

# Predictors of Credential Completion and Transfer among Transfer-Intending NC Community College Students

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## Introduction and Project Background

Our UNC Charlotte Transfer Research Team embarked on a multi-year, multi-method study in Fall 2021 to understand the experiences of North Carolina (NC) community college (CC) transfer students. In this report, we examine matched survey and institutional data to identify predictors of credential completion and transfer among transfer-intending NC CC students.

## Previous Research and NC Context

The path taken by transfer students is intricate and multi-dimensional.<sup>1, 2, 3</sup> With community colleges as a primary gateway to higher education, it becomes crucial to discern the factors related to successful vertical (CC-to-university) transfer. Such transitions do not just determine academic progress, they influence career prospects and overall life paths.<sup>4</sup> Studies on community college students have highlighted the significant influence of socioacademic integrative moments<sup>5</sup> and early momentum metrics<sup>6</sup> in fostering and forecasting their success. Better understanding of the factors that facilitate transfer can empower institutions to refine strategies, resource allocations, and policies.<sup>7</sup> In our previous research using survey data from the Community College Survey of Student Engagement (CCSSE) to understand engagement and transfer seeking behaviors among transfer-intending NC CC students (statewide dataset of 24 colleges), we found lower levels of reported interaction with faculty and service use among part-time students.<sup>8</sup> Further, we found that socioacademic integration and advising were strong predictors of institutional support perceptions across racial/ethnic groups.<sup>9</sup>

## Current Study and Participants

For this study, we obtained a longitudinal dataset that merged 2010-2019 CCSSE records with demographic, transcript, transfer, and completion data from three NC community colleges. The merged data were provided as part of a data sharing agreement with the Center for Community College Student Engagement at the University of Texas Austin and IRB agreements with each CC. Institutional data for each student spanned their records at the college from first entry until spring 2022.

Our sample for this study (n=2,289) includes only students who indicated transfer as a reason for attending CC when completing the CCSSE. These transfer-intending CC students have a similar demographic profile in terms of gender and race/ethnicity to the enrollment in NCCCS credit-bearing curricula (56% women; 39% members of historically underrepresented minority groups; see Table 1). The three participating CCs represent different institutional transfer profiles: high transfer/high traditional (n=705); mixed transfer & career/high traditional (n=810), mixed transfer & career/high nontraditional (n=774). Given the college composition, students 18-24 years are overrepresented in the sample compared to the general NCCCS population.



Over half of students in the sample achieved successful outcomes, either completing a credential without transfer (30%), transferring to a baccalaureate-granting institution (BGI) without a credential (14%), or transferring to a BGI with a credential (11%). Among those who earned a credential (n=924), nearly all earned an associate degree (99%), with 16% earning more than one credential. Among those who transferred with a credential, the most common degrees earned were the Associate in Arts (AA; 54%), Associate in Science (AS; 21%), and Associate in Applied Science (AAS; 20%).

**Table 1. Demographic Profile of Transfer-Intending Students from three NC Community Colleges (n=2,289)**

Characteristic	Categories	Frequency (percent)
<b>College type</b>	High transfer/high traditional	705 (30.8%)
	Mixed transfer & career/high nontraditional	774 (33.8%)
	Mixed transfer & career/high traditional	810 (35.4%)
<b>Age<sup>1</sup></b>	18-24	1,735 (75.8%)
	25-39	201 (8.8%)
	40+	135 (5.9%)
	not available	218 (9.5%)
<b>Gender identity<sup>2</sup></b>	Men	1,007 (44.0%)
	Women	1,282 (56.0%)
<b>Racial or ethnic identity<sup>2</sup></b>	American Indian, Alaska Native	15 (<1%)
	Asian	64 (2.8%)
	Black or African American	473 (20.7%)
	Hispanic or Latino	269 (11.8%)
	Native Hawaiian or Pacific Islander	2 (<1%)
	White	1,321 (57.7%)
	Other	70 (3.1%)
	Two or more races	39 (1.7%)
	Unknown	36 (1.6%)

<sup>1</sup> Age at first enrollment

<sup>2</sup> Institutional categories used in enrollment and transcript records

# Factors Influencing Completion and Transfer Outcomes

We employed a multinomial logistic regression approach to analyze various predictors that can influence the likelihood of students earning a credential, transferring, or both. Drawing from existing research, we spotlighted three groups of completion and transfer predictors: demographic and background factors, early momentum metrics, and engagement.

The results of our analysis are shown in Table 2. Statistically significant odds ratios are labeled to signify increased (+) or decreased (-) odds of the outcome.

**Table 2. Predictors of Completion and Transfer among Transfer-Intending CC Students (n=2,289)**

Predictors of Completion and Transfer		Sample Statistic (Percent or Mean/SD)	Whether Predictor Significantly Affects Likelihood of Student Outcomes <sup>8</sup>		
			Credential Only (n=683, 29.8%)	Transfer without Credential (n=329, 14.4%)	Transfer with Credential (n=241, 10.5%)
Demographic and background factors	Member of historically underrepresented minority group <sup>1</sup>	39.5%			-
	Woman <sup>2</sup>	56.0%	+		
	Attempted at least one developmental course	51.3%	-	-	-
Early momentum metrics	<i>Completed within the first 30 attempted hours<sup>3</sup></i>				
	24 or more credits	51.0%	+	+	+
	Gateway math course <sup>4</sup>	37.3%	+		
	Gateway English course <sup>5</sup>	69.7%	+		+
Engagement at community college	Socioacademic integration <sup>6</sup> (scale 1-24)	12.8 (3.5)	+	+	+
	Frequency of advising <sup>7</sup> (scale 0-9)	3.8 (1.9)			



<sup>1</sup> American Indian, Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian, Pacific Islander, Other, and 2 or more. White and Asian students are the reference group.

<sup>2</sup> Compared to men. Institutional data did not include other gender categories.

<sup>3</sup> Rather than the typical focus on the first calendar year, we considered the first 30 attempted credits to account for variations in enrollment intensity.

<sup>4</sup> Completion of a college-level math course (MAT); full list of courses available upon request.

<sup>5</sup> Completion of a college-level English course (ENG); full list of courses available upon request.

<sup>6</sup> Sum of 6 CCSSE items related to interaction with faculty and peers in and outside of class.

<sup>7</sup> Sum of 3 CCSSE items related to frequency of advising related to academic, career, and transfer.

<sup>8</sup> Table with odds ratios, *p* values, and 95% confidence intervals available upon request from [sdika@charlotte.edu](mailto:sdika@charlotte.edu).

## Demographic and Background Factors:

- **Membership in Historically Underrepresented Minority Group:** These students (40% of sample) had a significantly lower likelihood of transferring with a credential, compared to White and Asian students.
- **Gender:** 56% of the sample were women, and while this factor positively affected the likelihood of earning a credential only, gender had no effect on transfer.
- **Attempted at Least One Developmental Course:** About half of the students in the sample had taken a developmental course, which negatively affected the chances of all three transfer and completion outcomes.

## Early Momentum Metrics (completed within the first 30 attempted hours):

- **24 or More Credits:** About half of students in the sample achieved this milestone, and it positively influenced all three student success outcomes.
- **Gateway Math Course:** Slightly over a third of students completed a gateway math course in the first 30 hours, which was positively associated with the likelihood of earning a credential, but neither of the transfer-related outcomes.
- **Gateway English Course:** Over two-thirds of students completed a gateway English course, and it was a positive predictor for both credential-related outcomes (credential only and transferring with a credential).

# Engagement at Community College:

- **Socioacademic Integration:** On average, students had moderate levels of interaction with faculty and peers, and increasing interaction was found to positively affect all three student outcomes.
- **Frequency of Advising:** While the average advising use among students was at least a few times during the academic year, this variable was not related to student outcomes.

In analyzing the journey of community college students, it is evident that their path to success is intertwined with myriad factors. Our findings underscore several pivotal points:

1. **Early Academic Progress Matters:** Students who steadily accumulate credits and complete gateway math and English courses tend to have positive outcomes. Among students in our sample, the average time to reach 30 attempted hours was around 4 semesters; less than full-time enrollment. Thus, our findings challenge previous research, which has emphasized early academic momentum in the first calendar year, discounting part-time students who do not reach 30 hours in that timeframe. Although not tied to just a one-year timeline, momentum is important. The influence of such momentum underscores the importance of providing students with the resources and guidance they need early in their academic journey.
2. **Socioacademic Integration is Crucial:** Consistent engagement within the academic community, represented by high scores in socioacademic integration, is a strong predictor of success across all outcomes. This highlights the beneficial outcomes when community colleges foster environments where students feel connected, both academically and socially, to CC faculty, staff, and peers.
3. **Demographic and Background Factors Play a Role:** The data evidenced potential equity gaps in likelihood to earn a credential (increased odds for women) and likelihood to transfer with a credential (decreased odds for historically underrepresented minority groups). Attempting developmental courses tended to have a negative effect on all outcomes, which reflects existing literature on the subject. This raises crucial considerations for academic institutions in offering support structures tailored to diverse student identities.
4. **The Role of Advising:** While the frequency of advising was notable, its direct impact on selected outcomes was not supported by our data. The data in this study do not reflect advising obtained through online resources or in courses like ACA 122, geared to provide advice on the transfer process. We do not discount the value of advising when obtaining information about effective transfer and credit mobility. Our qualitative project findings suggest students may tend to seek this information via websites and peer networks versus advisors<sup>10</sup> and illustrate the importance of transfer advising to promote “seamless” transfer.<sup>11</sup>

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