

The Role of Identities and Engagement in the Intent to Transfer Among North Carolina Community College Students

Sandra L. Dika, Yi Wang, Mark M. D'Amico,
and E. Michael Bohlig



Abstract

The vertical transfer gap between transfer aspirations and reality is intensified for lower income, neotraditional aged, and racially and ethnically minoritized students. Expanding vertical transfer and eventual baccalaureate degree completion is an important priority for the state of North Carolina. In this exploratory study, we applied a critical quantitative lens to examine student identities and engagement as determinants of intent to transfer among a diverse group of community college students in North Carolina, using data from the Community College Survey of Student Engagement. Our findings have implications for transfer policy that ensures equitable access to a baccalaureate degree and systemic institutional practice that facilitates connections with communities traditionally underrepresented in terms of postsecondary attainment.

Keywords: community college students, student identities, student engagement, transfer aspirations, North Carolina

The Role of Identities and Engagement in the Intent to Transfer Among North Carolina Community College Students

Successful vertical transfer of students from community colleges to universities can broaden participation in higher education and contribute to significant workforce demands. Research and national data have documented the vertical transfer gap between transfer aspirations and reality

(Taylor & Jain, 2017), intensified among lower income, neotraditional aged, and Black, Indigenous, and People of Color (BIPOC) students (Crisp & Nuñez, 2014; Wood et al., 2011). Although a strong majority of community college students (75-80%) seek to transfer to baccalaureate degree-granting colleges, only about a third actually do (Jenkins & Fink, 2016; Shapiro et al., 2017). Further, Asian and White students (about 48%) were much more likely to transfer to a baccalaureate degree-granting institution than Black (28.4%) and Hispanic (37.2%) students (Shapiro et al., 2017). According to the National Student Clearinghouse Research Center, North Carolina's community college transfer-out rate of 23.5% was lower than the national average of 31.5% (Shapiro et al., 2017). This slightly lower rate is partially due to the strong focus on career education in the state's community colleges, but expanding vertical transfer and eventual baccalaureate degree completion is an important priority as the state seeks to have two million North Carolinians aged 25-44 with a credential or degree by 2030 (myFutureNC, 2022).

In this exploratory study, we applied a critical quantitative lens (Gillborn et al., 2018) to examine student identities and engagement as determinants of intent to transfer among a diverse group of community college students in North Carolina, using data from the Community College Survey of Student Engagement (CCSSE). We examined logistic regression models separately for three different racial/ethnic groups—Black/African American, Hispanic/Latinx, and White—to understand

This article is brought to you for free and open access by the North Carolina Community College Faculty Association @NCCCS. It has been accepted for inclusion in *North Carolina Community College Journal of Teaching Innovation* by an authorized editor of NCCCFCA. For more information, please contact editor@ncccfa.org.

how determinants of predisposition to transfer may differ by race/ethnicity. Our findings have implications for transfer policy that ensures equitable access to a baccalaureate degree and systemic institutional practice that facilitates connections with communities traditionally underrepresented in terms of post-secondary attainment.

Conceptual and Empirical Background

We drew on scholarship related to engagement, persistence, and predisposition to transfer among community college students to frame our study. The CCSSE and the companion National Survey of Student Engagement (NSSE) were built upon the synthesis of previous evidence-based research on effective practices in higher education: student effort and quality of experiences (Pace, 1980), student involvement (Astin, 1984), academic and social integration (Tinto, 1993), and principles of good practice in undergraduate education (Chickering & Gamson, 1987). The CCSSE benchmarks are used to compare similar institutions and reflect both institutional practices and student behaviors: “active and collaborative learning, academic challenge, student effort, student-faculty interaction, and support for learners” (CCCSE, 2017, p. 1). While researchers have used these benchmarks as indicators of individual student engagement, past directors of NSSE and CCSSE asserted that they should be viewed as indices of effective practices for institutional improvement, not latent constructs of engagement (McCormick & McClenney, 2012). Recent construct validity work on the 2017 version of the CCSSE (Wang & Bohlig, 2022) found eight student-level engagement factors underlying the benchmark and other engagement items on the survey. We used these engagement factors as variables in our current study to reflect more psychometrically sound indicators of student engagement.

Tinto’s (1993) longitudinal model of institutional departure has been a prevalent way of understanding student persistence in higher education. While the model’s primary focus is on the intellectual and social integration of students once they attend college, their goals and commitments, academic and social experiences once in college, and their many pre-entry attributes are also included. Drawing on other research critiquing the adequacy of Tinto’s model for understanding the experiences of marginalized and neotraditional students, Deil-Amen (2011) argued for the importance of understanding communi-

ty college students’ perspectives on their own experience of integration. In a multi-method study of two-year community college students in career-related programs, Deil-Amen uncovered the notion of “socio-academic integrative moments,” fused social and academic interactions that play a prominent role in two-year students’ sense of connection and motivation to persist. The most common mechanisms identified by the students were in-class interactions, study groups (formal or spontaneous), social capital-generating interactions and relationships with institutional agents (faculty and staff), and consistent communication with similar students (e.g., cohort, learning community), with academically-relevant clubs and activities being less pertinent. Mechanisms of socioacademic integration identified in Deil-Amen’s work are comparable to some of the engagement indicators used in this study.

Deil-Amen’s (2011) findings emphasized the importance of interaction and support from institutional agents to provide validation (Rendón, 1994; Rendón et al., 2000) and informational benefits. Frequent interactions with community college faculty and other institutional agents are linked to learning, persistence, and satisfaction, particularly among BI-POC students (Lundberg, 2014; Strayhorn & Johnson, 2014; Tovar, 2015). Related more specifically to transfer, faculty and staff can provide logistical information for transfer (Rucks-Ahidiana & Bork, 2020), promoting transfer self-efficacy (Maliszewski, Lukszo & Hayes, 2020). Classroom involvement at community college (Schwehm, 2017) and interaction and mentoring from faculty (Moser, 2013) can promote greater adjustment and coping posttransfer.

Nora and Rendón (1990) used Tinto’s framework to develop a model of community college student transfer behavior and attitudes. They found that social and academic integration were positively related to predisposition to transfer, while ethnic background was not related. Citing the low rate of vertical transfer among Black men, Wood and Palmer (2013; 2016) used Nora and Rendón’s model to develop a study of the determinants of predisposition to transfer among Black male community college students with secondary data from an earlier version of the CCSSE. They found institutional identities (age, first-generation, enrollment intensity, developmental education), as well as institutional experiences and engagement (credit hours earned, hours studying, involvement in extracurricular activities, active and collaborative learning, use of student

services) were related to having transfer as a primary goal of attending community college. These findings diverged from previous research by evidencing social integration as a positive predictor of success for Black men.

Our research builds on the work of Wood and Palmer (2013; 2016) by utilizing data from the current 2017 version of the CCSSE to examine identities and engagement experiences as potential determinants of intent to transfer. Gee (2000) proposed that an individual's identity is formed from both self-conceptions and the perceptions imposed by others, including natural (state), institutional (position), discursive (trait), and affinity (shared experiences) identities. Our current study considered natural, discursive, and institutional identities ascribed by community college agents to understand their students (Levin et al., 2017). We examined the predictive models separately for Black/African American, Hispanic/Latinx, and White students to characterize how determinants of predisposition to transfer may differ by race/ethnicity due to intersecting marginalized identities and systemic inequities.

Methods

In this study, we applied a critical quantitative approach (López et al., 2018; Stage & Wells, 2014) by centering the racial and ethnic identity of community college students to examine the relationship of other intersecting identities and engagement experiences to their transfer predisposition. Critical quantitative inquiry combines methodological assumptions of post positivism (hypothesis testing) with criticalism to demonstrate inequities in education (Stage & Wells, 2014). Guiding tenets of a QuantCrit approach acknowledge that while numbers and categories are not neutral nor natural, statistical analyses can play a role in efforts toward social justice when interpreted from a critical framework (Gillborn et al., 2018). Our selection of cases, variables, and choice to examine the data separately for each racial/ethnic group reflect this QuantCrit approach.

Data Source

The primary data source for this research was the Community College Survey of Student Engagement (CCSSE). We obtained a data set of the 2017-2019 participating North Carolina CCSSE institutions to identify items and scales for use in the study. CCSSE is a national survey aimed at identifying effective educational practices and student behaviors

that are correlated with student learning and retention. After updates, the latest CCSSE is the 2017 version with 47 questions and 124 items. Besides demographic information, the main body of the survey is composed of Likert-type items asking students about their college experiences such as the way they spend their time; their gains from classes; their relationships and interactions with faculty, counselors, and peers; how the college supports their learning, and so on. CCSSE is administered nationally during the spring semester through random sampling in credit bearing (curriculum) classes in each participating community college.

Selection of Cases

The original data set included over 12,000 cases from 25 North Carolina community colleges. We first selected responses from participants who identified as credential seeking and enrolled for at least three terms when taking the survey, so that they would have had time to engage at their college. Given our interest in examining the models by race/ethnicity, we included racial and ethnic categories with over 200 cases. Constrained by the available number of participants in racial and ethnic groups, only Black/African American ($n = 705$), Hispanic/Latinx ($n = 496$), and White ($n = 3,691$) student groups were included in the initial sample ($n = 4,892$). Of these, 56.89% ($n = 2,783$) indicated that a goal of attending the community college included transfer to a four-year university. The comparison of identity information between the total sample and the students with transfer intentions is provided in Table 1. The percentages of gender, race/ethnicity, enrollment status, and developmental education enrollment were similar across the two groups. However, students with vertical transfer aspirations had a greater proportion of students aged 18-24, and lower proportions of married students and those with dependent children, when compared to students who did not express transfer intentions.

Description of Variables

Independent Variables

Student Identities. We examined eight variables that represent natural, discursive, and institutional identities for community college students. Gender was included as a natural identity, restricted to the categories of man and woman due to insufficient sample size for those with other gender identities.

Discursive identities included married (yes/no),

and having children as dependents (yes/no). Institutional identities were enrollment intensity (full-time versus part-time), age (traditional versus neotraditional), first-generation college (yes/no), developmental education (yes/no), and English as native language (yes/no).

Engagement Experiences. The model included the eight engagement factors identified in previous validity research on the 2017 CCSSE (Wang & Bohlig, 2022): personal development (PDV), interaction with faculty and peers (IFP), higher order thinking (HOT), institutional support perceptions (ISP), use of advising services (UAS), writing and critical thinking (WCT), student effort (SEF), and extracurricular activities (ECA). The scales of the 42 engagement items were variant (0-3, 1-4, 1-5, 1-7), so they were rescaled to a common range of 0 to 1. Factor scores are sums of the associated rescaled items (see Appendix Table A1 for a list of items associated with each factor). Three of the engagement variables show some alignment with the mechanisms of socio-academic integration in Deil-Amen's (2011) work: interaction with faculty and peers, institutional support perceptions, and extracurricular activities.

Dependent Variable

Intent to transfer was measured by a single item on which students indicated whether transfer to a four-year college or university was a goal of attending the community college (yes/no).

Data Analysis

In order to understand the extent to which identities and engagement predict predisposition to transfer within the three racial/ethnic groups, we conducted binary logistic regression models using IBM SPSS 27. We examined the data for missing values (all less than 6.5%), and used Little's (1988) MCAR test to determine that data were missing completely at random ($\chi^2(258) = 290.87, p = .08$). We proceeded with listwise deletion considering the incomplete data would be representative of the entire dataset. The final analytic samples for the logistic regression analyses are shown in Table 2 ($n = 4,566$). All statistical tests were evaluated using the criterion of $\alpha = 0.05$. Logistic regression coefficients present the change in the log odds of intent to transfer for a one unit increase in the predictor variable. The odds ratios and confidence intervals were examined to provide appropriate interpretation of all statistically significant coefficients.

Results

For all three racial/ethnic groups, the logistic regression model correctly classified over 60% of cases when comparing predicted to observed values of transfer intent (yes/no). This ranged from 64.2% among White students to 69.9% among Black/African American students. Nagelkerke R² values, another indicator of model fit, ranged between .05 (White) to .19 (Hispanic/Latinx), suggesting the model was a better fit for Black/African American participant responses. The significant determinants related to odds of intent to transfer differed by racial/ethnic group, as summarized for ease of interpretation in Table 2. The full logistic regression tables for each racial/ethnic group, including odds ratios, statistical significance, and confidence intervals, are shown in the appendix (Tables A2-A4).

Identities

Among the natural and discursive identity variables, two significant effects were seen. Hispanic/Latinx students with dependent children had 54% lower odds of intent to transfer than those without dependent children, and White married students had 40% lower odds of transfer intentions than their non-married counterparts. Gender was not related to transfer intentions for any of the racial/ethnic groups.

Institutional identities were significantly related to transfer intention odds for Black/African American and White students, but not for Hispanic/Latinx students. The odds of transfer intention for White part-time students were 24% higher than for full-time students. Neotraditional age students expressed lower odds of intent to transfer than traditional aged students for Black/African American (62%) and White (34%) students. Similarly, students in developmental education had lower odds of transfer intent than those not in developmental education (Black/African American=40%; White=19%). Finally, White first-generation college students had 25% lower odds of intent to transfer than their continuing generation counterparts. English as a native language was not related to transfer intentions for any racial/ethnic group.

Engagement

Six of the eight engagement indicators had a relationship with intent to transfer in at least one of the racial/ethnic groups, while personal develop-

ment (PDV) and higher order thinking (HOT) were not significant for any group. Because all engagement indicators are continuous in nature, the odds ratio can be interpreted as the percentage change in intentions to transfer with a single unit change in the engagement factor score. Surprisingly, as interaction with faculty and peers (IFP) and perceptions of institutional support (ISP) increased, intent to transfer was slightly less likely among White students. For all groups, increases in use of advising services (UAS) and writing and critical thinking (WCT) were associated with positive transfer intentions. For White students only, greater extracurricular participation (ECA) and effort (SEF) were associated with predisposition to transfer.

Patterns of Identities and Engagement by Racial/Ethnic Group

Some patterns can be noted in looking at the results within each racial/ethnic group. Two marginalized institutional identities (neotraditional age, developmental education) were associated with lower odds of transfer intent for Black/African American students, while increased engagement in use of advising (UAS) and writing and critical thinking (WCT) was associated with greater likelihood of transfer intent. The model had the fewest significant predictors of intent to transfer for Hispanic/Latinx students. Among the various intersecting identities examined, the only significant predictor of transfer intentions was having dependent children. Like their Black/African American counterparts, only UAS and WCT were related to significant increased likelihood of transfer intentions.

The model of identities and engagement showed the greatest number of statistically significant predictors among White community college students. Four marginalized discursive and institutional identities (married, neotraditional age, developmental education, first-generation) were associated with lower odds of transfer, while use of advising services (UAS), writing and critical thinking (WCT), extracurricular activities (ECA), and student effort (SEF) were associated with higher transfer intention odds. Three unexpected results were observed for White students' intent to transfer: part-time enrollment was associated with higher odds, while greater interaction (IFP) and support (ISP) were related to lower odds.

Discussion and Implications

The models of predisposition to transfer by ra-

cial/ethnic group suggest that identities and engagement are not uniformly indicative of likelihood to transfer among community college students. While discursive and institutional identities are neither natural nor given, they represent the ways that institutional agents classify and categorize students, and may have real associations on the experiences of students whose identities are marginalized or minoritized in higher education institutions. For White and Black/African American students, being of neotraditional age (over 24) was associated with lower odds of intent to transfer. Further, results showed lowered odds of transfer intentions for married White students and Hispanic/Latinx students with dependent children. Through a critical lens, these findings could suggest a need to better understand structural barriers both within and external to the institution that can be addressed to permit vertical transfer aspirations of adult community college students who may benefit from additional skills and credentials at the baccalaureate level. A limitation of our study was related to insufficient sample size for inclusion of certain minoritized racial/ethnic groups (American Indian or Alaska Native, Asian) that may have unique and nuanced experiences in the NC context. Qualitative research to understand the more complex reasons behind students' intention to transfer in relation to their racial and other identities is warranted and necessary.

In terms of student engagement, use of advising services was universally associated with increased likelihood of intent to transfer among CCSSE participants in the sample. These findings support previous research on the importance of advising for student persistence and transfer (Fay et al., 2022), although the CCSSE variable used in this study does not capture the quality and accuracy of advice provided by institutional agents, which is a limitation. We find specific relevance to North Carolina, as the state has many assets including a required transfer seminar (ACA 122) that embeds transfer guidance. However, previous qualitative research based in North Carolina has shown that community colleges implement varied advising models and that ACA 122 may not always be entirely focused on transfer (Holliday-Millard et al., 2022), and that many students are using self-navigation and thus bypassing advisors (Miller et al., 2022). Current statewide articulation agreements are most helpful when students and advisors know students' majors and intended universities early in their time in the community col-

lege (D’Amico, 2022), Therefore, while transfer intent is associated with advising, it is critically important to consider the efficacy of current systems to make transfer more seamless for prospective vertical transfer students and the advisors who guide them. Additional qualitative or mixed methods research on student and advisor perceptions of the role of advising in their transfer trajectories would illuminate these connections.

The negative association of faculty and peer interaction and perceptions of institutional support with transfer intentions for White students in our sample requires further consideration. The 10 items included in the IFP variable represent a broad range of interactions, from clarifying class grades or content with the instructor to discussing ideas and having serious conversations with peers outside of class, and may not adequately capture socioacademic integration that fosters validation and belonging for community college students. Qualitative exploration of faculty and peer interactions could help better parse out how students view their utility for transfer aspirations and success. A further consideration is that interaction and support perceptions may have some connection to institutional emphasis and/or size. Students at larger, transfer-focused institutions may experience different opportunities to interact than those at smaller mixed or career-focused institutions. In one recent study, attending a mixed or career-focused institution (versus a high transfer institution) significantly predicted higher perceived support among White transfer-seeking students in North Carolina (Dika et al., 2022). In other states, community colleges with higher than expected transfer rates have demonstrated shared responsibility for transfer (Mery & Schiorring, 2011), along with a student-centered culture and culturally sensitive leadership (Miller, 2013). Our findings should not discourage institutional attempts to increase student-faculty and peer-to-peer interactions, particularly those that lead students to informational benefits and validation to navigate the community college environment and access vertical transfer pathways.

References

- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(4), 297–308.
- Center for Community College Student Engagement (CCCSE). (2017). How benchmarks are calculated: CCSSE 2017-present. https://www.ccsse.org/survey/docs/How_Benchmarks_are_Calculated_2017.pdf
- Center for Community College Student Engagement (CCCSE). (2021). Survey of entering student engagement: 2021 cohort data. <https://www.ccsse.org/sense/survey/reports.cfm>
- Chickering, A., & Gamson, Z. (1987, March). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39, 2–6. <https://files.eric.ed.gov/fulltext/ED282491.pdf>
- Crisp, G., & Nuñez, A. (2014). Understanding the racial transfer gap: Modeling underrepresented minority and nonminority students’ pathways from two-to four-year institutions. *The Review of Higher Education*, 37, 291–320. <https://doi.org/10.1353/rhe.2014.0017>
- D’Amico, M. M. (2022). North Carolina transfer enrollment patterns: A data snapshot (CLTRR-2022-4). UNC Charlotte Cato College of Education. <https://tinyurl.com/CLTRR-2022-4>
- Deil-Amen, R. (2011). Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programs. *The Journal of Higher Education*, 82(1), 54–91. <https://doi.org/10.1080/00221546.2011.11779085>
- Dika, S. L., Wang, Y., D’Amico, M. M., & Bohlig, E. M. (2022, April). Socioacademic integration, transfer capital, institutional culture, and sense of belonging among transfer-seeking community college students. Paper presentation (virtual) at AERA Annual Meeting, San Diego, CA.
- Fay, M. P., Jaggars, S. S., & Farakish, N. (2022). “Lost in the shuffle”: How relationships and personalized advisement shape transfer aspirations and outcomes for community college students. *Community College Review*, 50(4), 366–390. <https://doi.org/10.1177/00915521221111468>
- Gee, J. P. (2000). Chapter 3: Identity as an analytic lens for research in education. *Review of Research in Education*, 25(1), 99–125. <https://doi.org/10.3102/0091732X025001099>
- Gillborn, D., Warmington, P., & Demack, S. (2018). QuantCrit: Education, policy, ‘Big Data’ and principles for a critical race theory of statistics. *Race Ethnicity and Education*, 21(2), 158–179. <https://doi.org/10.1080/13613324.2017.1377417>
- Holliday-Millard, P., D’Amico, M. M., & Miller, R. (2022). Guiding vertical transfer: Perspectives of

- (community college advisors (CLTRR-2022-3). UNC Charlotte Cato College of Education. <https://tinyurl.com/CLTRR-2022-3>
- Jenkins, P. D., & Fink, J. (2016). Tracking transfer: New measures of institutional and state effectiveness in helping community college students attain bachelor's degrees. Columbia University, Community College Research Center and Teachers College. <https://ccrc.tc.columbia.edu/publications/tracking-transfer-institutional-state-effectiveness.html>
- Levin, J. S., Viggiano, T., López Damián, A. I., Morales Vazquez, E., & Wolf, J.-P. (2017). Polymorphic students: New descriptions and conceptions of community college students from the perspectives of administrators and faculty. *Community College Review*, 45(2), 119–143. <https://doi.org/10.1177/0091552116679731>
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83, 1198–1202.
- López, N., Erwin, C., Binder, M., & Chavez, M. J. (2018). Making the invisible visible: Advancing quantitative methods in higher education using critical race theory and intersectionality. *Race Ethnicity and Education*, 21(2), 180-207. <https://doi.org/10.1080/13613324.2017.1375185>
- Lundberg, C. A. (2014). Peers and faculty as predictors of learning for community college students. *Community College Review*, 42(2), 79–98. <https://doi.org/10.1177/0091552113517931>
- McCormick, & McClenney, K. (2012). Will these trees ever bear fruit? A response to the special issue on student engagement. *Review of Higher Education*, 35(2), 307–333. <https://doi.org/10.1353/rhe.2012.0010>
- Maliszewski Lukszo, C., & Hayes, S. (2020) Facilitating transfer student success: Exploring sources of transfer student capital. *Community College Review*, 48(1), 31-54. <https://doi.org/10.1177/0091552119876017>
- Miller, R. A., Slane, L., D'Amico, M. M., & Serrata, C. (2022). North Carolina transfer student voices: A pilot study report. (CLTRR-2022-1). UNC Charlotte Cato College of Education. <https://tinyurl.com/CLTRR-2022-1>
- Moser, K. (2013). Exploring the impact of transfer capital on community college transfer students. *Journal of the First-Year Experience & Students in Transition*, 25(2), 53-76.
- myFutureNC. (2022). <https://www.myfuturenc.org/>
- Nora, A., & Rendón, L. I. (1990). Determinants of predisposition to transfer among community college students: A structural model. *Research in Higher Education*, 31(3), 235–255.
- Pace, C. R. (1980). Measuring the quality of student effort. *Current Issues in Higher Education*, 2, 10-16.
- Rendón, L. I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 19(1), 33–51.
- Rendón, L. I., Jalomo, R. E., & Nora, A. (2000). Theoretical considerations in the study of minority student retention in higher education. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 127-156). Vanderbilt University.
- Rucks-Ahidiana, Z., & Bork, R. H. (2020). How relationships support and inform the transition to community college. *Research in Higher Education*, 61, 588-602. <https://doi.org/10.1007/s11162-020-09601-z>
- Schwehm, J. S. (2017). Do student demographics and community college experiences influence the adjustment process of adult vertical transfer students? *Community College Enterprise*, 23(1), 9–25. <http://www.schoolcraft.edu/cce/community-college-enterprise>
- Shapiro, D., Dundar, A., Huie, F., Wakhungu, P. K., Yuan, X., Nathan, A., & Hwang, Y. (2017, September). Tracking transfer: Measures of effectiveness in helping community college students to complete bachelor's degrees (Signature Report No. 13). National Student Clearinghouse Research Center.
- Stage, F. K., & Wells, R. S. (2014). Critical quantitative inquiry in context. *New Directions for Institutional Research*, 2013(158), 1-7. <https://doi.org/10.1002/ir.20041>
- Strayhorn, T. L., & Johnson, R. M. (2014). Black female community college students' satisfaction: A national regression analysis. *Community College Journal of Research and Practice*, 38(6), 534–550. <https://doi.org/10.1080/10668926.2013.866060>
- Taylor, J. L., & Jain, D. (2017). The multiple dimensions of transfer: Examining the transfer function in American higher education. *Community College Review*, 45, 273-293. <https://doi.org/10.1177/0091552117725177>
- Tinto, V. (1993). *Retinking the causes and cures of student attrition* (2nd ed.). University of Chicago.

- Tovar, E. (2015). The role of faculty, counselors, and support programs on Latino/a community college students' success and intent to persist. *Community College Review*, 43(1). 46–71. <https://doi.org/10.1177/0091552114553788>
- Wang, Y., & Bohlig, M. (2022, April). Measuring student engagement in community college: Construct validity of CCSSE. Roundtable presentation at the 2022 Annual Conference of the Council for the Study of Community Colleges, Tempe, AZ.
- Wood, J. L., Nevarez, C., & Hilton, A. (2011). Creating a culture of transfer. *Making Connections*, 13(1), 54-61.
- Wood, J. L., & Palmer, R. T. (2013). The likelihood of transfer for Black males in community colleges: Examining the effects of engagement using multilevel, multinomial modeling. *Journal of Negro Education*, 82(3), 272–287. <http://www.journalnegroed.org>
- Wood, J. L., & Palmer, R. T. (2016). Determinants of intent to transfer among Black male community college students: A multinomial, multi-level investigation of student engagement. *Teachers College Record*, 118(8).

Table 1

Participant Identities for Full Sample and by Transfer Intention Goal

Identities	Full sample (n=4,892)		Transfer intention (n=2,783)		No transfer intention (n=2,039)	
	n	%	n	%	n	%
Gender ¹						
Men	2,125	43.40%	1,196	43.00%	888	43.60%
Women	2,767	56.60%	1,587	57.00%	1,151	56.40%
Age						
18-24 years	3,265	66.70%	2,070	74.40%	1,162	57.00%
25+ years	1,623	33.20%	711	25.50%	875	42.90%
Race/ethnicity						
Black or African American	705	14.40%	429	15.40%	254	12.50%
Hispanic or Latinx	496	10.10%	313	11.20%	179	8.80%
White	3,691	75.40%	2,041	73.30%	1,606	78.80%
Enrollment						
Full-time	3,530	72.20%	2,037	73.20%	1,440	70.60%
Part-time	1,362	27.80%	746	26.80%	599	29.40%
Developmental education	1,313	26.80%	724	26.00%	568	27.90%
First generation student	1,492	30.50%	771	27.70%	689	33.80%
Having dependent children	1,044	21.30%	463	16.60%	557	27.30%
Married	900	18.40%	366	13.20%	519	25.50%
English not native language	478	9.80%	300	10.80%	170	8.30%

¹ Other gender was not explored in the logistic regression analyses due to insufficient numbers when disaggregating into racial/ethnic groups.

Table 2*Logistic Regression Model of Transfer Intention Predictors for Student Groups by Race/Ethnicity*

Category	Predictor	Significant odds of transfer intention		
		Black/ African American (n=481)	Hispanic/Latinx (n=394)	White (n=3,691)
Natural and discursive identities	Women	-	-	-
	Married	-	-	40% lower odds***
	Dependent children	-	54% lower odds*	-
Institutional identities	Part-time enrollment	-	-	24% higher odds*
	Neotraditional age (25 +)	62% lower odds***	-	34% lower odds***
	Developmental education	40% lower odds*	-	19% lower odds*
	First-generation college	-	-	25% lower odds**
	English not native language	-	-	-
Engagement factors	Interaction faculty & peers (IFP)	-	-	12% lower odds***
	Personal development (PDV)	-	-	-
	Higher order thinking (HOT)	-	-	-
	Institutional support (ISP)	-	-	11% lower odds*
	Use of advising services (UAS)	44% higher odds*	32% higher odds*	35% higher odds***
	Writing & critical thinking (WCT)	55% higher odds*	42% higher odds*	79% higher odds***
	Extracurricular activities (ECA)	-	-	39% higher odds**
Student effort (SEF)	-	-	18% higher odds*	
Overall model - percent correctly classified		69.9%	68.8%	64.2%

* $p < .05$, ** $p < .01$, *** $p < .001$ **Table A1***CCSSE Items Associated with Engagement Factors*

Engagement Factors

Item Descriptions

Personal development (PDV)	<i>How much has your experience at this college contributed to your knowledge, skills, and personal development</i>
	Speaking clearly and effectively
	Thinking critically and analytically
	Writing clearly and effectively
	Working effectively with others
	Learning effectively on your own
	Developing clearer career goals
	Solving numerical problems
	Gaining information about career opportunities

Table A1, continued

CCSSE Items Associated with Engagement Factors

Engagement Factors	Item Descriptions
Interaction with faculty and peers (IFP)	<i>How often have you...?</i>
	Discussed ideas from your readings or classes with instructors outside of class
	Worked with classmates outside of class to prepare class assignments
	Discussed grades or assignments with an instructor
	Worked with instructors on activities other than coursework
	Worked with other students on projects during class
	Talked about career plans with an instructor or advisor
	Had serious conversations with students who differ from you
	Asked questions in class or contributed to class discussions
	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
	Tutored or taught other students (paid or voluntary)
Higher order thinking (HOT)	<i>How much has your college emphasized the following?</i>
	Forming a new idea or understanding from various pieces of information
	Applying theories or concepts to practical problems or in new situations
	Analyzing the basic elements of an idea, experience, or theory
	Making judgements about the value or soundness of information, arguments, or methods
	Using information you have read or heard to perform a new skill
Institutional support (ISP)	<i>How much does this college emphasize the following?</i>
	Providing the support you need to thrive socially
	Helping you cope with your non-academic responsibilities (work, family, etc.)
	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
	Providing the support you need to help you succeed at this college
	Providing the financial support you need to afford your education
Use of advising services (UAS)	<i>How often have you used the following services?</i>
	Academic advising/planning
	Career counseling
	Transfer advising/planning
	Financial aid advising
Writing and critical thinking (WCT)	<i>How often have you?</i>
	Worked on a paper or project that required integrating ideas or information from various sources?
	Prepared two or more drafts of a paper or assignment before turning it in?
	Made a class presentation?
	Done: (number...length) of written papers or reports?

Table A1, continued*CCSSE Items Associated with Engagement Factors*

Engagement Factors	Item Descriptions
Extracurricular activities (ECA)	About how many hours do you spend in a typical seven-day week participating in college-sponsored activities (organizations, campus publications, student government, intramural sports, etc.)?
	How often have you used student organizations service?
Student effort (SEF)	How often have you used peer or other tutoring service?
	About how many hours do you spend in a typical 7-day week preparing for class (studying, reading, writing, rehearsing, doing homework, etc.)?
	During the current academic year at this college, I have participated in supplemental instruction/supplemental learning (extra class sessions with the instructor or an experienced student)?
	The extent to which your examinations during the current academic year have challenged you to do your best work at this college.

Table A2*Logistic Regression Model of Transfer Intention Predictors Among Black/ African American Community College Students (n=705)*

Category	Predictor	β	SE β	Exp(β) (odds ratio)	
				value	95% C.I.
Natural and discursive identities	Women	0.08	0.22	1.08	[0.695, 1.673]
	Married	-0.20	0.30	0.82	[0.458, 1.460]
	Dependent children	-0.36	0.25	0.70	[0.429, 1.139]
Institutional identities	Part-time enrollment	-0.26	0.23	0.77	[0.488, 1.214]
	Neotraditional age (25+)	-0.97***	0.25	0.38	[0.231, 0.618]
	Developmental education	-0.51*	0.22	0.60	[0.387, 0.926]
	First-generation college	-0.23	0.23	0.79	[0.508, 1.238]
	English not native language	0.89	0.47	2.43	[0.957, 6.146]
Engagement factors	Personal development	-0.03	0.10	0.97	[0.800, 1.168]
	Interaction with faculty & peers	-0.12	0.10	0.89	[0.726, 1.086]
	Higher order thinking	-0.12	0.15	0.88	[0.653, 1.197]
	Institutional support	0.00	0.13	1.00	[0.769, 1.296]
	Use of advising services	0.36*	0.14	1.44	[1.088, 1.891]
	Writing & critical thinking	0.44*	0.17	1.55	[1.104, 2.187]
	Extracurricular activities	-0.11	0.26	0.89	[0.538, 1.487]
	Student effort	0.34	0.19	1.41	[0.973, 2.035]
	Constant	0.59	0.66	1.80	
Overall model evaluation	Model chi square	$\chi^2(16) = 72.77, p < .001$			
	Percent correctly classified	69.90%			
	Cox and Snell R ²	0.14			
	Nagelkerke R ²	0.19			

* $p < .05$, ** $p < .01$, *** $p < .001$

Table A3

Logistic Regression Model of Transfer Intention Predictors Among Hispanic/Latinx Community College Students (n=496)

Category	Predictor	β	SE β	Exp(β) (odds ratio)	
				value	95% C.I.
Natural and discursive identities	Women	0.31	0.23	1.36	[0.859, 2.143]
	Married	-0.36	0.40	0.70	[0.317, 1.534]
	Dependent children	-0.77*	0.35	0.46	[0.233, 0.925]
Institutional identities	Part-time enrollment	0.14	0.25	1.15	[0.699, 1.889]
	Neotraditional age (25+)	-0.37	0.35	0.69	[0.349, 1.358]
	Developmental education	-0.32	0.26	0.73	[0.435, 1.224]
	First-generation college	-0.28	0.27	0.76	[0.451, 1.272]
	English not native language	0.24	0.24	1.27	[0.799, 2.02]
Engagement factors	Personal development	-0.06	0.11	0.94	[0.761, 1.167]
	Interaction with faculty & peers	-0.16	0.11	0.85	[0.681, 1.064]
	Higher order thinking	0.04	0.16	1.04	[0.757, 1.424]
	Institutional support	-0.10	0.15	0.91	[0.678, 1.208]
	Use of advising services	0.28*	0.14	1.32	[1.005, 1.736]
	Writing & critical thinking	0.35*	0.18	1.42	[1.007, 2.006]
	Extracurricular activities	-0.12	0.31	0.85	[0.464, 1.558]
	Student effort	0.45	0.24	1.57	[0.980, 2.51]
	Constant	0.29	0.71	1.34	
Overall model evaluation	Model chi square	$\chi^2(16) = 41.070, p < .001$			
	Percent correctly classified		68.80%		
	Cox and Snell R ²	0.10			
	Nagelkerke R ²	0.14			

* $p < .05$, ** $p < .01$, *** $p < .001$

Table A4

Logistic Regression Model of Transfer Intention Predictors Among White Community College Students (n=3,691)

Category	Predictor	β	SE β	Exp(β) (odds ratio)	
				value	95% C.I.
Natural and discursive identities	Women	0.03	0.08	1.03	[0.874, 1.204]
	Married	-0.51***	0.12	0.603	[0.474, 0.767]
	Dependent children	-0.01	0.13	0.99	[0.772, 1.268]
Institutional identities	Part-time enrollment	0.21*	0.09	1.24	[1.033, 1.476]
	Neotraditional age (25+)	-0.42***	0.10	0.66	[0.535, 0.804]
	Developmental education	-0.21*	0.09	0.81	[0.676, 0.976]
	First-generation college	-0.29**	0.10	0.75	[0.621, 0.904]
	English not native language	0.344	0.27	1.41	[0.833, 2.388]
Engagement factors	Personal development	-0.07	0.04	0.94	[0.868, 1.008]
	Interaction with faculty & peers	-0.13**	0.04	0.88	[0.814, 0.945]
	Higher order thinking	0.03	0.06	1.03	[0.921, 1.151]
	Institutional support	-0.12*	0.06	0.89	[0.793, 0.988]
	Use of advising services	0.30***	0.05	1.35	[1.215, 1.494]
	Writing & critical thinking	0.58***	0.07	1.79	[1.577, 2.038]
	Extracurricular activities	0.33**	0.11	1.39	[1.118, 1.721]
	Student effort	0.17*	0.07	1.18	[1.026, 1.355]
	Constant	-0.15	0.24	0.86	
Overall model evaluation	Model chi square	$\chi^2(16) = 276.83, p < .001$			
	Percent correctly classified		64.20%		
	Cox and Snell R ²	0.09			
	Nagelkerke R ²	0.12			

* $p < .05$, ** $p < .01$, *** $p < .001$

Authors' Note

The authors have no known conflicts of interest to disclose. The authors received funding from the John M. Belk Endowment to support this study as part of a larger project titled “Understanding Experiences of Vertical Transfer Students in North Carolina” (PI: Mark M. D’Amico <https://orcid.org/0000-0002-0778-7278>, Co-PIs: Sandra L. Dika <https://orcid.org/0000-0001-8491-7542>, Ryan A. Miller). Correspondence concerning this article may be addressed to Sandra L. Dika, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC 28223. Email: sdika@uncc.edu