

Creating Co-Curricular and Extracurricular Engagement Pathways for Timely Degree Completion

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*Becky Croxton, Head of Strategic Analytics & Special Projects
Anne Cooper Moore, Library Dean*



J. MURREY ATKINS
LIBRARY



The purpose of the study is ...

Understand the role of out-of-the-classroom engagements in 4-year graduation rates, particularly related to Black, Hispanic, and Pell Eligible students ...

In order to ...

... develop a deeper understanding of the factors that contribute to student success ...

So that ...

... libraries, co-curricular and extracurricular units, and universities can structure support systems and services to help these important populations to succeed and graduate.



Project Impetus

- 2022 University of North Carolina System adopted a new performance-weighted funding model to Improve the value of higher education
- The new funding formula rewards or penalizes universities for their overall four-year graduation rate and changes to student debt.
- UNC Charlotte is committed to supporting undergraduate students in timely degree completion with minimal debt, with a particular focus on Black, Hispanic, and Pell Eligible students

"Under the new plan, the System will focus on increasing the percentage of students who finish in four years, as timely completion helps to limit student debt and lowers the opportunity cost of remaining in school for additional semesters"
(UNC System Strategic Plan, 2022).



Urban, Research
Institution

Doctoral
University,
Higher Research
Activity

2nd largest
undergraduate
enrollment in
UNC System

29,551 Students

23,461
undergraduates

80% Acceptance
&
83% Persistence
Rates

65% FTIC
freshmen (4,157)

35% Transfers
(2,249)

Fall 2022:

<https://www.northcarolina.edu/impact/stats-data-reports/interactive-data-dashboards/>
<https://ir-analytics.charlotte.edu/fact-book>



Co-Curricular Partners

- Library
- Career Center
- UCAE
- Writing Center
- Education Abroad
- Undergraduate Research

Other Departments & Programs

- Undergraduate Learning Communities
- 1st Year Writing Program
- Center for Teaching & Learning
- Registrar
- Niner Central
- OneIT Help Desk

Student Affairs

- Greek Life
- University Recreation Center
- Housing & Residence Life

Institutional Research

- Demographics
- Pre-College
- Success Measures



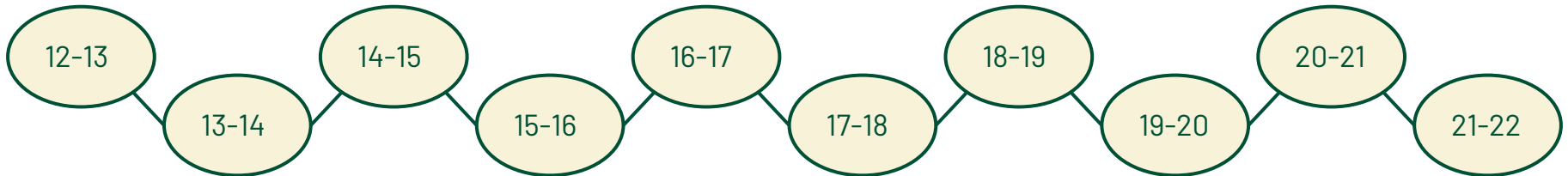
Student Engagement Data Set



Longitudinal dataset at the individual student level of all undergraduate students who matriculated into the university from 2012-2013 to the present.

Data include:

1. Yearly student engagements with each co-curricular and extracurricular partner, at the "type of activity" level of specificity.
2. Pre-College data
3. Demographic data
4. Measures of Success (2nd Year Retention, GPA, and Graduation Rates)





Data Included in Current Study



1. Undergraduate students who matriculated in Summer or Fall 2012 - 2018.
2. Did they graduate within 4 years (Spring of 4th academic year)?
3. How much did they engage with co-curricular and extracurricular services during 1st four years?

Matriculation Year (Sum/Fall)	4 Year Graduation Year Goal (Spring)									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2012										
2013										
2014										
2015										
2016										
2017										
2018										

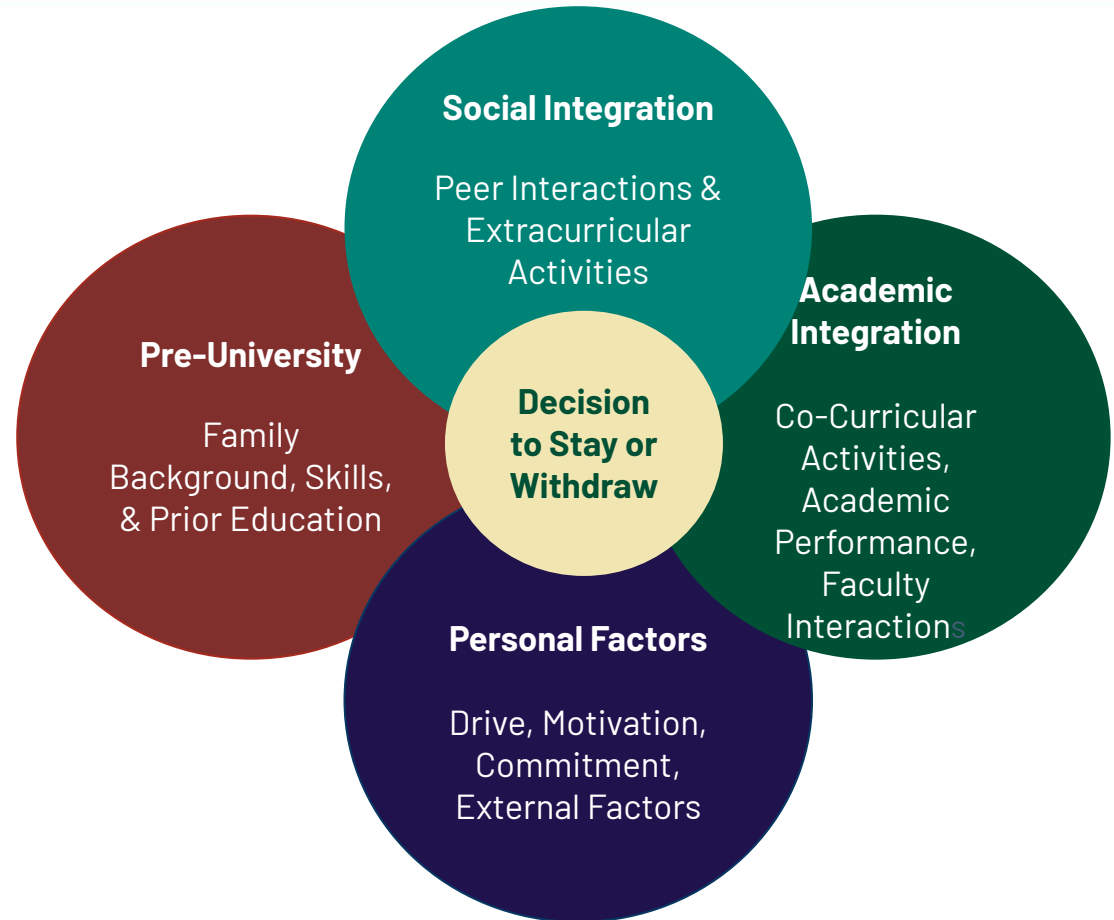


Tinto's Model of Student Integration



All of these factors play a role in a student's decision to stay or withdraw.

Spheres of influence at the university are Social Integration & Academic Integration.



Tinto, 1975, 1993



Sequential Design

Step 1

Disaggregated the Data to Enable a Deeper Understanding of Pell, Black, and Hispanic Success & Engagement Patterns

Step 2

Explored Group Differences Related to Measures of Success AND Co-Curricular & Extracurricular Engagement

Step 3

Controlled for Confounding Variables

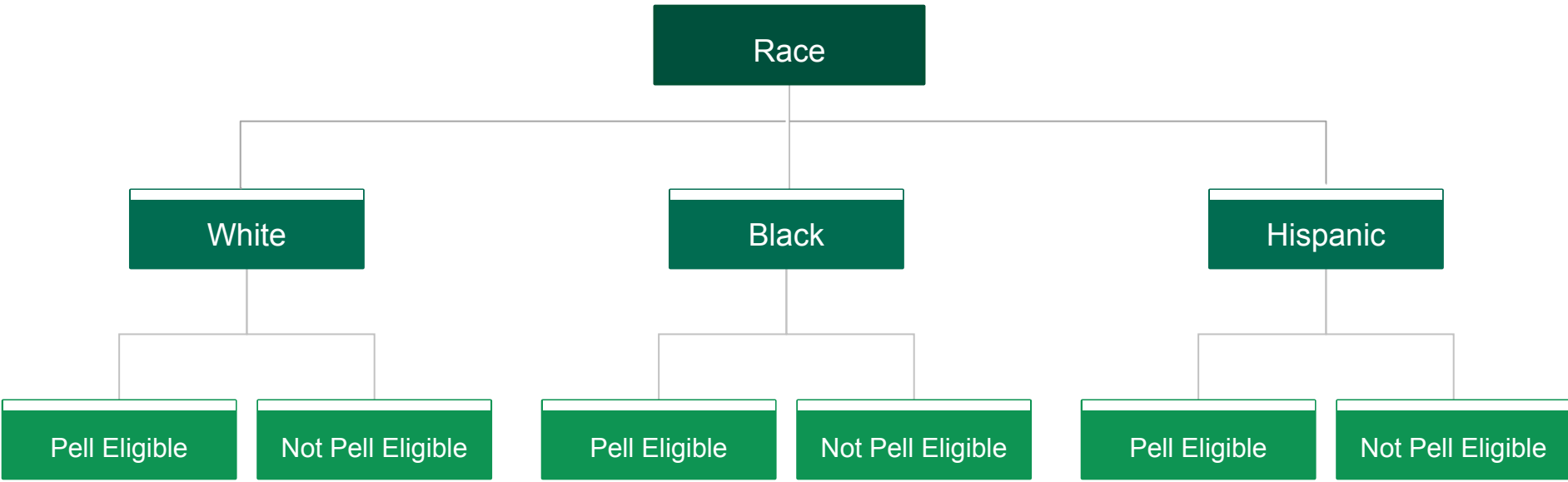
Step 4

Identified Engagement Pathways for Success for Population Subgroups

Step
1

Data Disaggregation

To better understand student engagement & success for our populations of interest, we disaggregated the data based on Race and Pell Eligibility...



Step
2

Exploring Group Differences

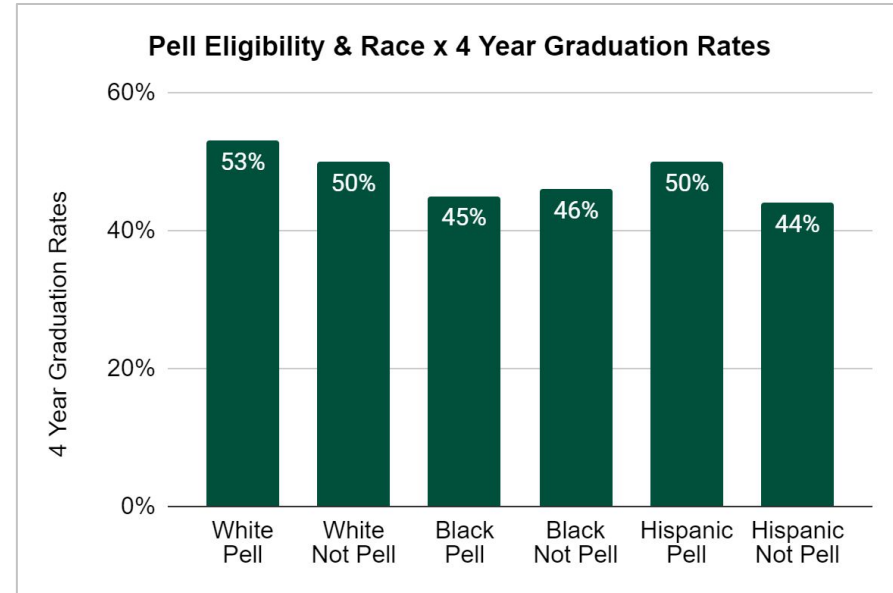
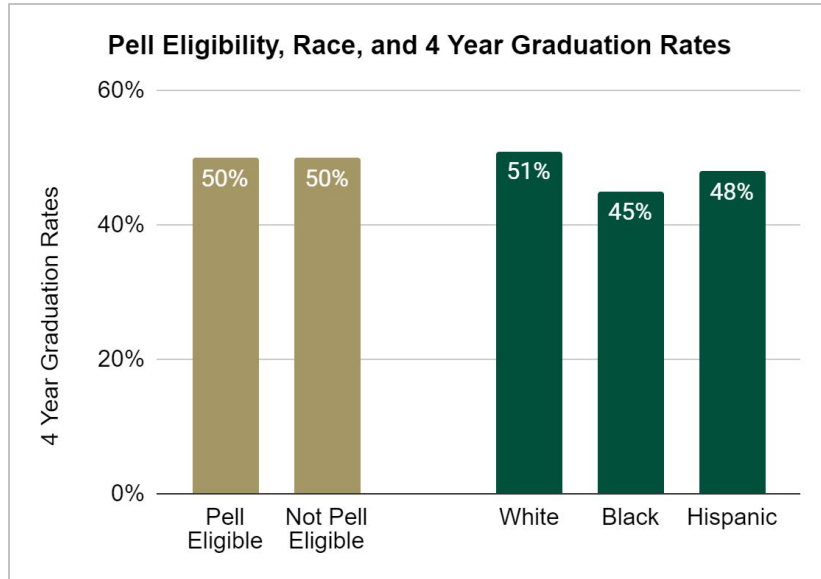
We learned that our disaggregated groups differed significantly based on measures of success ... and ...co-curricular and extracurricular engagement patterns.

A few examples ...



4-Year Graduation Rates

Study subgroups differed significantly with respect to their 4-year graduation rates.





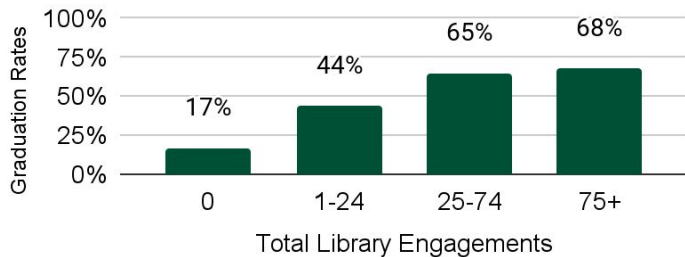
Students who engage with the library have significantly higher 4-year graduation rates ...

BUT

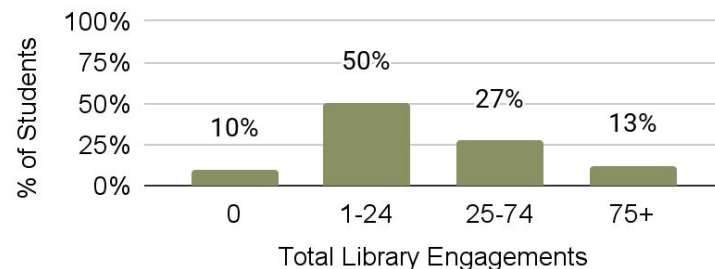
... many students do not engage ... or engage very little ... with the library ...

AND

Library Total Engagements x 4 Year Graduation Rates



Library Total Engagements in 1st 4 Years

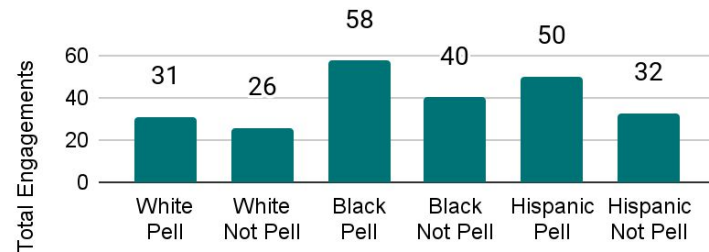


... library engagement patterns differ significantly across study subpopulations.

(Average across full dataset: 35 engagements)

Trends are consistent when separated into specific types of library engagements.

Library Engagements per Student in 1st 4 Years





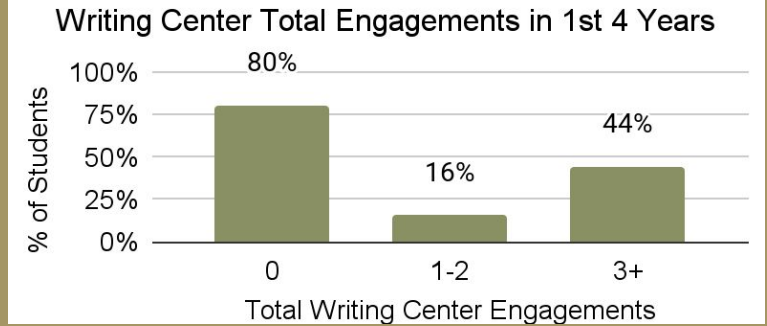
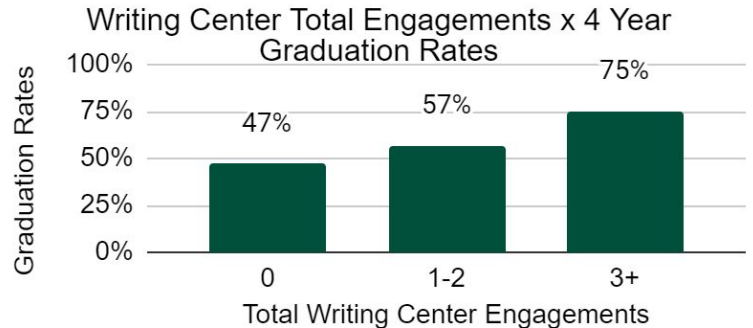
Writing Center Engagement

Students who engage with the Writing Center have significantly higher 4-year graduation rates ...

BUT

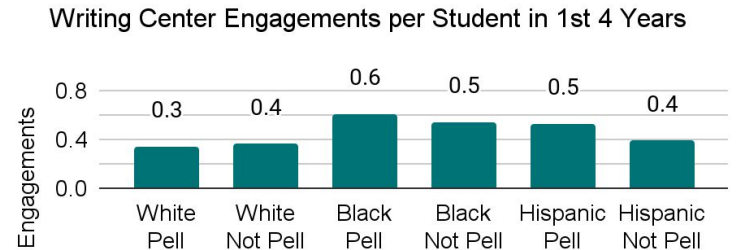
... many students do not engage ... or engage very little ... with the Writing Career ...

AND



... Writing Center engagement patterns differ significantly across study subpopulations.

Trends are consistent when separated into specific types of Writing Center engagements.





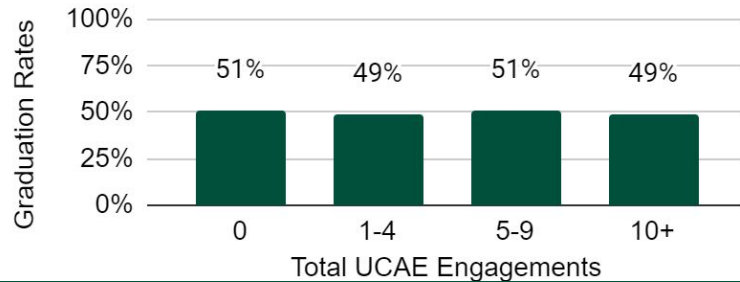
Graduation rates remain static across different levels of student engagement with the UCAE ...

BUT

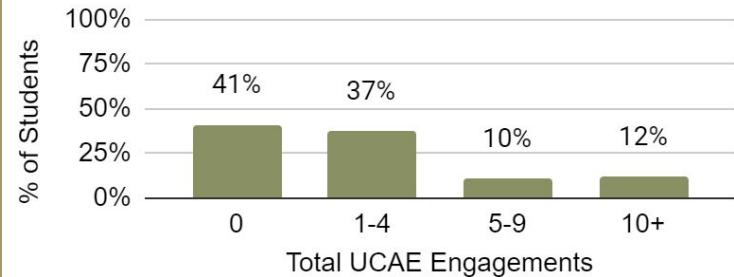
... many students do not engage ... or engage very little ... with the UCAE ...

AND

UCAE Total Engagements x 4 Year Graduation Rates



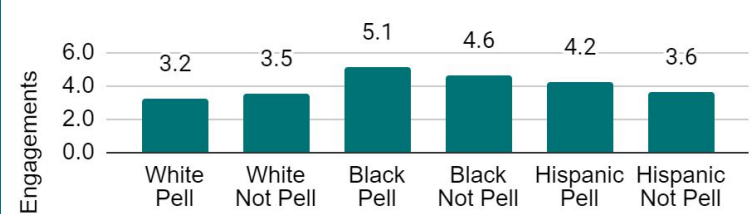
UCAE Total Engagements in 1st 4 Years



... UCAE engagement patterns differ significantly across study subpopulations.

Trends are consistent when separated into specific types of Writing Center engagements.

UCAE Engagements per Student in 1st 4 Years





Greek Life Participation

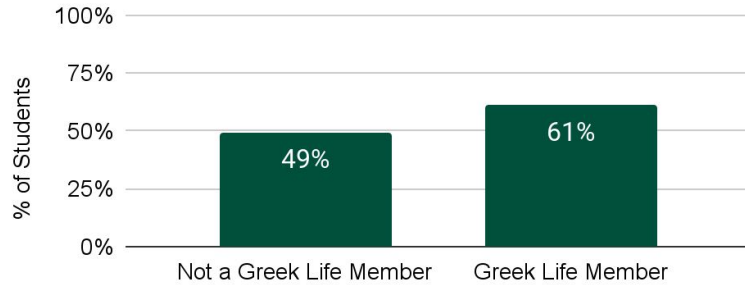
Students who participate in Greek Life have significantly higher 4-year graduation rates...

BUT

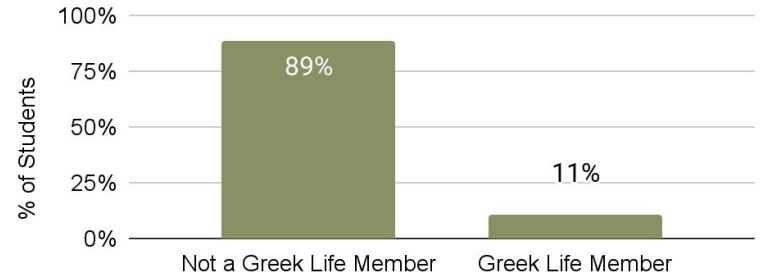
... many students do not participate in Greek Life ...

AND

Greek Life Membership x 4 Year Graduation Rates



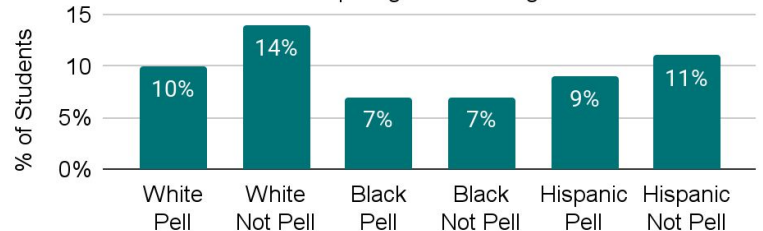
Greek Life Member in any of 1st 4 Years



... Greek Life participation differs significantly across study subpopulations.

Greek Life Membership in 1st 4 Years

% of Students Participating in Greek Organizations



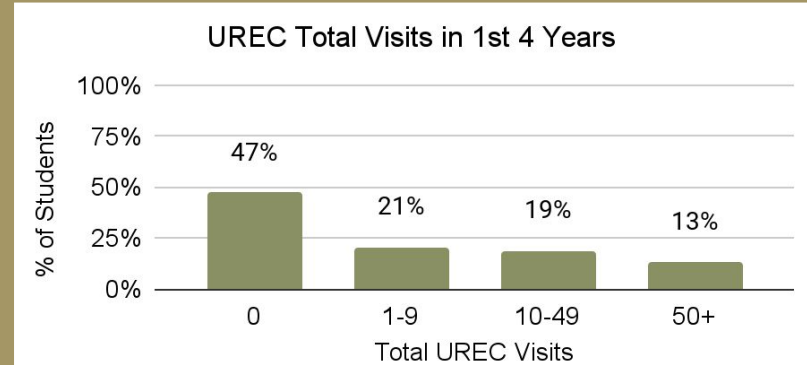
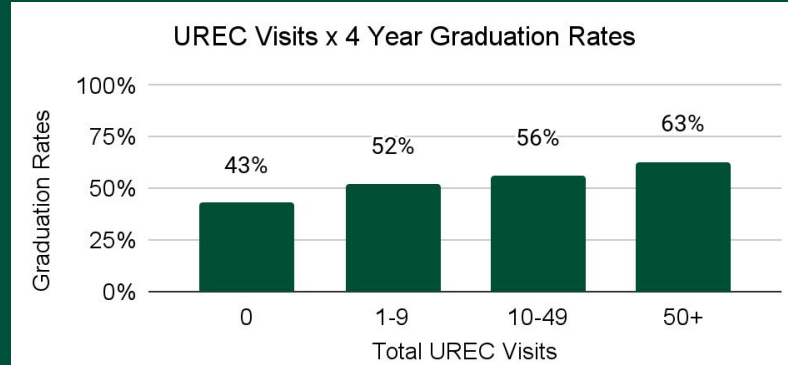


Students who use the UREC have significantly higher 4-year graduation rates ...

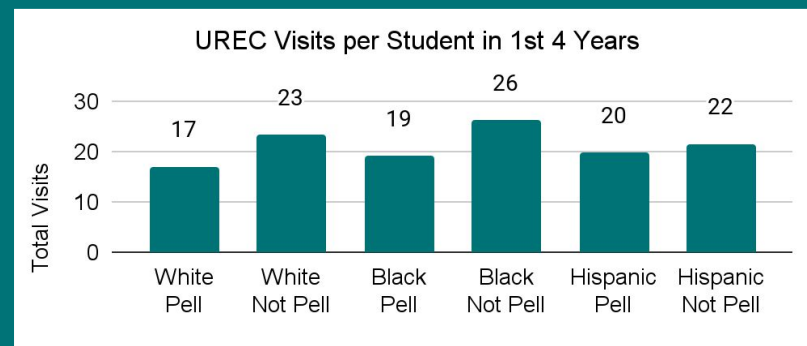
BUT

... many students do not use ... or have minimal usage of the UREC ...

AND



... UREC usage patterns differ significantly across study subpopulations.



Overall, trends for the other co-curricular and extracurricular study partners included in the analysis were consistent with the examples shared.

Co-Curricular Partners

- Library
- Career Center
- University Center for Academic Excellence (UCAE)
- Writing Center

Student Affairs

- Student Affairs employment (Resident Assistant, SAFE Mentor, Orientation Counselor, UREC Employee)
- Housing & Residence Life
- Greek Life
- UREC Usage



1. **Graduation rates** differ significantly for subpopulations based on Race and Pell Eligibility.
2. Student engagement with co-curricular and extracurricular services is significantly associated with higher 4-year graduation rates.
3. There are significant differences in engagement patterns across study subgroups.

Step
3

Controlling for Confounding Variables



... with Propensity Score Matching

**Pre-Entry
Academic
Readiness**
(ACT/SAT)

**1st Generation
Status**
(Neither parent
w/ 4-year
degree)

College
(ART/ARCH,
BUSN, CCI,
EDUC, ENGR,
CLAS, CHHS,
UCOL)





Admit Status
(FTIC -
freshman,
Transfer)

**High Impact
Practices**
(Experiential Educ.,
Education Abroad,
Learning
Community,
Undergrad
Research, Fresh.
Writing Course)

Step
4

Identifying Engagement Pathways for 4-Year Graduation



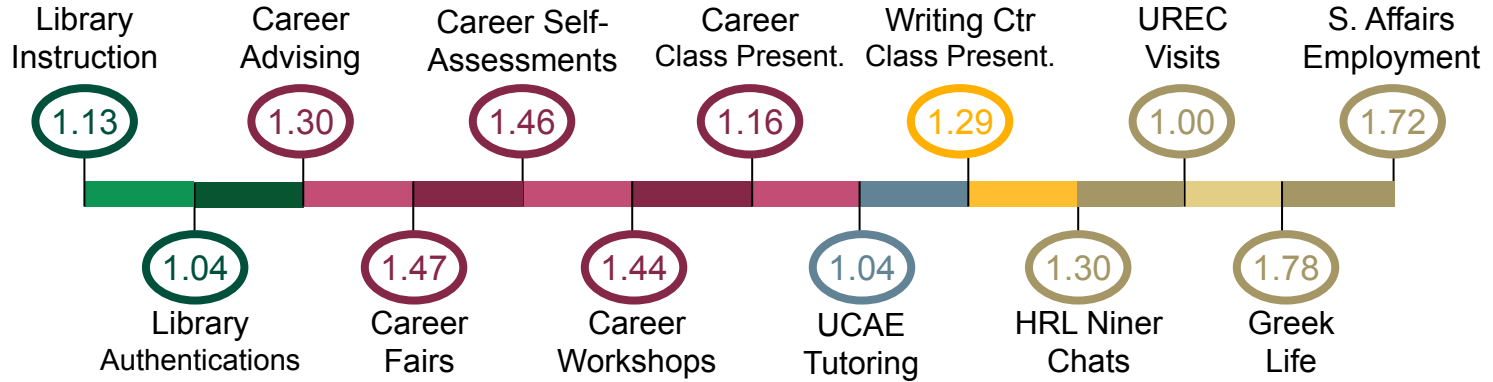
 Library	 Career Center	 UCAE	 Writing Center	 Student Affairs
<ul style="list-style-type: none"> ● Book checkouts ● Authentications ● Instruction ● Laptop & Desktop Usage ● Study Room Reservations 	<ul style="list-style-type: none"> ● Advising ● Career Fairs ● Classroom Presentations ● Self-Assessments ● Workshops 	<ul style="list-style-type: none"> ● Classroom Presentations ● Individual Consultations ● Excellence Seminars ● Success Guides ● Suppl. Instruction / Peer Asst Lrng ● SOS Peer Mentoring ● Tutoring ● Workshops 	<ul style="list-style-type: none"> ● Classroom Presentations ● Individual Consultations 	<ul style="list-style-type: none"> ● SA Employment <ul style="list-style-type: none"> ○ Resident Assistant ○ SAFE Mentor ○ Orientation Counselor ○ UREC Employee ● Housing & Residence Life <ul style="list-style-type: none"> ○ Learning Programs ○ Social Programs ○ Niner Chat ● Extracurriculars <ul style="list-style-type: none"> ○ Greek Life ○ Sports Clubs ○ Intramural Teams ○ UREC Visits



Engagement Pathways for 4-Year Graduation

Figures represent significant odds ratios (e^B)

**Black,
Pell-eligible
Students**



For each engagement in [specific activity], the odds that a student in this subpopulation will graduate within 4 years increases x.xx times.

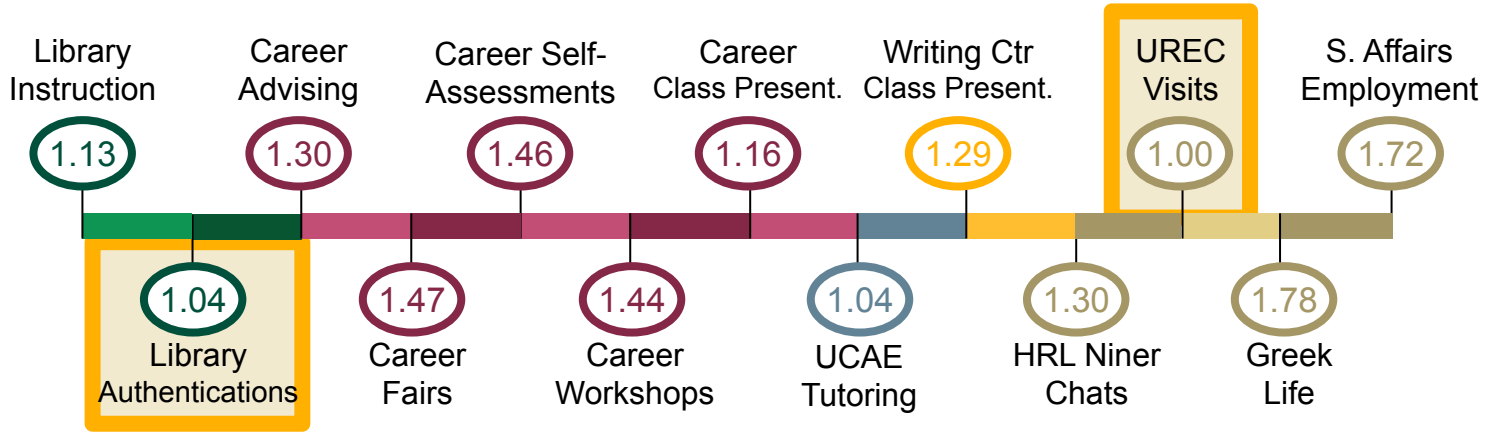
For each engagement in library instruction, the odds that a black, Pell-eligible student will graduate within 4 years increases 1.13 times.



Engagement Pathways for 4-Year Graduation

Figures represent significant odds ratios (e^B)

**Black,
Pell-eligible
Students**



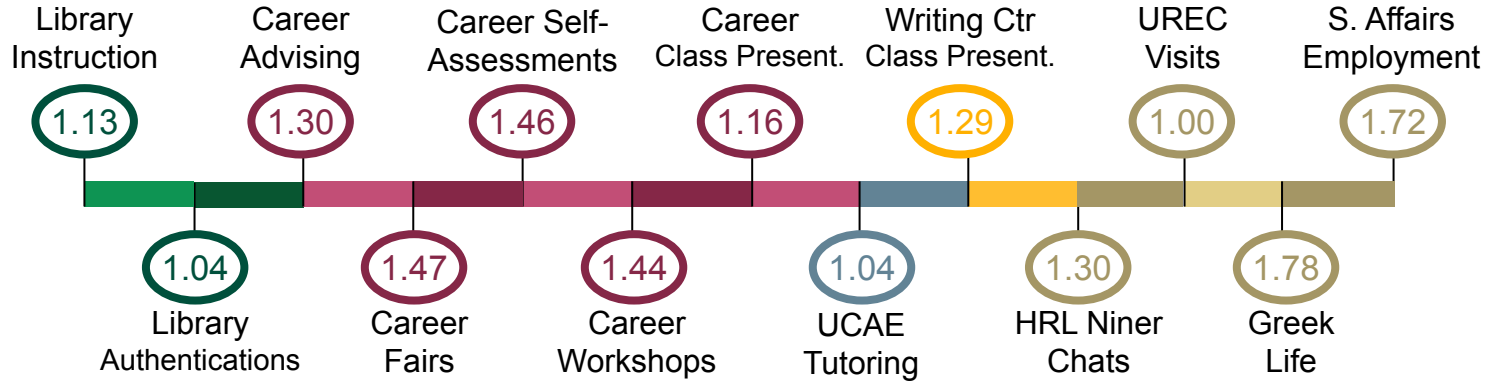
Odds ratios are for 1 instance of engagement. Many students engage in some activities hundreds of times during their academic careers. Odds of success increase with each engagement.



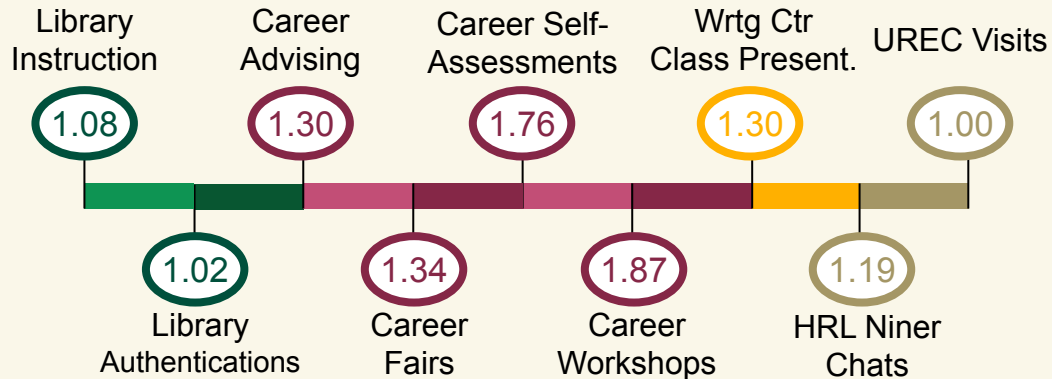
Engagement Pathways for 4-Year Graduation

Figures represent significant odds ratios (e^B)

Black, Pell-eligible Students




Hispanic, Pell-eligible Students





Key Takeaways

- There are specific co-curricular and extracurricular services and activities that significantly increase students' odds for 4-year graduation.
- There may be opportunities to promote and support student engagement in new ways, particularly for students who are less engaged in co-curricular and extracurricular activities.
- Colleges can not only collaborate with campus co-curricular and extracurricular units and departments, but also emphasize with students the importance of engaging in co-curricular and extracurricular activities, particularly the "high impact" activities identified from this study.



J. Murrey Atkins Library

Q & A

Anne Cooper Moore
Library Dean

Anne.Moore@charlotte.edu

Becky Croxton
Head of Strategic Analytics & Special Projects

Becky.Croxton@charlotte.edu



Supplemental Materials

- Student Engagement & Success (2012-2013 through 2021-2022)
Statistical Tables: <https://tinyurl.com/AtkinsDataTables>
- Handouts
 - [Variables Checklist](#)
 - [Delineated Engagement Pathways for 4-Year Graduation](#)

Other Select Studies using the Student Engagement Dataset

Croxton, R., & Moore A. C., (2022, November). *One-Size-Doesn't-Fit-All: Differentiated Engagement Pathways for Transfer Student Success*. Paper presentation at the 2022 Library Assessment Conference, Online. ([Proceedings Paper](#); [Presentation](#))

Moore, A. C., & **Croxton, R.** (2021, March). *Engagement Pathways to Transfer Student Success*, Paper presentation at the 2020 Library Assessment Conference, Online. ([Proceedings Paper](#); [Presentation](#))

Croxton, R., & Moore, A. C. (2020). Quantifying the Library's Value: Aligning Library, Institutional, and Student Success Data. *College & Research Libraries*, 81(3), 399-434. DOI: <https://doi.org/10.5860/crl.81.3.399>.

Croxton, R., & Moore, A. C. (2019, April). *From Matriculation to Graduation: Alignment of Library Data with University Metrics to Quantify Library Value*. Proceedings of the 2019 Association of College & Research Libraries Conference, April 10-13, Cleveland, Ohio. ([Proceedings Paper](#); [Presentation](#))

Variables checklist

<p>Dependent Variable:</p> <p>4 Year Graduation Rate (graduated within 4 years) (1=yes, 0=no)</p> <p>Demographic Variables of Interest</p> <p>Race</p> <ul style="list-style-type: none"> • Black • Hispanic • White <p>Pell eligible in any of 1st 4 years (1=yes; 0=no)</p> <p>Race + Pell</p> <ul style="list-style-type: none"> • White Pell • White Not Pell • Black Pell • Black Not Pell • Hispanic Pell • Hispanic Not Pell <p>Covariates</p> <ul style="list-style-type: none"> • 1st Gen (neither parent with 4-year degree) • Admit Status <ul style="list-style-type: none"> ○ Transfer ○ FTIC freshman • ACT/SAT (standardized to ACT score) • College • Total High Impact Practices (Total #) <ul style="list-style-type: none"> ○ Experiential Education (Credit or UPIP) ○ Education Abroad ○ Office of Undergraduate Research participant ○ Lecture Seminar with less than 25 students ○ Learning Community participant ○ Completed UWRT course at UNCC and earned passing grade 	<p>Library</p> <ol style="list-style-type: none"> 1. After Hours 2. Area 49 3. Book Checkouts 4. Authentications (EZ Proxy + Open Athens) 5. Instruction 6. Laptops Checkouts + Desktop Logins 7. Other Cir Checkouts 8. Research Consultations 9. Special Collections Visits 10. Study Room Reservations <p>Total 4 Year Library Engagements</p>
	<p>Career Center</p> <ol style="list-style-type: none"> 1. Career Advising 2. Career Fair Attendance 3. Class Presentation Attendance 4. Career Self-Assessment 5. Career Workshops <p>Total 4 Year Career Center Engagement</p>
	<p>UCAE</p> <ol style="list-style-type: none"> 1. Individual Consultations (IC) 2. Supplemental Instruction/PAL (SI) 3. Peer Mentoring (SS) 4. Tutoring Sessions (TS) 5. Workshops (WS) 6. Excellence Seminars (SE) 7. Classroom Presentations (CP) 8. Success Guides (SG) <p>Total 4 Year UCAE Engagement</p>
	<p>Writing Center</p> <ol style="list-style-type: none"> 1. Class Presentations 2. Individual Consultations <p>Total 4 Year WRC Engagement</p>
	<p>Housing & Residence Life</p> <ol style="list-style-type: none"> 1. Learning Programs 2. Niner Chat 3. Social Programs <p>Total 4 Year HRL Engagement</p>
	<p>Student Affairs Campus Employment in any of 1st 4 Years (Dichotomous) (Any employment in 1st 4 years as Resident Assistant OR SAFE mentor OR Orientation Counselor OR UREC)</p>
	<p>Extracurriculars</p> <ol style="list-style-type: none"> 1. Greek Life Member (Dichotomous) 2. Sports Club Member (Dichotomous) 3. Intramural Sports Team Membership 4. UREC Visits

Delineated Engagement Pathways for 4 Year Graduation

The tables below outline pathways for co-curricular and extracurricular engagement activities that significantly increase the odds that students in each population subgroup will graduate within four years.

To interpret the findings in each table, read ...

For each [**engagement activity**] a student in a [**specific population subgroup**] participated in during their first year of study, the odds they would graduate within 4 years [**x times**].

Example: For each **library instruction session** a **subgroup member (e.g., Black Pell eligible student)** participated in during their first four years of study, the odds they would graduate within four years increased **x.xxx times**.

Odds Ratios for 4 Year Graduation*

Study Partner & Engagement Activity	All Undergrads	Study Subgroups					
		White		Black		Hispanic	
		Pell	Not Pell	Pell	Not Pell	Pell	Not Pell
Library							
Instruction	1.164	1.120	1.216	1.130	1.227	1.081	1.180
Book Checkouts	1.023	1.028	1.030	--	1.041	--	1.057
Authentications	1.047	1.046	1.054	1.043	1.076	1.023	1.050
Laptop Checkouts + Desktop Logins	1.002	--	1.004	--	1.004	--	--
Study Room Reservations	1.011	1.011	1.030	--	1.022	--	1.017
Career Center							
Advising	1.332	1.352	1.386	1.302	1.395	1.303	1.195
Career Fair	1.545	1.526	1.626	1.473	1.472	1.341	1.539
Classroom Presentation	1.087	1.108	1.112	1.158	--	--	--
Self-Assessments	1.574	1.776	1.457	1.460	1.707	1.758	3.669

*Darker shades of green in the tables represent higher odds ratios.

Study Partner & Engagement Activity	All Undergrads	Study Subgroups					
		White		Black		Hispanic	
		Pell	Not Pell	Pell	Not Pell	Pell	Not Pell
Workshop	1.647	1.574	1.759	1.435	1.385	1.871	1.818
University Center for Academic Excellence							
Classroom Presentations	--	--	--	--	--	--	--
Individual Consultations	0.758	0.735	0.712	0.770	0.555	--	--
Excellence Seminars	0.120	0.134	0.138	0.114	--	--	--
Success Guides	0.831	--	0.842	0.769	--	--	--
Supplemental Instruction / Peer Assisted Learning	1.011	1.016	1.016	--	1.044	--	--
Student Success	1.923	0.939	0.919	0.925	--	0.903	0.858
Tutoring	1.011	--	--	1.040	--	--	--
Workshops	1.014	--	1.018	--	--	--	--
Writing Center							
Classroom Presentations	1.292	1.244	1.398	1.291	1.384	1.298	1.279
Consultations	--	--	--	--	--	--	--
Student Affairs Employment (Res Assistant, SAFE Mentor, Orientation Counselor, UREC)							
SA Employment	2.019	2.202	2.453	1.718	1.984	--	8.060
Housing & Residence Life							
Learning Programs	2.480	1.962	3.248	--	--	--	--
Niner Chats	1.230	1.188	1.251	1.298	1.237	1.193	1.342
Social Programs	1.800	--	2.154	--	--	--	--

**Darker shades of green in the tables represent higher odds ratios.*

Study Partner & Engagement Activity	All Undergrads	Study Subgroups						
		White		Black		Hispanic		
		Pell	Not Pell	Pell	Not Pell	Pell	Not Pell	
Extracurricular Engagement								
Greek Life	1.475	--	1.543	1.781	1.792	--	1.929	
Sports Club	1.210	--	1.366	--	--	--	--	
Intramural Team	1.108	1.069	1.165	--	--	--	1.179	
UREC Visits	1.004	1.004	1.005	1.002	1.004	1.003	1.006	

**Darker shades of green in the tables represent higher odds ratios.*