes at or below 200 percent of the federal poverty threshold level, and who are eligible for federal financial aid. One-hundred percent of the Covenant Scholar's need is met with a combination of grants, scholarships and work-study monies. The overarching goals of the Covenant are three-fold:

1. "To communicate a simple message of predictability of aid for admitted low income students, particularly in the face of rising tuition and other college costs;
2. To make it possible for low income students to graduate debt free;
3. To increase the percentage of low income students at UNC-Chapel Hill who successfully complete their undergraduate degrees by providing a network of academic and personal support services." (Ort, Farmer, Clark, Williford, 2006)

Covenant Scholars may retain eligibility for the program through a maximum of nine semesters by making satisfactory academic progress at the university, demonstrating ongoing financial need, and by meeting priority deadlines for financial aid each year. Since its inception in 2004, the Carolina Covenant has served over 1300 students.

UNC-Chapel Hill is classified as a *Research Institution-Very High* by the Carnegie Foundation denoting that the institution performs a very high volume of research, and admission to UNC-Chapel Hill is competitive: The freshman class of 2008 had an average high school grade point average (GPA) of 4.44 and an average SAT score of 1293.

[1] Program descriptions may be viewed at http://www.unc.edu/inclusion/initiatives.pdf

[2] UNT, serving almost 35,000 students, is a public research institution in Denton, Texas and is presently the fourth largest university in Texas.

The Florida Opportunity Scholars Program – University of Florida
Florida Opportunity Scholars are first-generation-in-college freshmen from low-income families, where the family income is less than $40,000 per year. Eligible students receive grant and scholarship aid that defrays the cost of their undergraduate education for four years. The goals of the program are three-fold:

1. To increase the economic diversity of the student population at the University of Florida;
2. To increase racial and ethnic diversity of the student population;
3. To improve the retention and graduation rates of low-income students attending the University of Florida.

Students retain eligibility for the program by earning a 2.0 cumulative GPA and completing 24 semester credit hours (SCH) each academic year, with no substantial change in financial circumstances. Students are also expected to participate in a mentoring program and to attend financial literacy workshops. Since its inception in the 2006-2007 academic year, the Florida Opportunity Scholars program has served almost 800 students.

The University of Florida is also classified as a R*esearch Institution-Very High* by the Carnegie Foundation. Admission to UF is competitive: Eighty-eight percent of admitted applicants for the 2008-2009 academic year had earned a high school GPA over 4.0, and 75 percent of the admitted applicants had earned an SAT score over 1200.

The Emerald Eagle Scholars Program – UNT
Varying only slightly from the benchmark programs at UNC and the University of Florida, Emerald Eagle Scholars are Texas residents and Pell-eligible freshmen from households with adjusted family incomes that do not exceed $40,000 per year. These students receive grants for tuition and mandatory fees costs for four years.

The Purpose: Student attainment of a bachelor's degree in four years with minimal debt.
The Promise: Tuition and fees paid for four years utilizing federal, state and institutional grants.
The Expectations: Students stay on track to complete a bachelor's degree and graduate in four years by:

1. Completing no less than 30 SCH each academic calendar year;
2. Earning and maintaining a minimum cumulative GPA of 2.5;
3. Committing to active engagement on campus.

Over 700 students have been served since the program began in the 2007-2008 academic year.

UNT is classified as a *Reseach Institution-High* according to the Carnegie classification system denoting that a high volume of research is undertaken by the institution. It is a selective institution: the 2008-2009 freshman class has an average SAT score of 1105.

UNC-Chapel Hill, University of Florida and UNT are large public universities playing important roles in their respective states. It should be noted that, when reviewing the results data about these access to success programs, student academic backgrounds vary among these universities. Specifically, there are differences in the students' overall academic preparation and motivation for college success based on the fact that UNC-Chapel Hill and the University of Florida are state flagship institutions with students having higher high school GPAs and SAT averages than those at UNT.

STUDY PURPOSE AND RESEARCH QUESTIONS

This study seeks to build on and contribute to research about the persistence and timely graduation of economically disadvantaged university students. The researchers aimed to answer the broad question, "How can a public university most effectively and efficiently facilitate the access to academic success and on-time degree completion of low-income students?"

To that end, the questions that guide the research are as follows:

1. What variables provide an early indication of the potential for a student's academic underachievement in college, specifically which independent variables have a statistically significant correlation to the GPA and SCH earned by students participating in access and success programs?
2. What do the students being served by the access and success initiatives perceive to be the most and the least helpful interventions and support services provided by their program?

THEORETICAL FRAMEWORK

This study is framed by data and theories that demonstrate the many ways in which low-income students are more challenged by the pursuit of access to and academic success in college than their more affluent peers.

These students are not only financially disadvantaged in comparison with an affluent peer, but are also culturally disadvantaged. Students of parents who have earned a post-secondary degree are typically socialized in a college-going culture wherein a high-school graduate moves comfortably and directly from secondary to post-secondary education. These students possess what might be referred to as *cultural capital*: "Cultural capital is the knowledge, skills, education and other advantages a person has that make the education system a comfortable, familiar environment in which her or she can succeed easily" (Oldfield, 2007).

The sociologist Pierre Bourdieu (1986) differentiates cultural capital from economic and social capital, where economic capital refers to financial resources and social capital refers to personal networks and group resources. The parents and in certain cases the grandparents of students with cultural capital have navigated through the process of applying and paying for admission to their university of choice, selecting a major, engaging in campus life, achieving the required grade point average, and persisting

through the required coursework to earn a degree. These parents are mentors serving as the initial guides who advise their children about college preparatory coursework, adequate preparation for the SAT and ACT, the college selection process, and completion of financial aid paperwork, all in advance of their student arriving on a university campus. And it is quite possible that even when first-generation, financially disadvantaged students are academically qualified for college, they find that "surviving the social challenges of higher learning can be at least as demanding as achieving a high grade point average" (Oldfield, 2007).

Vincent Tinto's *Theory of Student Departure* (1975, 1987) describes a longitudinal process through which the student progresses in course of the college-going experience, seeking to identify occasions for institutional impacts on a student's decision to depart (i.e. transfer or drop out) or persist. The model that emerged from Tinto's theory has influenced subsequent research on student attrition and student success. It clearly illustrates the convergence of a college student's pre-entry attributes, goals and commitments, institutional experiences, academic and social integration, and the manner in which the cumulative effects from these elements might impact the student's decision to persist or desist:

- Pre-entry attributes include family background, skills and abilities, and prior schooling.
- Goals and commitments prior to the student's arrival on campus include the student's intentions and goals, and institutional commitments to the student.
- Institutional experiences take place, formally and informally, within the academic realm and the social realm.
- Integration is experienced, in varying degrees, within the academic and social realms as well.

Goals and commitments are reevaluated by the student as a result of institutional experiences and the degree to which academic and social integration took place, with the addition at this juncture of commitments held by the student that are external to the institution. The outcome from the convergence of these elements is the student's departure decision (i.e. persist to graduation, transfer or drop out). An awareness and understanding of these critical interactional junctures enable administrators to "design academic and social programs and experiences intended to promote students' educational growth" (Pascarella and Terenzini, 1991).

Originating in organizational theory and an industrial model, John Bean's *Model of Student Attrition* (1978, 1981) describes background variables, organizational determinants, intervening variables (i.e. attitudinal measures of commitment to persistence), and environmental variables that effect a student's intent to depart or persist to graduation. Bean revised his model in 1981 renaming it the *Synthetic Causal Model of Student Attrition* with the intention of describing attrition from a single institution and not the attrition process in general. His revised model synthesizes key elements from previous research on student persistence that contribute to academia's understanding of a student's intent to persist at or depart from the institution in which they are enrolled. He grouped the intervening variables into the following four clusters:

- "Background variables…include only objective information about a student before matriculation, and attitudes, plans, beliefs, etc. which are measured before matriculation.
- Organizational variables…include only those variables which could be verified by observing a student or a student's record (e.g. the length and frequency of out-of-class contacts with a faculty member, types of subjects discussed, number of memberships in campus organizations, information a student has about rules and requirements, numbers of courses a student is closed out of, etc.).
- Environmental variables…include objective and subjective assessments of the student's environment – that is, anything which is not directly associated with the organization or its members, which is relevant to the student's decision to remain in school. Opportunities to transfer and military draft are obvious examples.
- Attitudinal and Outcome variables…represent the psychological results of interacting with an organization. They should include attitudes toward the institution, evaluations of the educational process and institutional policies, and other outcomes." (Bean, 1981)

In summary, many low income students don't arrive on campus armed with the knowledge they need to successfully navigate the system, therefore it falls to the institution to take the initiative to engage these students in their academic experience and facilitate their transition to college. With some careful planning and sincere commitment, colleges can take proactive steps to connect students to existing campus community resources intended to help them achieve academic success.
However, in order to most effectively and efficiently deploy their academic support services to at-risk student, it is necessary for institutions to understand the types of challenges faced by their low-income students, and then to differentiate between students in this sub-population who will need "triage" care and students who will acclimate socially and academically with fewer interventions.

METHODOLOGY

This study used mixed-methods research methodology. Descriptive statistics were used in the comparative analysis; a regression model was created to determine the impact of independent variables on first-year students' academic outcomes; and focus groups were conducted to obtain students' perspectives on the program's effectiveness in providing access to and success in college.

Descriptive Analysis: Data sources for variables used for the descriptive statistics in this study were the student information systems at UNC-Chapel Hill, University of Florida and at UNT.

In order to evaluate the effectiveness of the Emerald Eagle Scholars program in its first year, the successful Carolina Covenant Scholars program and the Florida Opportunity Scholars program were selected as benchmarks:

- UNT compared mean credit hours earned and mean cumulative grade point averages (GPA) of the inaugural class of Emerald Eagle Scholars to these same

academic outcomes achieved by freshmen Covenant Scholars at UNC-Chapel Hill.

- Comparison of the outcomes achieved by program participants to control groups at UNC-Chapel Hill and UNT was also made in the evaluation process to report on within-program effects. Control groups were comprised of students who were first-year students at these institutions in the year prior to the implementation of the Carolina Covenant and Emerald Eagle Scholars programs.
- Academic progress and first-to-second year retention rates reported by the University of Florida's Opportunity Scholars program were used for comparative analysis by the Emerald Eagle Scholars program administrators.
- Within-program effect on the first-to-second year retention rate of Emerald Eagle Scholars was examined using a comparison to the retention rate of their freshman peers and the control group.

Inferential Analysis: The data used to perform the inferential analysis was obtained from UNT's student information system, then the data used to generate the linear regression model was mined and coded with SAS statistical software.

Data was assessed using regression models for two separate dependent variables: cumulative GPA and cumulative semester credit hours (SCH) earned. The independent variables for the analysis included: ethnicity, SAT scores, high school quality (ranked by the Texas Education Agency), and gender.

The regression models were evaluated using *r* and *r*2. These measures allowed researchers to verify both correlation and variance in the models. The use of *r* reflects the positive or negative relationship that the independent variables have on the dependent variables. The use of *r2* explains the portion of the dependent variables that can be explained by operationalized independent variables. In addition, standard error distributions were used to gauge the tenability of the model. These distributions established overall strength and predictability. One-tailed t-tests were conducted to evaluate the variables found to be significant at the 95% confidence level.

Pre-analysis correlation was conducted to identify multicolinearity issues, specifically to determine if the predictive power of the model might be diluted by correlations between or amongst the number of independent variables used. One of the independent variables excluded from the final regression analysis was 1st generation status as the pre-analysis correlation determined it had no significant bearing on cumulative GPA or SCH outcomes in this particular study. Additionally, it should also be noted that the independent variable "White" is not correlated with academic underachievement and was therefore not included in the models.

Qualitative Analysis: Focus group interviews were conducted with students participating in the Emerald Eagle Scholars program to investigate and increase understanding of the effectiveness of the post-enrollment elements of the program from

the students' perspective. The focus group pool was first and second year students from the Emerald Eagle Scholars program.

A priori categories were used to compose questions for the focus groups and to sort the data. Emergent themes were also captured for inclusion in the report.

RESULTS

Descriptive Analysis Results

Table 3 below shows a mean comparison of the cumulative GPA and SCH earned by the inaugural classes of Scholars at UNC-Chapel Hill and UNT:

- The UNC Covenant Scholars earned a higher mean GPA at 2.81 as compared with UNT's Emerald Eagle Scholars mean GPA of 2.41;
- The Emerald Eagles Scholars had the highest cumulative SCH at 32 as compared to all groups.
- The students in the access to success programs achieved both higher GPA's and completed more credits than those of their respective control groups.

Table 3: Mean Comparison of Cumulative GPA and SCH Earned by Inaugural Classes of Carolina Covenant Scholars, Emerald Eagle Scholars, and Their Respective Control Groups

	Covenant Scholars N = 224	UNC Control Group N = na	Emerald Eagle Scholars N = 408	UNT Control Group N = 431
Cumulative GPA – End of Year 1	2.81	2.74	2.41	2.25
Cumulative SCH – End of Year 1	28	27	32	26

Table 4 below shows the academic performance and progression rates for UNT's Emerald Eagle Scholars and the University of Florida Opportunity Scholars:

- Eighty-one percent of the Opportunity Scholars achieved the program's academic success requirements, and 96 percent of the Scholars returned to the University of Florida the following year;

- Fifty-one percent of UNT's Emerald Eagle Scholars achieved the program's academic success requirements, and 82 percent of Emerald Eagles returned to UNT the following year.

Table 4: Academic Eligibility and First-to-Second Year Retention Rates: Florida Opportunity Scholars and Emerald Eagles Scholars

	Florida Opportunity Scholars N = 444	Emerald Eagle Scholars N = 408
Achieved Academic Requirements of Program in Year One *(Program requirements)*	81% *(2.0 GPA in 24 SCH)*	51% *(2.5 GPA in 30 SCH)*
First-to-Second Year Retention	96%	82%

Table 5 shows the first- to second-year retention rate of the Emerald Eagle Scholars as compared to their more affluent freshman peers and with the control group:

- The retention rate of Emerald Eagle Scholars was seven percentage points higher than their comparison groups.

Table 5: First-to-Second Year Retention Rates of Emerald Eagles Scholars, UNT 2007 Freshman Cohort* and UNT Control Group

	Emerald Eagle Scholars (2007) N = 408	Freshman Cohort* (2007) N = 3230	UNT Control Group (2006) N = 431
First-to-Second Year Retention Rate	82%	75%	75%

*Does not include Emerald Eagle Scholars

In addition to reporting academic success outcomes for the Scholars at each institution, the results of the descriptive analysis provide baseline data from which achievement and persistence goals may be set for future cohorts by UNC-Chapel Hill, University of Florida, UNT, and institutions that have or will implement access and success programs for their students. The analysis also suggests that the academic requirements of the programs are positively impacting the academic progress of students to timely graduation.

Inferential Analysis Results

The first regression model is focused on the impact that the independent variables had on the Emerald Eagle Scholars' cumulative GPA (Table 6). Three independent variables found to be significant: high school rank in the second quarter, total SAT scores, and African-American ethnicity.

The high school rank in the second quarter variable was shown to have the strongest impact on cumulative GPA. On average, students whose high school rankings fall within the second quarter do earn a cumulative GPA as high as students who were in the top quarter, assuming all other variables are constant.

The total SAT score also explains some variance in the cumulative GPA. Total SAT scores were shown to have a strong impact on cumulative GPA for Emerald Eagle Scholars, indicating that on average as SAT scores increase students' cumulative GPA will increase, assuming all other variables are constant.

Ethnicity was indicated for variance in cumulative GPA where on average, African American students earn a lower cumulative GPA than those in other ethnic groups, assuming all other variables are constant.

Table 6: Dependent Variable - Cumulative GPA Earned

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Standard Error	Beta	t-score	Significance
Constant	1.152	.438		2.633	.009
SAT: Total Score	.002	.000	.236	4.233	.000
African Americans	-.248	.116	-.139	-2.148	.032
Asian Pacific	.022	.172	.007	.126	.900
Hispanic	-.141	.136	-.063	-1.034	.302
High School: No Rank	.004	.336	.001	.012	.990
High School: Second Quarter	-.475	.097	-.267	-4.920	.000
High School: Third Quarter	-.479	.264	-.096	-1.815	.071
Unacceptable High School	-.299	.189	-.085	-1.578	.116
Family AGI	-2.21E-006	.000	-.081	-1.545	.123

The second regression model was used to analyze how total SCH was impacted by the independent variables. Total SCH included all credits taken UNT as well as any college credits earned while in high school. This analysis found five independent variables to be significant, including: total SAT score, no rank in high school graduating class, ranking in the second quarter of high school graduating class, graduation from a high school ranked as *Academically Unacceptable* by the Texas Education Agency[3], and not having a declared major in college (Table 7).

The strongest significance was found for total SAT score. On average, as the total SAT score increased, total SCH also increased, assuming all other variables were held constant.

High school rank was also found to be significant. Students who began at UNT with no high school rank[4] completed more SCH than students ranked in the top quarter of their graduating class, assuming all other variables to be constant. Students who ranked in the second-quarter of their high school graduating class completed fewer SCH than students in the top quarter, assuming all other variables were held constant. The quality of the high school attended was shown to be significant with regard to total SCH earned. Emerald Eagle Scholars who attended high schools ranked as Academically Unacceptable did not complete as many SCH as students who attended schools ranked as *Exemplary*, *Recognized*, and *Academically Acceptable*, assuming all other variables were held constant.

Table 7: Dependent Variable - SCH Completed

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Standard Error	Beta	t-score	Significance
Constant	13.938	4.779		2.916	.004
African Americans	-.099	1.267	-.005	-.078	.380
Asian Pacific	-2.652	1.882	-.079	-1.409	.160
Hispanic	2.538	1.488	.104	1.706	.089
Family AGI	1.24E-005	.000	.041	.797	.426
High School: No Rank	12.418	3.662	.177	3.391	.001
High School: Second Quarter	-3.124	1.054	-.160	-2.965	.003
High School: Third Quarter	-4.198	2.881	-.077	-1.457	.146
Unacceptable High School	-6.072	2.064	-.158	-2.942	.004
SAT: Total Score	.022	.004	.273	4.907	.000
Undecided	2.578	1.129	.119	2.283	.023

[3] Exemplary, Recognized, Academically Acceptable and Academically Unacceptable: Texas Education Agency accountability rating system for high schools based on the academic performance of their students (e.g. results on state tests such as TAKS, and demonstrated college readiness).
[4] Some high schools do not provide student class rankings.

The inferential analysis confirms previous research that reports the correlation of ethnicity, SAT scores and rigor of high school curricula to students' academic success in their first year of college.

Qualitative Analysis Results

Sample: A total of 29 Emerald Eagle Scholars volunteered to take part in one of four focus groups. The participants were first- and second-year Emerald Eagle Scholars (25 and 4, respectively) and broadly represented each college at UNT. A convenience sampling selection method was used whereby both the inaugural and second-year cohorts of Emerald Eagle Scholars (N=700) were sent an email invitation to participate in one of four focus group sessions held on the UNT campus.

Data Collection and Analysis: Three of the focus group meetings were held in the evening on three different dates during the fall term, and one of the focus groups was held during an afternoon session of a freshman seminar exclusively for Emerald Eagle Scholars. Each of the focus groups was facilitated and recorded by graduate assistants currently working in the division of Enrollment Management at UNT, Detailed hand-written notes were taken and audio recordings were created which were later transcribed and coded.

Coinciding with the conceptual pillars (Financial Support, Academic Success and Campus Engagement) that frame the Emerald Eagle Scholars program, the a priori categories used to facilitate discussion in the focus groups and the subsequent data coding were 1) the academic success expectations of the Emerald Eagle Scholars program, 2) the campus engagement requirements of the Emerald Eagle Scholars program, and 3) the financial aid guarantee of the Emerald Eagle Scholars program.

Ethics

Privacy: In the transcription, all references to individuals, departments, and schools were deleted in order to protect the identity of the participants.

Compensation: Volunteers were given a modest cash stipend - twenty dollars for those who participated in the evening focus group sessions, and ten dollars for those who met during the Emerald Eagle Scholars first-year seminar class. However, the participants did not have any knowledge of the stipend until all focus group meetings were concluded. They learned of the cash stipend in a follow-up email thanking them for their participation and explaining how they might collect their payment.

Findings:

The Academic Success Expectations of the Emerald Eagle Scholars Program

Creating a culture of academic success on campus begins with the expectation that students will achieve the standards set for them (*Demography is Not Destiny*, Pell Institute, 2007). Therefore, in order to foster commitment to academic success, the Emerald Eagle Scholars program established expectations for its students to achieve a minimum cumulative grade point average and course completion rate each academic year. Focus group participants reflected on their academic successes and challenges

as UNT students, how their academic experience in college differed from their high school experiences, and how these experiences contributed to or detracted from their ability to meet the academic expectations set by the program.

Students did not elaborate on the perceived *reasons* for their academic successes to the degree the researchers had hoped. The focus group participants elaborated instead on evidence of academic success.

> "Overall classes are going very well."
> "I will be making at least a 'B'."
> "I'm really satisfied with my grades…the professors really want to teach you."

However, students were quite candid about the academic challenges they experienced and were commonly attributed to the students' lack of understanding about and their own need to acclimate to the rigors of college, and some of the challenges were attributed to faculty.

> "They tell you that it is a lot of work, but they told me that it would be fun, too. I understand that you have to work at it, but I don't think that this much work should have to go into it."
> "Every class you have to study for and they don't warn you how hard college will be and what they will expect from you in class."
> "The test schedule is hard, like having one test right on top of the other."
> "It's hard to keep your grades up because you can have three tests in the whole semester and that's your grade. There are less chances for your grade. That is an academic challenge for me – making sure I do well on the tests that [I] do have."
> "Getting to know your teachers [is a challenge]. I have a couple of classes that are really big and it is hard to know them."
> "I think some of my professor's care, but some of them don't care. I just have to try to make good grades and keep getting my work done."
> "When I ask for help in classes, the teacher never comes over. Then when I turn in the project, the teacher asks why I didn't come get help."
> "Every class that I have been in where the [teacher assistant] taught the class, I've been completely lost."

Focus group participants also reflected at length on the differences between high school and college:

> "There are lots of opportunities to do things that I would have never had the chance to do."
> "I like that there is not busy work because in high school…we would have to do work that didn't really help me learn the material."
> "I'm in classes that I really love learning about and going to. I mean, in high school I had to go to classes just because they were assigned to me, but now I go to classes that I enjoy and that have an effect on my life."

> "I study a lot more, because in high school all I did was go to class and take notes that was all I needed. I could just learn it all in class. I kind of knew it was going to be more difficult studying-wise, but it is a whole lot more difficult than high school. I didn't realize this until I took my first astronomy test and made like a 77…"
> "In high school I never had to study for anything: not tests or finals. The TAKS test counted for our finals so we didn't have any…"
> "In high school, you have a test over chapter one, but in college you have a test over chapters one through eight. That's too much information."
> "In high school, almost every teacher taught the same way but here it's different. Each teacher teaches a different way."
> "You can choose your professors because there are so many different sections. But in high school…you get stuck with one teacher because he/she is the only one that teaches that class."
> "Teachers put their own opinion on the test. All through high school, you read the book and that was what was on the test, but here teachers put what they said in class on the test."
> "In high school, almost every teacher taught the same way, but here it's different. Each teacher teaches a different way."
> "[A challenge is] trying to adapt how you learned in high school to what you are doing here."

From these reflections, we learned that generally students accepted the academic expectations imposed by the program, but acculturation to the college classroom is a significant challenge for many first-year Emerald Eagle Scholars.

The Campus Engagement Requirements of the Emerald Eagle Scholars Program
There are two campus engagement activities prescribed to first-year Emerald Eagle Scholars: campus employment at UNT, and regular interaction with a peer and faculty/staff mentor. The intent is to facilitate the students' social integration with the campus and strengthen their commitment to persist in their pursuit of a baccalaureate degree at UNT.

Focus group participants were asked specifically to reflect on their experience applying for and working in a campus job:

> "[One of the benefits of working on campus is] you don't have to worry about transportation."
> "I have a really flexible schedule and they were willing to work around my classes. And I can walk to work, which is helpful since I don't have a car."
> " …it is hard to find a job that works for my schedule."
> "I'm taking all morning classes and most of the jobs you have to be free from 8 to 5…"
> "With so many people going to UNT, there is a much higher rate of competition because so many people are applying for the same small job pool."

> "Went to apply in person to a job and they told me to just go online and apply for it…I applied for it, but no one called me."
> "I think it's discouraging when you keep applying and don't get any type of word back saying you didn't get the job. That doesn't make you want to apply more to get no response at all back."
> "I had a resume and all that and I applied for a million jobs, but…there was no communication back from anyone. I tried to apply for as many as they say but there are not that many jobs."
> "I did expect that every job would give me an interview…I thought I would get at least one. It was just more difficult than I thought it would be."
> "…we [had a workshop] where they helped you with your resume, and my resume got a whole lot better. Then I applied with all my new stuff and I ended up getting a job."
> "I work with my professors and since I'm around them all the time, I think they expect more from me than they do the other students."
> "By working on campus, you see people that you go to class with and meet new people."
> "It is easier to meet people when you work on campus."

When asked what they would like to improve or change about the program in general, robust discussion ensued about Emerald Eagle Scholars' experiences with their mentors:

> "I have had three mentors. It has been hard to keep in contact with them [even though] they explain I can contact them anytime."
> "I have never met my mentors. We haven't talked at all."
> "I asked my mentor about [the program] and she didn't know any of the answers. We just don't match at all."
> "My mentor is overbearing and will not stop pressuring me about getting a job."
> "I never knew my mentor."
> "I had a peer mentor and he was helpful, but then he got removed from the program. Then I was with another mentor and I tried calling and emailing him but I never got a response."

The students' responses indicate that campus employment can indeed be an effective means to facilitate the integration of Emerald Eagle Scholars with the UNT community. However, questions have been raised about the effectiveness of the mentoring program to facilitate students' engagement with the campus community.

The Financial Aid Guarantee of the Emerald Eagle Scholars Program

Only two remarks emerged from the four focus groups in the financial support category. Both indirectly expressed the opinion that the adjusted gross income eligibility criteria ($40,000) was low: one of the students was experiencing an improvement in her financial circumstances which would make her ineligible for the institutional grant in the future, and the other student did not elaborate.

Conclusions

Programs offering access to success have risen in popularity in recent years. These programs typically offer high levels of financial aid to low income students, and sometimes they also offer additional support for students in the programs. This study includes data from three programs in different levels of development, but all sharing the same goal: increase the academic success of low income students by providing strong financial assistance and academic support.

The discussion about strategic allocation of institutional resources to most effectively and efficiently facilitate the academic success of low income students at a public university is particularly salient at this time when higher education is called upon to exercise vigilant stewardship. As such, this study contributes to the discussion by offering insight into which students may require the most assistance from academic support services and which campus efforts are perceived by the students to be effective in facilitating their acclimation to college.

The following conclusions may be drawn from the descriptive data gathered for this research:

The access to success programs in this study lead students of comparable backgrounds to higher GPA's, faster credit accumulation and higher freshman progression rates, specifically students achieved both higher GPA's and completed more credits than those of their respective control groups.

The following conclusions may be drawn from the analysis that addresses the question of which independent variables might have an adverse impact on the cumulative GPA of low-income students in their first year of college:

Students who have a high school rank within the second quarter and students who are African American are at risk for earning a lower GPA than their peers, on average. The inferential analysis also indicates a positive correlation between SAT scores and GPA, where the strength of the SAT score predicts the strength of the cumulative GPA. Taken together, these findings indicate that low-income African American students who have a high school rank in the second quarter may be most at risk for earning a GPA that is below standard, particularly if these students have also earned below-average SAT scores as compared with peers.

The following conclusions may be drawn from the analysis that addresses the question of which variables might have an adverse impact on the cumulative SCH earned by low-income students in their first year of college:

Students who have a high school rank within the second quarter and students who graduate from an Academically Unacceptable high school may earn fewer SCH in their first year of college than their peers. The inferential analysis also indicates a strong, positive correlation between the SAT scores and cumulative SCH, where the strength of the SAT score predicts the number of SCH completed in the first academic year. Taken together, these finding indicate that low-income students who

have a high school rank in the second quarter, graduate from an Academically Unacceptable high school, and have earned below-average SAT scores as compared with their peers were at risk to not complete 30 SCH in their first year of college.

In instances where renewal-eligibility for an access and success program hinges on students earning a predetermined number of SCH and GPA, the findings from each of these models should be combined. As such, students with the following characteristics may be at risk for losing program eligibility:

- High school rank in the second quarter
- Lower than average SAT scores
- Graduates of an Academically Unacceptable high school
- African American ethnicity

The following conclusions may be drawn from the analysis of focus group outcomes:

Students are challenged (some are even bewildered) by the transition from high school to the college classroom; and they are surprised by the degree of effort required to achieve the same grade in college that they earned with relative ease in high school. And whereas employment on campus is viewed positively, students do not perceive that they are benefitted by prescribed interaction with a mentor.

It should be noted that an unintended learning outcome from the campus employment requirement is the students' experience competing with peers for a finite number of desirable jobs. This outcome mirrors the experience of seeking and securing a job after graduation from college.

Suggestions for Further Study

Further analysis will utilize a simple means comparison of the cumulative GPA and SCH earned by UNT Emerald Eagle Scholars, UNC-Chapel Hill Covenant Scholars and Florida Opportunity Scholars using the same criteria for students in each program. And statistical significance testing and effect size reporting to determine if the outcomes achieved by the UNT Emerald Eagle Scholars as compared with the Covenant and the Florida Opportunity Scholars are mathematically different.

Additionally, 4- and 6-year graduation rates should be compared across and within these institutions when this data becomes available. Furthermore, future research should evaluate the cost-effectiveness of these programs in relation to the number of students served and resources (financial, personnel, etc.) allocated to serve them, thus expanding understanding of how access and success programs can become even more efficient and effective.

In closing, factors that influence the degree to which student achieve academic success in college and progress to timely graduation are numerous and multifaceted. Individual differences between students and among the institutions they attend make it particularly

challenging to generalize a prescriptive course of action to improve these outcomes. Since the popularity of access and success programs is increasing, institutions committed to improving the rate of academic success of their low-income students should perform their own assessments and analyses in order to discover the unique barriers or challenges faced by these students on their respective campuses.

BIBILIOGRAPHY & REFERENCES

Astin, A.W. (1984). Student Involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, 297-308.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bean, J. P. (1981). The synthesis of a theoretical model of student attrition.

Blecher, L. (2006). Persistence toward bachelor degree completion of students in family and consumer sciences. *College Student Journal, 40*(3), 469-484.

Bourdieu, P. (1986). Forms of Capital. In J. Richardson (Ed.). *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258) New York: Greenwood,.

Cabrera, A. F., Deil-Amen, R., Prabhu, R., Terenzini, P. T., Chul Lee, & Franklin Jr., R. E. (2006). Increasing the college preparedness of at-risk students. *Journal of Latinos & Education, 5*(2), 79-97.

Kirwan, B. Lucido, J. et al. (2008). Coming to Our Senses: Education and the American Future. (College Board Advocacy Report, 2008, December). New York.

DeBerard, M. S., Spielmans, G. I., & Julka, D. C. (2004). Predictors of academic achievement and retention among college freshmen: A longitudinal study. *College Student Journal, 38*(1), 66-80.

Demography is not destiny: Retrieved 1/29/2008, from www.pellinstitute.org/files/files-demography_is_not_destiny.pdf

Denzin, N. and Lincoln, Y. (1998). Collecting and interpreting qualitative materials. Thousand Oaks, CA: Sage Publishers.

Education Watch Texas: Key Education Facts and Figures: Retrieved 1/29/2008, from www2.edtrust.org/edtrust/summaries2006/Texas.pdf

The foundation for student success: Student background characteristics, precollege experiences, and enrollment patterns.(2007). *ASHE Higher Education Report, 32*(5), 21-42.

Gifford, D. D., Briceño-Perriott, J., & Mianzo, F. (2006). Locus of control: Academic achievement and retention in a sample of university first-year students. *Journal of College Admission,* (191), 18-25.

Institutional conditions associated with student success.(2007). *ASHE Higher Education Report, 32*(5), 69-103.

Klomegah, R. Y. (2007). Predictors of academic performance of university students: An application of the goal efficacy model. *College Student Journal, 41*(2), 407-415.

Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Bloomington, IN: Indiana University, Center for Postsecondary Research.

Major theoretical perspectives on student success in college.(2007). *ASHE Higher Education Report, 32*(5), 13-20.

National collegiate retention and persistence to degree rates: 2006. Retrieved 1/29/2008, from www.act.org/path/policy/pdf/retain_2006.pdf

Oldfield, K. (2007). Welcoming First-Generation Poor and Working Class Students to College. *About Campus*, January-February 2007, 2-12.

Pascarella, E. & Terenzini, P. (1991). *How College Affects Students: Findings and Insights.* San Francisco: Jossey-Bass

Patton, L.D., Morelon, C., Whitehead, D. M., & Hossler, D. (2006). Campus-based Retention Initiatives: Does the Emperor Have Clothes? [Electronic Version] *New Directions for Institutional Research*, 130. Summer 2006, 9-24.

Paulson, M. & St. John E. P. (2002) Social Class and College Costs: Examining the Financial Nexus Between College Choice and Persistence. *The Journal of Higher Education*, 73 (2), 189-236

Propositions and recommendations for student success in postsecondary education.(2007). *ASHE Higher Education Report, 32*(5), 105-130.

Reducing institutional rates of departure.(2004). *ASHE-ERIC Higher Education Report, 30*(3), 67-78.

Student behaviors, activities, and experiences associated with student success.(2007). *ASHE Higher Education Report, 32*(5), 43-67.

Tinto, V. (1987). *Leaving College: Rethinking the causes and cures of student attrition*. Chicago, University of Chicago Press.

Tinto's interactionalist theory.(2004). *ASHE-ERIC Higher Education Report, 30*(3), 7-20.

Trends in College Pricing. Retrieved 7/3/2008 from www.collegeboard.com/prod_downloads/about/news_info/trends/trends_pricing_07.pdf

U.S. Department of Education, National Center for Educational Statistics, *The Condition of Education 2003* (NCES Publication No. 2003-067). Washington, DC: Government Printing Office, 2003.

Wei, C. & Horn, L. (2002) *Persistence and Attainment of Beginning Students with Pell Grants*. (NCES publication No. 2002-169). Washington, DC:U.S. Department of Education, Office of Educational Research and Improvement.