

## RESEARCH ARTICLE

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# Exploring Equity in Transfer Receptivity, Enrollment, and Outcomes in North Carolina Public Universities

Sandra L. Dika, Marah C. Lambert, and Leonardo Herrera

*The University of North Carolina at Charlotte*

While vertical transfer represents access to baccalaureate degree attainment, many transfer students follow inefficient pathways and have lower completion rates. We conducted a descriptive exploratory case study of institutions in the University of North Carolina (UNC) system to examine transfer environment, enrollment, and outcomes. Our study is framed by the concept of transfer receptivity and research on experiences and outcomes of vertical transfer in North Carolina. We compiled a dataset using several public data sources (UNC interactive dashboards, Integrated Postsecondary Education Data System, Carnegie Classifications, institutional websites) to include data on transfer-related institutional supports, as well as transfer student enrollment, GPA, and graduation rates. Our analysis approach focused on describing transfer enrollment, outcomes, and receptivity, and examining the intersections of these characteristics to explore differences in institutional focus and commitment. We identify areas for further data exploration, and implications for policies and practice to promote greater equity and inclusion in the NC vertical transfer process.

*Keywords:* transfer receptivity, vertical transfer, postsecondary education, enrollment

Attending community college can serve as an accessible route to obtaining a baccalaureate degree for populations who have been traditionally marginalized and minoritized in U.S. higher education. Over three-quarters of entering community college students report transfer as a goal for attending college (Center for Community College Student Engagement, 2021). The vertical transfer gap between transfer aspirations and reality (Taylor & Jain, 2017) is substantiated in national data: Fewer than a third of community college students successfully transfer out to baccalaureate degree-granting colleges, and among those, less than half attain their bachelor's degree within six years (Shapiro et al., 2017b), compared to 64% of first time in college (FTIC) students (National Center for Education Statistics [NCES], 2022b). These gaps are further exacerbated for racially minoritized Black and Hispanic/Latinx community college students, for whom transfer out and completion rates are significantly lower than their Asian and white peers (Shapiro et al., 2017a; Shapiro et al., 2018).

North Carolina has a statewide comprehensive articulation agreement (CAA) between the North Carolina Community College System (NCCCS) and the University of North Carolina (UNC) system to promote more seamless transfer of general education courses and guaranteed junior status and commensurate transferrable credit hours for associate's degree completers (NCCCS, 2014). Mirroring national trends, transfer students account for about one third of new student enrollment among institutions in the UNC System (English et al., 2021). Transfer students in the state frequently follow inefficient pathways and have lower baccalaureate completion rates (D'Amico & Chapman, 2018). Data from Fall 2019 showed that while transfer patterns are partially driven by geography, the most inclusive universities in the system are serving large concentrations of community college transfer students from the most economically distressed areas in the state (D'Amico et al., 2022). Across the UNC system, the four-year graduation rate gap between first time in college (FTIC) juniors and NC community college transfer students ranged between 16 and 19 percentage points for 2011-2017 cohorts (UNC, 2022). The system dashboards do not offer disaggregation of transfer outcomes by demographic groups, however, Whatley et al. (2021) examined cohorts from 2012-2016 and found that Asian, American Indian/Alaska Native, Black/African American, Hispanic/Latinx, and Pell grant recipient transfer students complete bachelor's degrees at lower-than-average rates.

The purpose of this paper is to characterize the nature of transfer environment, enrollment, and outcomes within and among the institutions of the UNC system. Our study is framed by concepts relating to institutional transfer receptivity, along with recent empirical studies on experiences and outcomes of vertical transfer in North Carolina. We compiled a dataset using several public data sources (UNC interactive dashboards, Integrated Postsecondary Education Data System [IPEDS], Carnegie Classifications, institutional websites) to include data on transfer-related institutional supports, as well as transfer student enrollment and graduation rate. Our analysis approach was descriptive, focused on understanding trends as well as developing classifications of institutions based on transfer enrollment, outcomes, and environment. We examine intersections of enrollment, environment, and outcomes to understand inequities among institutions in their focus and commitment to the education of transfer students. We identify areas for further data exploration, and implications for institutional and state policies and procedures to promote greater equity and inclusion in the NC vertical transfer process.

## TRANSFER RECEPTIVITY

While transfer literature is heavily slanted toward the role of the community college (Jain et al., 2020), transfer receptivity refers to the prioritization of transfer students by the receiving university. A few frameworks have emerged in the past decade to understand this element of the transfer function. Transfer receptive culture (Jain et al., 2011; 2020), guided by critical race theory, incorporates pre-transfer and post-transfer commitments of the university to provide the necessary support for transfer success, especially for traditionally marginalized and minoritized groups (e.g., neotraditional age, first generation, low income, underrepresented racial/ethnic groups). This framework most explicitly centers the racialized lives of transfer students and recognizes the role of institutional racism in the transfer journey. Transfer affirming culture (Handel, 2011) shares a basis in critical race theory, and emphasizes the institutional commitment by both community colleges and universities to provide the necessary resources for transfer and degree attainment.

### 3 TRANSFER EQUITY IN NORTH CAROLINA

Given the focus on universities and the data sources for the current study, we used Strempel's (2013) framework to define and operationalize the elements of a transfer student-receptive ecosystem. Strempel developed the framework based on over 45 site visits to universities across the nation that exhibited a strong commitment to transfer, and identified seven institutional areas that comprise the ecosystem.

1. Admissions: dedicated personnel with a defined focus on transfer students
2. Student affairs: peer mentors; transfer student interventions throughout the year; connections with staff and administrators who were transfer students
3. Academic affairs: location in Provost's office to ensure high levels of support and efficiency; seminars; summer bridge programs
4. Financial aid: dedicated financial aid transfer specialist; financial aid literacy program
5. Housing: guaranteed on-campus housing; transfer student learning community
6. Communications and operations: internal cross-campus conversations
7. Information and analytics support: evaluative component that examines qualitative and quantitative data to regularly adjust programming and services; benchmarks for (a) admissions and enrollment, (b) transfer credit, (c) retention and persistence, and (d) disaggregation of degrees awarded by gender, race/ethnicity and field

Strempel primarily focused on the fiscal benefits of transfer students, evidencing a more pragmatic approach. We considered that this model could be applied using a critical lens, by focusing on the role of institutional and structural factors that can affect transfer outcomes.

### RESEARCH ON VERTICAL TRANSFER IN NORTH CAROLINA

A small but growing body of research has examined vertical transfer specifically in the North Carolina context. One group of studies focuses on perceptions and experiences of students and institutional agents. NC data from a national survey of community college students (2017-2019) showed that among those who indicated vertical transfer as a goal, only two-thirds had developed an academic or transfer plan in the first year, and just over half had met with a transfer advisor (Dika et al., 2022). Neotraditional (25 years or older) and part-time students reported lower rates of early transfer planning and advising. Holliday-Millard's interview study (2021) revealed the experiences of NC community college transfer advisors, finding challenges and complexities at the student, campus, and system levels that can interfere with student aspirations to obtain a baccalaureate degree. In interview studies with transfer students and aspirants, researchers have made important insights into their experiences and perceptions. Students in Miller et al.'s (2022) study highlighted various identities (parent, Black student in STEM, LGBT, family support) as influential in shaping their vertical transfer experiences, both pre- and post-transfer. Transfer students at an NC Historically Black College or University (HBCU) talked about their distinct needs and barriers as transfer students; both academic and non-academic; and the desire for greater recognition and resources to be provided by the institution (Walker & Okpala, 2017).

Another set of studies has examined transfer outcomes using statewide administrative data sets, pointing to the roles of student, institutional, and systemic factors. Umbach et al. (2019) found that attending a small community college, transferring to a public university in the same county,

and transferring to an HBCU were positively associated with outcomes including GPA, persistence, and completion. Conversely, the size of the university and institutional selectivity were negatively related to outcomes. When looking at success metrics for community college transfer students based on credential earned and field of study, DeSantis et al. (2021) found that associate degree earners of any type were able to apply more credits at transfer and also spend less time at the baccalaureate degree granting institution than those who had not earned a credential. Students in health and social and behavioral sciences also experienced greater success relative to their peers in other fields, with those in STEM and education and childcare fields experiencing greater barriers to completion. Giani (2019) found that while credit loss for NC transfer students was substantially lower than the national average, Black, Indigenous, and People of Color (BIPOC) and non-resident alien vertical transfer students were significantly more likely to experience credit loss than white students. Early evidence suggests that the implementation of the revised 2014 CAA did result in modestly decreased credit accumulation upon graduation among students enrolled in eligible degree programs (Worsham et al., 2021a). However, the CAA appears to have induced greater proportions of Black and Latinx students to take an additional semester to graduate compared to white students, as well as an increase in excess credit for Black students (Worsham et al., 2021b).

A subset of statewide studies has focused on specific populations of NC vertical transfer students. Age, receipt of Pell grant, and attendance at a high career and technical education community college were negatively associated with baccalaureate degree completion among community college students transferring with an Applied Associate of Science (AAS) degree (Atwell & D'Amico, 2021). Green (2022) found that characteristics of the college or department of engineering, including faculty composition and class size, predicted both first-term academic performance and persistence to graduation of engineering transfer students in the UNC system. Attempted and earned hours in the first semester were related to first-term GPA, while the amount of transfer credit and total earned hours at the receiving institution predicted engineering degree completion.

While current understanding of vertical transfer experiences and outcomes in North Carolina has been enhanced by rigorous qualitative studies and sophisticated analyses of robust statewide administrative datasets, there has been limited empirical attention to the nature and role of transfer receptivity of receiving institutions. Leading transfer scholars Laanan and Jain (2017) noted the need for more critical research on transfer, including choice of variables and consideration of structural or institutional factors that could influence outcomes. Our study aimed to contribute to a more critical understanding of transfer by using publicly available data from various sources to examine the characteristics and intersections of transfer enrollment, environment, and outcomes at NC public universities.

## METHODS

In this exploratory study, we took a descriptive case study approach to characterize transfer enrollment, environment, and outcomes across the 16 UNC baccalaureate degree-granting institutions, and examine the extent to which there is equitable commitment to the education of transfer students. All data were obtained from publicly available online datasets, dashboards, or websites. We chose this approach to simulate what a prospective transfer student or advising professional would find online if seeking information about transfer at UNC institutions. Our

research team included members with educational research expertise and interest in improving access and outcomes for underrepresented and marginalized groups in higher education.

## Data Sources and Variables

We identified four data sources to compile our dataset on transfer enrollment, graduation, and environment for each of the 16 UNC institutions.

*UNC System Interactive Data Dashboards.* “The UNC Data Dashboards are interactive reports sourced from an online database that gives students, parents, policymakers, and taxpayers expanded access to detailed system data on selected core measures” (UNC, 2022). We used 2019 data to capture transfer information prior to the COVID-19 pandemic. Transfer students as a percentage of new enrollment was calculated for each institution using the raw numbers reported in the transfer-focused dashboard. First-year GPA for vertical transfer students was also obtained from this dashboard. We calculated quartiles for each of these metrics to categorize institutions by transfer enrollment emphasis and first-year transfer performance. The quartiles effectively divide the institutions into four groups based on the metric examined.

*Integrated Postsecondary Education Data System (IPEDS).* While the UNC system dashboard reports overall four-year post-transfer graduation rates for transfer students, IPEDS reports eight-year graduation rates from first entry, disaggregated by enrollment intensity (full-time versus part-time) and Pell Grant receipt. We accessed these graduation rates for each institution using College Navigator (NCES, 2022a) for greater ease. We created quartiles for four eight-year graduation rate metrics for the 2012 cohort: all full-time, all part-time, Pell Grant only full-time, and Pell Grant only part-time.

*Carnegie Classification of Institutions of Higher Education.* The Carnegie Classification<sup>®</sup> (Indiana University Center for Postsecondary Research, n.d.) was developed in 1970 to classify colleges and universities to support research and policy analysis. The classification was published in 1973 and the most recent updates were in 2018 and 2021. We utilized the 2018 classifications to align with the use of 2019 transfer data. The 2018 Carnegie Basic Classification and 2018 Undergraduate Profile Classification were recorded for each institution. Basic classification was coded as the type of college to create four categories: baccalaureate (n=2), master’s (n=6), doctoral (n=7), and special focus (n=1). The undergraduate Profile was dichotomized into inclusive (n=6) or selective (n=10) to permit examining the intersection of selectivity with other variables. It is important to note that all Historically Minority Serving Institutions (HMSI) classify as inclusive, while all Historically White Institutions (HWI) are selective. See Table 2 for the classifications for each institution.

*Institutional Websites.* While transfer receptivity is essential to successful transfer, there is no required federal or state reporting related to transfer student support services and programs. Considering Strempel’s (2013) framework and definitions, we determined that institutional websites would be the most appropriate source to assess elements of a transfer student-receptive ecosystem. Table 1 shows the names, abbreviations, and main websites for each institution. Website content represents the image that the institution wants to project to potential students and other stakeholders. We identified eight institutional elements aligned to Strempel’s

framework: (a) transfer admissions counselor, (b) transfer orientation, (c) transfer ambassador or mentor program, (d) designated transfer advisors, (e) transfer financial aid counselor, (f) transfer learning community, (g) database of courses approved for credit, and (h) analytics dashboard that filters transfer-specific data. Our data reflect institutional website content as of April 2022.

TABLE 1  
UNC Institutions and Institutional Websites

Institution Name	Abbreviation	Website
Appalachian State University	ASU	<a href="https://www.appstate.edu/">https://www.appstate.edu/</a>
East Carolina University	ECU	<a href="https://www.ecu.edu/">https://www.ecu.edu/</a>
Elizabeth City State University	ECSU	<a href="https://www.ecsu.edu/">https://www.ecsu.edu/</a>
Fayetteville State University	FSU	<a href="https://www.uncfsu.edu/">https://www.uncfsu.edu/</a>
North Carolina Agricultural and Technical State University	NCAT	<a href="https://www.ncat.edu/">https://www.ncat.edu/</a>
North Carolina Central University	NCCU	<a href="https://www.nccu.edu/">https://www.nccu.edu/</a>
North Carolina State University	NCSU	<a href="https://www.ncsu.edu/">https://www.ncsu.edu/</a>
University of North Carolina Asheville	UNCA	<a href="https://www.unca.edu/">https://www.unca.edu/</a>
University of North Carolina Chapel Hill	UNCCH	<a href="https://www.unc.edu/">https://www.unc.edu/</a>
University of North Carolina Charlotte	UNCC	<a href="https://www.charlotte.edu/">https://www.charlotte.edu/</a>
University of North Carolina Greensboro	UNCG	<a href="https://www.uncg.edu/">https://www.uncg.edu/</a>
University of North Carolina Pembroke	UNCP	<a href="https://www.uncp.edu/">https://www.uncp.edu/</a>
University of North Carolina School of the Arts	UNCSA	<a href="https://www.uncsa.edu/">https://www.uncsa.edu/</a>
University of North Carolina Wilmington	UNCW	<a href="https://uncw.edu/">https://uncw.edu/</a>
Western Carolina University	WCU	<a href="https://www.wcu.edu/">https://www.wcu.edu/</a>
Winston-Salem State University	WSSU	<a href="https://www.wssu.edu/">https://www.wssu.edu/</a>

For the eight elements, we targeted specific web pages to look for evidence: admissions, housing, academic advising, student affairs/student support services, and institutional research. For advising, we also accessed college/department webpages to determine whether personnel were assigned to transfer students. Researchers manipulated institutional dashboards (if available) to examine if data could be filtered for admissions and graduation/retention rates for transfer students only (or transfer v. non-transfer representation). If looking within the institutional website and its department or office sections did not yield any results, we conducted Google searches using the institutional name and topic of interest to locate information that we may have missed on the institutional website. We did not include any information reported on third party pages. We tried

to maintain a lens of a prospective transfer student, family member, or advisor seeking general information provided by the institution.

After recording information for all 16 institutions in an Excel spreadsheet, two members independently coded each ecosystem element as not meeting the requirement (0), partially meeting the requirement (1), or fully meeting the requirement (2). The two members met to compare ratings and make a final score determination for each criterion. Then, the element scores were tallied to create a transfer receptivity score, with a theoretical range of 0-16. Scores in the UNC sample ranged from 0 to 13, with an average score of 6.56.

## Data Analysis

Given the exploratory nature of our study, we employed a descriptive analytic approach. We developed tables showing key enrollment, outcome, and receptivity characteristics for each institution, and then explored the intersection of these characteristics through a series of two- and three-way tables to examine patterns and assess transfer equity.

## FINDINGS

### Characteristics of Transfer Enrollment, Outcomes, and Receptivity

One main purpose of our study was to examine the characteristics of transfer enrollment, outcomes, and environment in the UNC system. Table 2 displays the key enrollment and outcomes for each institution. Transfer varies significantly as a proportion of new enrollment, from 17% at UNCCH to 56% at FSU. The GPA for transfer juniors (first year after transfer) ranges from 2.74 (UNCC) to 3.14 (ECU). Eight-year graduation rates for full-time transfer students also span a large range, from 56% (FSU) to 88% (UNCCH). Comparing the full-time transfer student graduation rate for all versus Pell Grant recipients, rates are fairly similar (within 5%) except in two cases: ECU (75% for all students versus 59% for Pell Grant recipients) and ECSU (57% all versus 73% Pell Grant recipients). Graduation rates for part-time transfer students (24% to 76%) are generally 10 or more percentage points lower than those for full-time transfer students, except in three cases: ASU (equal at 75%), WCU (64% part-time vs. 69% full-time), and WSSU (76% part-time vs. 66% full-time). It should be noted that UNCOSA did not report values for GPA or graduation rate disaggregated for part-time and Pell Grant status due to insufficient numbers.

Detailed information about transfer receptivity is presented in Table 3. In terms of transfer receptivity, scores ranged from 0 (UNCOSA) to 13 (ASU), with four institutions scoring low, nine institutions scoring moderate, and three institutions scoring high. The average receptivity score was 6.56, falling in the moderate support range. The most commonly occurring transfer support is an online database showing courses approved for credit ( $M = 1.81$ ), with only one institution not having this accessible online (UNCOSA). Personnel assigned to transfer admissions was the next most frequent support ( $M = 1.25$ ), with 11 institutions fully meeting this criterion. Transfer orientation ( $M = 1.25$ ) and transfer analytics ( $M = 0.94$ ) were provided by a majority of institutions; most institutions that provided transfer orientation include transfer orientation by discipline (nine of 11) and half of the institutional dashboards with transfer filtering did not permit filtering for all criteria (enrollment, retention, and graduation; five of 10). In terms of transfer advising ( $M = 0.56$ ),

TABLE 2

## Institutional Profile and Transfer Enrollment and Outcomes of UNC System Institutions

University	Carnegie Basic Category (2018)	Carnegie Undergraduate Profile (2018)	Historically Minority Serving Institution	Transfer % of New Enrollment, (quartile)	GPA transfer juniors (quartile)	Transfer Eight-Year Graduation Rate, %			
						All full-time (quartile)	All part-time (quartile)	Pell Grant, full-time (quartile)	Pell Grant, part-time (quartile)
ASU	Masters large	more selective	no	29 (2)	3.04 (3)	75 (4)	75 (4)	69 (3)	78 (4)
ECU	Doctoral high	selective	no	30 (2)	3.14 (4)	75 (4)	65 (4)	59 (2)	21 (1)
ECSU	Baccalaureate diverse	inclusive	yes	29 (2)	2.9 (2)	57 (1)	24 (1)	73 (3)	66 (3)
FSU	Master's medium	inclusive	yes	56 (4)	2.98 (2)	52 (1)	44 (2)	53 (1)	46 (1)
NCAT	Doctoral high	inclusive	yes	26 (1)	2.78 (1)	55 (1)	39 (1)	56 (1)	48 (1)
NCCU	Masters large	inclusive	yes	34 (3)	3.13 (4)	60 (2)	41 (1)	58 (1)	51 (2)
NCSU	Doctoral very high	more selective	no	22 (1)	2.77 (1)	80 (4)	57 (3)	77 (4)	71 (4)
UNCA	Baccalaureate arts & sciences	more selective	no	31 (3)	3.11 (4)	63 (2)	51 (2)	58 (1)	73 (4)
UNCCH	Doctoral very high	more selective	no	17 (1)	2.75 (1)	88 (4)	56 (3)	84 (4)	100 (4)
UNCC	Doctoral high	more selective	no	43 (3)	2.74 (1)	64 (3)	49 (2)	60 (2)	55 (2)
UNCG	Doctoral high	selective	no	43 (3)	2.96 (2)	61 (2)	49 (2)	65 (3)	55 (2)
UNCP	Master's larger	inclusive	yes	44 (4)	3.02 (3)	58 (2)	43 (1)	55 (1)	48 (1)
UNCSA <sup>1</sup>	Special focus	more selective	no	17 (1)	n/a	58 (2)	n/a	n/a	n/a
UNCW	Doctoral high	more selective	no	46 (4)	3.04 (3)	74 (3)	56 (3)	72 (3)	64 (2)
WCU	Master's larger	selective	no	32 (3)	2.98 (3)	69 (3)	64 (4)	67 (3)	68 (3)
WSSU	Master's medium	inclusive	yes	30 (2)	3.1 (4)	66 (3)	76 (4)	62 (2)	70 (3)

Note. <sup>1</sup>Disaggregated eight-year graduation rates and quartiles for part-time students and Pell Grant recipients are not reported for UNCSCA due to low number

TABLE 3

## Transfer Receptivity by Specific Support Elements at UNC System Institutions, Based on Institutional Website

Institution	Admissions personnel	Learning community	Analytics	Orientation by discipline	Academic advisors, department	Financial aid counselor	Transfer credit database	Transfer ambassador or mentor	Transfer receptivity score	Transfer receptivity level
ASU	2	2	2	2	2	0	2	1	13	high
ECU	2	2	2	2	0	0	2	0	10	high
ECSU	2	0	0	2	1	0	2	0	7	moderate
FSU	2	0	0	0	0	0	2	0	4	low
NCAT	0	0	0	2	0	0	2	0	4	low
NCCU	0	0	1	0	2	0	2	1	6	moderate
NCSU	0	0	0	0	1	0	2	0	3	low
UNCA	2	0	1	0	1	0	2	0	6	moderate
UNCCH	0	2	1	1	0	0	2	0	6	moderate
UNCC	2	2	1	1	1	0	2	0	9	moderate
UNCG	2	2	2	2	0	0	2	0	10	high
UNCP	0	0	0	2	1	0	2	0	5	moderate
UNCSA	0	0	0	0	0	0	0	0	0	low
UNCW	2	0	2	2	0	0	2	0	8	moderate
WCU	2	0	2	2	0	0	2	0	8	moderate
WSSU	2	0	1	2	0	0	1	0	6	moderate
Average	1.25	0.63	0.94	1.25	0.56	0	1.81	0.13	6.56	moderate
Number met	10	5	10	11	7	0	15	2	-	-

five institutions list general transfer advisors while two indicate department-specific advisors. Five institutions list the availability of a learning community or housing specifically for transfer students ( $M = 0.63$ ). The least frequently occurring supports are transfer mentor or ambassador programs (two institutions appear to partially meet this criterion), and dedicated financial aid counselors – no institution included information that specified personnel who are assigned to work with transfer students.

## Interaction of Enrollment with Institutional Profile and Outcomes

To explore how the proportion of transfers among new enrollment links to institutional characteristics, we prepared two interaction tables. Table 4 shows the interaction of transfer enrollment quartile with institutional selectivity and basic enrollment profile. The majority of UNC system institutions (13 of 16) are master's or doctoral level. The six master's level institutions have transfer enrollment falling in the second to fourth quartiles, while four of the seven doctoral level institutions are in the lower two quartiles. Considering selectivity, three of the eight selective HWIs have transfer enrollment in the lowest two quartiles, while half of the six inclusive HMSIs have transfer enrollment in the upper two quartiles. Among three institutions in the top quartile, two are inclusive HMSIs (FSU, UNCP) and one is a selective HWI (UNCW). Among four institutions in the lowest quartile, three are selective HWIs (UNCSA, NCSU, UNCCH), while one is an inclusive HMSI (NCAT).

TABLE 4

### Three-way Interaction of Transfer Enrollment with Institutional Selectivity and Enrollment Profile for UNC Institutions

Transfer enrollment quartile	Selectivity	Enrollment Focus			
		Special focus	Baccalaureate	Master's	Doctoral
1st	inclusive	-	-	-	NCAT
	selective	UNCSA	-	-	NCSU, UNCCH
2nd	inclusive	-	ECSU	WSSU	-
	selective	-	-	ASU	ECU
3rd	inclusive	-	-	NCCU	-
	selective	-	UNCA	WCU	UNCG, UNCC
4th	inclusive	-	-	FSU, UNCP	-
	selective	-	-	-	UNCW

The interactions of transfer enrollment quartile with junior GPA and eight-year graduation rate quartiles are shown in Table 5. It is notable that across outcomes, there are no intersections in the fourth quartile; that is, institutions with the highest proportions of transfer students do not have

TABLE 5

## Two-Way Interaction of Transfer Enrollment with Outcomes for UNC Institutions

Transfer enrollment quartile (TEQ) <sup>1</sup>	Transfer outcome quartiles			
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>
TEQ	Junior GPA (first year post-transfer) (range 2.74-3.14)			
1st	NCAT, NCSU, UNCCH	-	-	-
2nd	-	ECSU	ASU	ECU, WSSU
3rd	UNCC	UNCG, WCU	-	NCCU, UNCA
4th	-	FSU	UNCP, UNCW	-
TEQ	Eight-year graduation rates, all full-time students (range 52%-88%)			
1st	NCAT	UNCSA	-	NCSU, UNCCH
2nd	ECSU	-	WSSU	ASU, ECU
3rd	-	NCCU, UNCA, UNCG	UNCC, WCU	-
4th	FSU	UNCP	UNCW	-
TEQ	Eight-year graduation rates, all part-time students (range 24%-76%) <sup>2</sup>			
1st	NCAT	-	NCSU, UNCCH	-
2nd	ECSU	-	-	ASU, ECU, WSSU
3rd	NCCU	UNCA, UNCC, UNCG	-	WCU
4th	UNCP	FSU	UNCW	-
TEQ	Eight-year graduation rates, full-time Pell Grant recipients (range 53%-84%) <sup>2</sup>			
1st	NCAT	-	-	NCSU, UNCCH
2nd	-	ECU, WSSU	ASU, ECSU	-
3rd	NCCU, UNCA	UNCC	UNCG, WCU	-
4th	FSU, UNCP	-	UNCW	-
TEQ	Eight-year graduation rates, part-time Pell Grant recipients (range 21%-100%) <sup>2</sup>			
1st	NCAT	-	-	NCSU, UNCCH
2nd	ECU	-	ECSU, WSSU	ASU
3rd	-	NCCU, UNCC, UNCG	WCU	UNCA
4th	FSU, UNCP	UNCW	-	-

<sup>1</sup> Transfer as a proportion of new enrollment ranges from 17% to 56%.<sup>2</sup> Disaggregated eight-year graduation rates and quartiles for part-time students and Pell Grant recipients are not reported for UNCSA due to low numbers.

the top outcomes for transfer students. Some patterns can be observed related to first year post-transfer GPA and enrollment. Four institutions coincide in the top two enrollment and GPA quartiles (NCCU, UNCA, UNCP, UNCW; two inclusive, two selective), while three coincide in the first quartile (NCAT, NCSU, UNCCH; one inclusive, two selective). There are also some notable patterns related to eight-year graduation rates, across disaggregations. Five institutions are grouped among the top two enrollment quartiles and the bottom two graduation rate quartiles (FSU, NCCU, UNCA, UNCC, UNCG; two inclusive, three selective). Another five institutions are grouped among the bottom two enrollment quartiles and the top two graduation rate quartiles (ASU, ECU, NCSU, UNCCH, WSSU; one inclusive, four selective).

### Interaction of Enrollment and Outcomes with Receptivity

Finally, to understand how transfer receptivity interacts with transfer enrollment and outcomes, we prepared an additional two-way table (Table 6). Among the eight institutions in the top two transfer enrollment quartiles, all but one (seven) scored in the moderate to high transfer receptivity level (NCCU, UNCA, UNCC, UNCG, UNCP, UNCW, WCU; two inclusive, five selective). On the flip side, three of the eight institutions in the lower two enrollment quartiles scored in the low transfer receptivity level (NCAT, NCSU, UNCSA; one inclusive, two selective), three at the moderate level (ECSU, UNCCH, WSSU; two inclusive, one selective), and two at the high level (ASU, ECU; both selective). Junior GPA showed an interesting relationship with transfer receptivity; except for one outlier (UNCG), institutions in the lower two GPA quartiles scored a low to moderate level of transfer receptivity, while institutions in the upper two GPA quartiles scored moderate to high levels of receptivity.

For graduation rate outcomes, there are a few perceptible patterns. Two institutions in the lowest receptivity level also had graduation rates in the bottom two quartiles (FSU, NCAT; both inclusive) while one institution with low receptivity had graduation rates in the top two quartiles (NCSU; selective). Two institutions with a high level of receptivity had graduation rates in the top quartile for full-time and part-time students (ASU, ECU; both selective), however only ASU's graduation rates for Pell Grant recipients were also in the top quartiles. Among institutions with a moderate receptivity level, four had graduation rates for full- and part-time students in the top two quartiles (UNCCH, UNCW, WCU, WSSU; one inclusive, three selective); only two maintained those quartile levels for Pell Grant recipients (UNCCH, WCU). Another four moderately receptive institutions had graduation rates in the lower two quartiles for full- and part-time students (ECSU, NCCU, UNCA, UNCP; three inclusive, one selective), however two of those showed better graduation rate results for full- and/or part-time Pell Grant recipients (ECSU, UNCA; one inclusive, one selective).

## Discussion and Implications

This exploratory descriptive case study of transfer enrollment, outcomes, and receptivity in UNC system institutions provides some tentative insights related to transfer equity. An equity mindset considers the "...impact of policy on the distribution of power, access to resources and knowledge, and the reproduction of social stratification..." and encourages policymakers and practitioners to examine policy and practice "... by considering who benefits, who loses, and how low-income and minoritized students fare as a result" (Center for Urban Education, 2017, p. 5). We acknowledge that our choice to use publicly available data and website content may not reflect all

TABLE 6

## Two-Way Interaction of Transfer Receptivity Level with Transfer Enrollment and Outcomes

Transfer Enrollment and Outcome Quartiles	Transfer Receptivity Level		
	Low	Moderate	High
<b>Transfer enrollment</b>			
1st	NCSU, NCAT, UNCSA	UNCCH	-
2nd	-	ECSU, WSSU	ASU, ECU
3rd	-	NCCU, UNCA, UNCC, WCU	UNCG
4th	FSU	UNCP, UNCW	-
<b>Junior GPA<sup>1</sup></b>			
1st	NCAT, NCSU	UNCC, UNCCH	-
2nd	FSU	ECSU, WCU	UNCG
3rd	-	UNCP, UNCW	ASU
4th	-	NCCU, UNCA, WSSU	ECU
<b>FT graduation rate</b>			
1st	FSU, NCAT	ECSU	-
2nd	UNCSA	NCCU, UNCA, UNCP	UNCG
3rd	-	UNCC, UNCW, WCU, WSSU	-
4th	NCSU	UNCCH	ASU, ECU
<b>PT graduation rate<sup>1</sup></b>			
1st	NCAT	ECSU, NCCU, UNCP	-
2nd	FSU	UNCA, UNCC	UNCG
3rd	NCSU	UNCCH, UNCW	-
4th	-	WCU, WSSU	ASU, ECU
<b>FT Pell graduation rate<sup>1</sup></b>			
1st	FSU, NCAT	NCCU, UNCA, UNCP	-
2nd	-	UNCC, WSSU	ECU
3rd	-	UNCW, WCU, ECSU	UNCG, ASU
4th	NCSU	UNCCH	-
<b>PT Pell graduation rate<sup>1</sup></b>			
1st	FSU, NCAT	UNCP	ECU
2nd	-	NCCU, UNCC, UNCW	UNCG
3rd	-	ECSU, WCU, WSSU	-
4th	NCSU	UNCA, UNCCH	ASU

<sup>1</sup> Junior GPA and disaggregated eight-year graduation rates and quartiles for part-time students and Pell Grant recipients are not reported for UNCSA due to low numbers.

supports offered by institutions, but indeed reflect what the institution has chosen to communicate about support for transfer students. We offer observations and potential implications for future research, policy, and practice to support successful vertical transfer, especially for neotraditional, first-generation, low-income, and minoritized racial and ethnic groups of students. Previous research shows that BIPOC and Pell Grant recipient transfer students in the UNC system have lower than average baccalaureate completion rates (Whatley et al., 2021). Our analysis reveals gaps in transfer enrollment and outcomes considering institutional selectivity and historical focus. Inclusive HMSIs are generally serving greater proportions of transfer students, while the two flagship HWIs (NCSU, UNCCH) and special focus arts institution (UNCSA) are serving the lowest proportions. Junior post-transfer GPA is lowest for students at the two flagship HWIs, and more evenly distributed among the remaining HWIs and HMSIs. Eight-year graduation rates for HMSI transfer students across the disaggregated groups fall in the bottom two quartiles with one exception: At WSSU, graduation rates are in the fourth quartile for part-time students, and in the third quartile for part-time Pell Grant recipients. WSSU lists transfer-specific admissions personnel and transfer orientation by academic discipline, which could be important factors in the persistence of the part-time population. This would be worthy of further investigation.

These overall patterns can promote a deficit view of transfer students as less intellectually capable (concentration at inclusive institutions), and HMSIs as less effective or inferior. Espinoza et al. (2017) noted that National Student Clearinghouse (NSC) data account for students with different enrollment patterns and that many MSIs have better completion rates using NSC data than are depicted by the federal graduation rate (IPEDS), which does not account for mixed enrollment. Further, MSIs boost their students from the bottom to the top of the income distribution at higher rates than do non MSIs (Espinoza et al., 2018). Institutions could consider publishing their NSC-based graduation rates on institutional dashboards and reports in addition to the federally mandated rates to provide a more accurate view of transfer student success and normalize mixed enrollment, swirling, and stop out that may be more prevalent among BIPOC, low-income, and neotraditional populations. Studies on transfer student completion in North Carolina should also utilize NSC data to capture completion at a different institution than initial transfer, and to identify more complex transfer mobility patterns (D'Amico et al., 2022).

A novel aspect of our exploratory case study was the use of Strempel's (2013) framework to examine transfer receptivity through searching which transfer supports are listed on an institution's website. While all but one of the institutions provide a transfer credit database online; facilitated by the Comprehensive Articulation Agreement; most do not appear to have key elements of a transfer student receptive ecosystem, including transfer learning community or housing, transfer advisors at the department level, transfer ambassadors or mentors, and transfer-specific financial aid personnel. Six institutions did not display any analytics for transfer students on their data dashboards (four HMSIs, two HWIs). The lack of these elements can signal low institutional commitment to providing the support needed for successful transfer (Jain et al., 2011). Longitudinal data from several cohorts at one UNC institution showed that participants in a discipline-based learning community had better grades and graduation rates than non-participants (Coston, 2019). Studies on specific interventions at UNC institutions could be supported at the system level to identify promising transfer receptive practices and how they could be implemented considering the unique needs and focus of each institution. Bartek's (2021a) recommendations related to effective NC community college-university partnerships include provision of advising services and cultivation of more student-centered, transfer receptive cultures, along with

strengthening internal structures, communication, and resources to support higher baccalaureate attainment.

When looking at institutions with low transfer receptivity scores (Table 6), three of the four also had the lowest proportion of transfer enrollment, which could be expected. In contrast, three universities had high transfer enrollment but low or moderate transfer receptivity scores. There may be additional factors influencing or supporting prospective transfer students at these institutions, notably the two HMSIs (FSU and UNCP). Both are in close proximity to the Fort Bragg military installation. FSU is focused on “becoming the leading HBCU to attract, support, and graduate military-connected students” (p. 3), with 17.89% using the GI Bill and 5.05% using the DoD’s Military Tuition Assistance (Fayetteville State University & Evocati LLC, 2022). UNCP is North Carolina’s Historically American Indian University, and also strives to support military-affiliated students with a campus on Fort Bragg (University of North Carolina at Pembroke, 2021). The institution also promotes a regular transfer event where applicants can have admission fees waived and be considered for an on-the-spot admission decision (UNCP, nd). Regional proximity, institutional focus, and institutional culture may attract transfer students even though formal transfer structures and services are not in place.

All four institutions in the lowest junior GPA quartile are doctoral research institutions, and these lower GPA may represent transfer shock (Hills, 1965), a drop in performance due to academic and social adjustment to a very different institutional environment in terms of class size and access to faculty. However, graduation rates for Pell Grant transfer students at NCSU were in the top quartile. NCSU was among seven institutions that list transfer-specific academic advisors, so this may illustrate an important component in that research-intensive institutional context; this would require further study. Low outward receptivity (based on information shared online) could result in students viewing an institution as unfriendly to transfer, when in fact transfer students experience high levels of success at the institution.

Conversely, institutions with the highest transfer receptivity (ASU, ECU, UNCG; all HWIs) showed some variance in student outcomes. Two high receptivity HWIs (ASU, ECU) had outcomes of junior GPA and full- and part-time graduation rates in the top two quartiles. ASU stands out for also remaining in the top two graduation rate quartiles for Pell Grant recipients. In addition to having the top transfer receptivity score, ASU was one of two institutions to list a transfer ambassador or mentor program. This institution could represent an important case study to understand the relationship between institutional transfer support and positive results for low-income transfer students.

While particular articulation agreements and admissions policies were not examined in this study, important areas of future investigation are related to tangible transfer supports and institutional transfer culture developed in guided pathways, transfer partnerships, transfer admission guarantees (TAGs), and co-admission programs. North Carolina participated in the development of the national implementation guide for transfer guided pathways (The Aspen Institute, 2017), however there has been little dissemination of the efforts in the state, perhaps due to the COVID-19 pandemic. Bartek (2021b) examined vertical partnerships in NC and found 18 partnership pairs with much higher than expected completion rates. Effective practices that contributed to this success are congruent with transfer receptivity: Leadership communicated transfer as a priority and invested resources and attention; practitioners shared transfer as a value and had strong internal communication about transfer; and transfer-specific advising, programs, and services were provided by the university (Bartek, 2021a). Fifteen of the UNC systems have TAG programs in place as of April 2022 (College Foundation of North Carolina, 2022). While

TAGs have been lauded as a best practice for streamlining the transfer pathway (Morris & Cox, 2016), there is limited empirical evidence on the outcomes of such programs, both nationally and in the state. Morris and Cox (2016) suggest that institutions consider whether they have proper staffing, administrative tools, and volume of transfer students, while also considering whether transfer culture exists at both the sending and receiving institutions to support the initiative. Given our findings about the limited evidence of transfer supports at many institutions with existing TAGs, it will be crucial to examine both the process and outcomes of these programs in the coming years.

## SUMMARY

Given the racial and socioeconomic gaps in baccalaureate attainment in the United States and in North Carolina, transfer can be viewed as an intervention for social justice in the educational pipeline (Jain et al., 2020). Our exploratory study of transfer enrollment, outcomes, and receptivity in the UNC system revealed variation and inequities among institutions, with greater burden on HMSIs to support transfer access. Our findings point to the need for a more nuanced understanding of transfer completion rates, along with institutional and system-level attention to elements of transfer receptive culture to ensure transfer access and success for BIPOC, low-income, first-generation, and neotraditional students.

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