Transfer Students: Retention and Persistence

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Research Question

We are looking for recent published literature on transfer students in higher education in relation to retention and persistence.

This is part of a series of literature reviews that will aid in creating goals and objectives for the Student Success and Retention office.

Executive Summary

Factors Affecting Transfer Student Success

A review of the literature reveals that transfer students fall into different groups that need different kinds of assistance in order to succeed at their new college or university. One group of transfer students includes those who always intended to transfer (Aulck & West, 2017; Blekic et al., 2020; Dika et al., 2015; Foster et al., 2020). These students start at one institution to start their education before transferring to, for example, medical school or another institution that offers their specialized program (often a STEM program). This group can also include students who choose to take general education courses or earn an associate degree at a community college before transferring to a four-year institution (often because of the lower cost of tuition). The other group includes students whose plans change unexpectedly or who don't seem to have an overall plan for their academic career (Blekic et al., 2020; Dika et al., 2015; Goodwin Roberts et al., 2015). They might transfer between institutions because they don't know what they want to earn a degree in or because of financial necessity. This split means that universities and colleges may need to offer several different kinds of support and assistance to help their transfer students.

Researchers identified the following factors that can negatively impact the persistence, retention, and completion rates of transfer students:
- Social isolation and feeling that they don't belong at the new institution (Blekic et al., 2020; Chamely-Wiik et al., 2021; Ishitani & Flood, 2018; Lakin & Cardenas Elliot, 2016; Lane et al., 2015; Walker & Okpala, 2017). These emotions make it hard for students to develop a social support network that can help them weather rough patches in their academic career.
- Credits earned by the student before transferring (Blekic et al., 2020; Lakin & Cardenas Elliot, 2016; Umbach et al., 2019). The more credits a student has earned—and are able to transfer—the more likely they are to persist and complete their degrees.
- GPA (Blekic et al., 2020; Clausen & Wessel, 2015; Ishitani & Flood, 2018; Umbach et al., 2019). Students with higher GPAs tend to persist and complete their degrees.
- Finances (Anderson-Rowland & Rodriguez, 2015; Blekic et al., 2020; Ishitani & Flood, 2018). Lack of funding may have pushed students to attend an institution with lower tuition before they could transfer to college or university where they can complete their desired program.
- Distance between old and new institutions (Dika et al., 2015; Gose, 2017; Umbach et al., 2019). The greater the distance between institutions, the more students seem to struggle. It is easier for institutions to cooperate and transfer equivalent course credits when they are physically closer to each other. Close proximity also means that students don't have to use time and resources to relocate.

- Student has declared a major ([Blekic et al., 2020](#); [Dika at al., 2015](#)). Students who've declared a major are more likely to succeed at their new institution.
- Academic preparedness ([Chamely-Wiik et al., 2021](#); [Lakin & Cardenas Elliot, 2016](#)). This factor addresses differences in intellectual rigor between the old and new institution, i.e. if the new institution is academically "tougher" than the old.
- Work/life/school balance ([Chamely-Wiik et al., 2021](#); [Walker & Okpala, 2017](#)).
- Time to completion ([Umbach et al., 2019](#)). The longer it takes for a student to earn all the credits needed to graduate, the less likely they are to persist and complete their degree.

Researchers also found these institutional barriers to transfer student success:
- Unclear or incomplete information for students about credit transfer, leading to credit loss ([Kilgore, 2021](#); [Lavinson, 2021](#)).
- Requirements for remedial courses ([Umbach et al., 2019](#)).
- Student population size at the new institution ([Umbach et al., 2019](#)).

The researchers' findings suggested that some factors—gender, race, first generation status, academic ability, and prior academic achievement, etc.—might have a stacking effect. That is to say, students who are female, members of a minority, and have had difficulties in the past passing courses with acceptable grades, may be less likely to persist and complete their degrees ([Blekic et al., 2020](#); [Dika et al., 2015](#); [Hern et al., 2019](#); [Ishitani & Flood, 2018](#); [Lee & Schneider, 2018](#); [Umbach et al., 2019](#)). Even if factors don't "stack," the research indicates that there are myriad reasons for students to transfer and many reasons why they might have difficulty succeeding at their new institutions—and that many of these reasons might require different levels of institutional response to lessen their impact on students.

Transfer Shock

Several researchers discussed the phenomenon of "transfer shock," a period after transferring during which student GPAs drop and students become more likely to dropout due to the many factors that can make it hard for them to adjust to their new environment ([Aulck & West, 2017](#); [Clausen & Wessel, 2015](#); [Lakin & Cardenas Elliot, 2016](#)). The period after transferring, when transfer shock might hit, is a critical period when transfer students might need the most assistance. The longer a student can persist at their new institution and the better they can weather their transfer shock, the more likely they are to complete their degree ([Aulck & West, 2017](#)).

Best Practices for Transfer Student Success

Researchers in this review discussed many initiatives and practices designed to help transfer students persist and complete their degrees at their new institutions. Some of the common factors of these practices include:
- Advising that specifically helps students create a degree plan across institutions and avoid credit-loss, as well as help students set realistic expectations of their new institution ([Blekic et al., 2020](#); [Dika et al., 2015](#); [Goodwin Roberts et al., 2015](#); [Hern et al., 2019](#); [Lavinson, 2021](#); [Lee & Schneider, 2018](#); [Walker & Okpala, 2017](#)).
  - [Hern et al. (2019)](#) and [Lee and Schneider (2018)](#) noted that advisors and students needed to stay in contact over the course of a student's college career.

- Mandatory targeted orientation programs designed specifically for transfer students (Clausen & Wessel, 2015; Hern et al., 2019; Lane et al., 2015). Researchers noted that orientation programs can ameliorate the effects of transfer shock and offer opportunities for socialization.
- Bridge and integration programs (Chamely-Wiik et al., 2021; Clausen & Wessel, 2015; Gose, 2017). These types of programs are more likely to help engage transfer students and integrate them into their new institution.
- Collaboration with two-year community colleges to help smooth the path of students' academic careers (Blekic et al., 2020; Gose, 2017; Lavinson, 2021).
- Positive interactions with faculty, in and out of class (Hern et al., 2019; Lakin & Cardenas Elliot, 2016).
- Scholarships for transfer students (Anderson-Rowland & Rodriguez, 2015; Ford et al., 2015).
- Opportunities for socialization (Chamely-Wiik et al., 2021; Hern et al., 2019). These opportunities can help transfer students develop a social support network and feel more integrated into their new campus.
- Financial advising to help students with scholarships, Pell Grants, and loans (Anderson-Rowland & Rodriguez, 2015).
- Faculty mentoring or peer-mentoring provided by transfer students (Chamely-Wiik et al., 2021).
- Research internships (Chamely-Wiik et al., 2021).
- Cohorts can help transfer students build social support networks (Ford et al., 2015).
- Service learning has been shown to help transfer students increase their sense of belonging at their new institution and improve their academic performance (York & Fernandez, 2018).
- Dual enrollment at two-year colleges and four-year universities (Gose, 2017).

Anderson-Rowland and Rodriguez (2015) wrote about the Motivated Engineering Transfer Students (METS) Center at Arizona State University, an organization that offers a lot of the assistance and opportunities mentioned above to transfer students in engineering, as well as traditional engineering students. The METS Center is staffed by university personnel and engineering students (who are also transfer students). Anderson-Rowland and Rodriguez (2015) reported that "This center is visited by 300-400 students per semester, 70% of which are transfer students" (p. 26.13843.6). In addition to offering help navigating the new university and financial aid, incoming transfer students can ask questions about course difficulty, parking, how many credits to take, which professors are easier to approach—a lot of the kind of knowledge that students pick up through experience but that transfer students have to work harder to acquire. Access to the METS Center is offered in conjunction with student success courses specifically designed for transfer students.

A Note about State Policies

A few researchers in this review argued that state policies about completion and retention rates may negatively impact students. Walker and Okpala (2017) cited research showing that state policies can de-incentivize institutions if they are only given funding for students who complete their degrees without transferring. Without a financial incentive, institutions might put more effort into retention than in assisting students who want to complete their education at another college or university (Walker & Okpala, 2017; Kadlec & Ashburn, 2021). Ryan and Soto (2021) went so far as to advise university administrators on strategies to lobby state legislators for increased support for transfer students.

Annotated Bibliography

Keywords Used for Searching Literature

- "transfer students" AND ("higher education" OR college OR university") AND (retention OR persistence)

Peer Reviewed Journal Articles

Citation Aulck, L., & West, J. (2017). Attrition and performance of community college transfers. *PloS One, 12*(4), 1-23. https://doi.org/10.1371/journal.pone.0174683 **Abstract** Community colleges are an important part of the US higher education landscape, yet the aptitude and preparedness of student transfers to baccalaureate institutions is often called into question. Examining transcript records and demographic information of nearly 70,000 students across over 15 years of registrar records at a public university, this study performed a descriptive analysis of the persistence, performance, and academic migration patterns of community college transfers, transfers from four-year institutions, and freshmen entrants. We found little difference between community college transfers and freshmen entrants in terms of	**Conclusions** "For this study, data was restricted to all matriculated, degree-seeking undergraduate students who enrolled at the university between the years 1998 and 2006, inclusive, as either freshmen or transfers from US two- and four-year colleges (N = 69,118). Only undergraduate classes taken by students as matriculated students were included in the transcript data used in this study, which ultimately consisted of nearly 2,387,000 unique records of students taking classes." (4) "The adjusted 6-year attrition rates for 2-year transfers (23.5%) was slightly higher than freshmen entrants (20.9%) while that of 4-year transfers was more than 6 percentage points higher than both groups…Additionally, for every demographic group, the attrition rates of 4-year transfers was higher than that of freshmen entrants and 2-year transfers, with the exception of non-residents, where the attrition rate of freshmen entrants was slightly higher than that of 4-year transfers. Interestingly, 4-year transfers had substantially higher attrition rates for males than females—while the differences in attrition rates between males and females was 1–2 percentage points for both freshmen entrants and 2-year transfers (with males having the higher rates), the difference in attrition rates between males and females for 4-year transfers was over 8 percentage points…" (8)

post-transfer grades and persistence. Transfers from four-year institutions had higher grades but also had higher attrition rates than their peers. This study also found no strong evidence of transfer shock on students' post-transfer grades. When examining the tendencies of students to shift fields of study during their educational pursuits, the academic migration patterns of transfer students were more concentrated than those of freshmen entrants.

Limitations
"That, however, brings two related limitations of this study into focus: the fact that the study focused on descriptive results and that it centers on a view of attrition and performance that is from the perspective of information in university databases alone. Due to solely using transcript information in a single university, causal underpinnings of the performance of transfer students were not examined….. As such, this study focused strictly on the post-transfer performance of transfer students. Because students were not tracked prior to their transfer to the university or after leaving the university, their pre-transfer and post-university performance is unknown. We understand this limits the degree to which a comprehensive view of student performance can be drawn." (19)

Article Link

Table 3. Attrition rates by demographic. All rates are 6-year attrition rates adjusted for credits transferred. The Cohen's D values for all freshmen vs all 2-year transfers and all freshmen vs all 4-year transfers were 0.57 and 0.72, respectively.

	All Groups	Freshmen Entrants	2-year Transfers	4-year Transfers
All	23.5%	20.9%	23.5%	29.6%
Female	22.2%	20.2%	23.1%	25.8%
Male	25.1%	21.7%	24.1%	34.0%
Unidentified	13.0%*	8.7%*	0.0%*	22.2%*
African American	31.9%	29.0%	29.4%	41.3%*
American Indian	34.3%	34.0%	29.0%	41.3%
Asian	22.3%	17.9%	25.6%	31.8%
Caucasian	23.2%	21.1%	23.4%	27.7%
Hawaiian/Pac. Islander	31.7%*	31.7%*	29.4%*	33.7%*
Unidentified	23.8%	22.7%	20.7%	30.3%
Hispanic	27.5%	26.3%	25.6%	32.5%
Not Hispanic/Indicated	23.4%	20.7%	23.4%	29.5%
Residents	23.0%	19.3%	24.0%	29.7%
Non-Residents	27.7%	29.9%	16.1%	28.5%

*—less than 500 students in demographic group

(8)

"The overall attrition rate for the university trended downward for the period observed, declining from 27.56% for the entering class of 1998 to 20.20% for the entering class of 2006." (10)

"There were no meaningful differences in GPAs between freshmen entrants and 2-year transfers schools overall and when comparing graduates and non-completions of each group. Graduates and non-completions from the two groups had GPA differences of only a few hundredths of a grade point." (11)

"When comparing students' first quarter of enrollment to subsequent quarters, students' GPAs tended to decline on average after the first quarter, albeit slightly, thereby exhibiting evidence of transfer ecstasy. However, when looking at students' performance after their first two quarters of enrollment, their grades tended to slightly improve thereafter, providing some evidence of transfer shock. This increase is even greater when comparing the first three quarters of enrollment to subsequent quarters. These trends were fairly consistent for each of the three groups. Transfers from 2-year colleges showed the greatest magnitude of transfer ecstasy and transfer shock. It should be noted, however, that the magnitude of these differences were only a few hundredths of a grade point at their highest." (12)

"…the movement of freshmen entrants was the most diffuse (i.e. had fewer areas of high migration traffic) while those of 2-year and 4-year transfers were similarly concentrated. Freshmen also had the highest frequency of shifts (19.3 shifts per 100 graduating students), with 4-year transfers and 2-year transfers having less shifts per graduating student (16.7 per 100 graduating students for 4-year transfers and 11.1 per 100 graduating students for 2-year transfers). This is very much reflective of the time taken by students from each group to graduate…In general (and as can be expected), students who have a longer time to graduate also tend to change their majors more often. However, when accounting for time, 4-year transfers had the highest rate of shifts per quarters enrolled…with freshmen…and 2-year transfers…having slightly lower rates." (12-13)

"Transfers from 4-year institutions were found to have substantially higher attrition rates than their peers while also having higher grades. These findings contrast the sentiment of many previous works, including Hills, who lists several studies that indicate 4-year transfers perform better than 2-year transfers [23], and Heiser and Abbed, who found 2-year and 4-year transfers to perform similarly [35]. Attrition rates were also substantially higher for transfers from 4-year institutions across nearly all demographic categories examined." (18)

"The data examined showed no strong evidence of transfer shock. Differences between students' early grades at the university and later grades were only as small as a few hundredths of grade points at most, similar to many previous studies examining pre-transfer and post-transfer GPAs [27]. Though transfers from 2-year institutions did in fact suffer decreases in grades during the first two and first three quarters of enrollment, these dips in performance were found to be similar to those seen in the performance of freshmen entrants and transfers from 4-year institutions during their respective starts at the university. Furthermore, if only the first quarter is examined, the data shows evidence of transfer ecstasy and not transfer shock for all three groups." (18)

"When looking at student academic migration patterns, 2-year transfers had the fewest number of shifts across fields of study per student, while transfer students in general had more concentrated migration patterns than freshmen entrants. This could be a reflection of freshmen entrants' uncertainty with regards to their educational pursuits while transfer students, especially those transferring more credits into the university, have more defined educational trajectories post-transfer. An example of this can be seen when looking at the number of fields of study that shift into the biological sciences for 2-year transfers (relatively very few) compared to same for the two other groups. 2-year transfers also showed a greater propensity to shift away from math & statistics and philosophy than their peers but

no strong trends were evident when looking at the influx/outflux of students across similar fields of study (e.g. a greater propensity to leave the social sciences for STEM fields or vice-versa), regardless of their previous schooling." (19)

"A few strong trends persisted for all three groups, namely students shifting from economics into business, from math & statistics into engineering & computer science, and from biochemistry into the biological & health sciences. For the first two, these transitions indicate a shift of academic focus that may be motivated by the employability of the major as students are transitioning from more theoretical fields (i.e. economics and math & statistics) to those that teach more technical/practical skills (business and engineering & computer science)." (19)

Citation
Blekic, M., Carpenter, R., & Cao, Y. (2020). Continuing and transfer students: Exploring retention and second-year success. *Journal of College Student Retention: Research, Theory & Practice, 22*(1), 71–98. http://doi.org/10.1177/1521025117726048

Abstract
This research examines factors that contribute to persistence of sophomore students. It builds a model to predict the likelihood of leaving the institution by third year and explores whether the concept of transfer receptivity can be used to explain differences in persistence between continuing and transfer sophomore students. Results indicate that financial variables and transfer status are the most important variables in sophomores' retention. Other student precollege characteristics and experiences during college also display statistical

Conclusions
"In this study, students are considered sophomores based on the number of credits they completed at any institution they attended, that is, at least 45 quarter credit hours earned at the focus institution, transferred, and accepted at the focus institution, or a combination of the two." (73)

"Reason's (2009) proposed model included variables in four areas as influencers of students' persistence. First, precollege characteristics and experiences were those variables outside of the institution's influence such as race, gender, socioeconomic background, and high school or transfer GPA. Student dispositions such as self-efficacy were also considered pre-college characteristics. Second, Reason's model included organizational context, pointing out that organizational culture, structure, and policy factors could impact student retention in addition to or in concert with individual characteristics and experiences. Third, an individual student's peer environment including the relationships they built with other students on campus was an important influence on student persistence. Finally, individual student experiences with faculty and the curriculum could influence retention in addition to student behaviors such as academic performance, selection of a major, and involvement." (73)

"…we believe that transfer receptivity has the potential to enhance retention models by explaining organizational practices and experiences students encounter after transfer. Jain, Herrera, Bernal, and Solorzano (2011) defined transfer receptive culture as | ''an institutional commitment by a four-year college or university to provide the support needed for students to transfer successfully' (p. 257). In our analysis, we used transfer receptive culture less as a theory we empirically tested and more as a concept that informed our discussion of policy and practice." (73-74)

significance in the model we built. Implications for theory and practice are presented, including a discussion of a persistence framework and transfer receptivity concept.

Limitations
"Many social-psychological variables, such as indirect measures of student engagement and self-efficacy are related to retention and graduation, yet these variables are beyond the scope of this study." (83)

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"A student's transfer status is not a *pre-college* characteristic; however, it arguably is a *pre-university* characteristic in that it lies outside the influence of the 4-year institution to which the student is transferring. We argue that it is an important precollege indicator for our research. For transfer students, pre-college characteristics such as community college GPA and perceived locus of control were related to community college transfer student retention (Wang, 2009). Moreover, low academic self-confidence was negatively related to academic adjustment (Laanan, 2007). Li (2010) found that low-income transfer students had a lower probability of degree attainment than continuing students. Melguizo, Kienzl, and Alfonso (2011) found no difference in degree attainment between community college transfer students and continuing juniors. While Porter (1999) found a difference between continuing and transfer students in retention, likelihood of graduation and GPA, the author asserted that studies can have different results due to inconsistency of populations included in the studies. Porter argued that to achieve population consistency, returning transfer students should be compared with returning continuing students. This should mitigate transfer student *newness* factor and eventual *transfer shock*." (75)

"One aspect of the institutional environment that sophomores encounter is the ability of the institution to invest financially in its students. Institutional policy related to private grants may affect which students are able to continue at the institution. We argue that some types of financial variables can be included as organizational characteristics." (76)

"For transfer students, there may be less opportunity to develop peer relationships because they have shorter amount of time in which to accomplish that effort and may enter after others have already established social groups (Townsend, 2008). Transfer students interviewed in Ellis' (2013) study attested to the difficulty of making peer connections at an institution where groups had already formed before they arrived. Another challenge for transfers is a lack of engagement or integration into the institution (Miller, 2013; National Survey of Student Engagement, 2009). Dennis, Calvillo, and Gonzalez (2008) found that transfer students with low peer support experienced lower social integration, which was related to lower graduation rates. This may be mitigated by engagement with peers if transfers can forge those connections (Laanan, 2007)." (77)

"Sophomore transfers may experience less connection to faculty and less engagement with the campus community than their peers who began as freshmen (Ishitani & McKitrick, 2010), which could indicate increased risk of dropping out. Results from the National Survey of Student Engagement (2009) bore this out. Transfer students were less likely to participate in high impact practices (e.g., community-based learning, undergraduate research, learning communities, etc.) and reported less

faculty interaction than students who began at the institution. This challenge may be even greater at institutions that rely on large numbers of adjuncts to teach lower division courses." (77)

"Transfer receptivity concept highlights the active role 4-year institutions can play in helping transfer students make successful transitions into a new environment. Jain et al. (2011) coined the term 'transfer receptive culture' drawing on the perspectives of critical race theory. The basic tenets of critical race theory include: '(a) the centrality and intersectionality of race and racism; (b) the challenge to dominant ideology; (c) the commitment to social justice; (d) the centrality of experiential knowledge; and (e) the interdisciplinary perspective' (p. 254). Jain et al. (2011) outlined five elements they considered necessary to establish a transfer receptive culture, elements that closely follow the principles of critical race theory, and expanded them to address the issues of transfer. The authors emphasize the importance that commitment of both institutions, sending and receiving, has for the success of transfer students. They point out that to create a truly receptive culture, efforts to receive students have to begin much before students arrive on campus. These efforts include, among other things, collaboration with 2-year institutions and institutionalization of receptive culture throughout the campus." (78)

"The total number of students included in the study was 7,394. Of these, 3,410 were continuing students, and 3,984 were transfer students." (79)

"Therefore, our first two research questions were as follows:
1. What are retention predictors for students with sophomore standing?
2. Which student subgroups have the highest tendency of attrition or are subject to the highest risk of dropping out by the beginning of the following year?" (79)

"We were further interested in whether factors contributing to sophomore retention differed between continuing students and transfers. Thus, the final research question was as follows:
3. What factors uniquely contribute to continuing and transfer student retention, respectively, in addition to those shared variables that are predictive for both of these student populations?" (79)

"As the total credit hours earned increased by one, students were 1.04 times (4%) more likely to be retained. As the credit hours earned during the fall term of the sophomore year increased by 1 hour, students were 1.03 times (3%) more likely to be retained. When students' overall GPA increased by one unit, they were 1.23 times (23%) more likely to be retained. With one more transcript requested,

the likelihood of being retained was reduced by 15%. As students take one more sophomore inquiry (SINQ) course, a required, general education course, they were 1.16 times (16%) more likely to be retained. Students whose most recent major was noted as declared were 1.56 times (56%) more likely to be retained than those whose major was undeclared." (87)

"Students with no EFC [expected family contribution]—those having the highest financial need—were the least likely to be retained, compared with other groups of varying EFC amounts. Students with no fee remission were the least likely to be retained, compared with students being paid some fee remission. Students with no grant (of any kind) were the least likely to be retained, compared with students being paid varying amounts of grant. Students with a loan amount between $1 and $5000 had the least likelihood of being retained, regardless of the type of loan they received. Students with any kind of scholarship of less than $5000 were less likely to be retained than those that were paid more than $5000 scholarship. Students were more likely to be retained with each additional dollar in paid work study funds." (87)

"Underrepresented minority students were the least likely to be retained, compared with international students (3.79 times or 279%), Whites (2.43 times or 143%), and students with unknown race or ethnicity (1.64 times or 64%). Compared with certified veterans, nonveteran status was associated with 50.8% decrease in the likelihood of being retained. Nonresidents had a decrease of 31.5% in the likelihood of being retained by the following fall term." (87)

"Transfers whose most recent major was declared were 1.71 times (71%) more likely to be retained than transfers whose major was undeclared. With one more credits taken during the fall term of the sophomore year, transfers were 1.04 times (4%) more likely to be retained." (88)

"Continuing and transfer students with no grant were the least likely to be retained, compared with students paid varying amounts of grant. Continuing students and transfers with a loan amount between $1 and $5000 had the least likelihood of being retained, when compared with students who borrowed other amounts or students with no loans. Adjusted gross income was the only financial aid variable that contributed significantly to continuing but not to transfer student retention." (88)

"Race or ethnicity significantly predicted sophomore retention for both continuing students and transfers. Continuing and transfer underrepresented minority | students were the least likely to be retained, compared with other race and ethnic groups. Veteran and conditional admission status significantly affected continuing students' retention but was not a significant predictor for

transfers....Residency status (in-state or out-of-state) was not predictive for continuing students' retention; while it was predictive for transfer students. Nonresident transfers were associated with [a] 34% decrease in the likelihood of being retained, in comparison with resident transfers." (88-89)

"This research and the model we developed suggest that a large portion of the variance in predicting sophomore student fall-to-fall retention can be attributed to factors related to student precollege characteristics and experiences as well as their experiences during college....
"Financial factors are one of the most important influences for sophomores included in our study. While the financial factors we examined can be considered a part of students' precollege and in-college characteristics, we posit that, with the exception of EFC, they can also be a part of institutional context. Our rationale for placing these financial factors into institutional context stems from a view that financial education and financial aid policies can signify level of institutional commitment to help students understand finances, as well as pay for education." (89)

"Another highly significant predictor of sophomore retention was transfer status. Students who transferred to the institution as sophomores were 47% less likely to persist to their third year than students who started at the institution as freshman. This finding, while consistent with the few other existing studies that include transfer status as a variable (Glass & Harrington, 2002; Ishitani & McKitrick, 2010; Luo, Williams, & Vieweg, 2007), is especially surprising given its magnitude. This clearly suggests a need to start paying a much greater attention to sophomore transfers, both in parsing out what is specific about the challenges facing this population and also devising institutional solutions to help these students achieve educational goals." (90)

"In looking at our findings, while there are some factors that are a negative influence on transfer but not on continuing students' retention, mainly residency, major declaration, and credits earned during the first term, transfer students do not appear to differ very much from their counterparts who started at the institution as freshman." (91)

"Importance of advising should not be underestimated in discussing the success of transfer students. This should start during the pretransfer process to ensure students take courses they can transfer, continue through orientation, until graduation. Advising has an important role in the creation of a transfer receptive culture. Many institutions now have mandatory advising for newly admitted students. For many transfer students, that advising session is the first and maybe only personal interaction they will have during the first year. Thus, how advising is structured and the quality of

advising can make a real difference in whether a student feels welcomed and becomes a part of the culture at a new institution." (92)

"We found that student's individual environment mainly classroom experiences have a significant influence on sophomore retention. But, there was no significant difference between continuing and transfer students, except for the declaration of major. Declaring a major is one of the more important milestones in a student's progression toward a degree." (92)

Citation

Chamely-Wiik, D., Frazier, E., Meeroff, D., Merritt, J., Kwochka, W. R., Morrison-Shetlar, A. I., Aldarondo-Jeffries, M., Schneider, K. R., & Johnson, J. (2021). Undergraduate research communities for transfer students. *Journal of the Scholarship of Teaching and Learning, 21*(1), 193-224. https://doi.org/10.14434/josotl.v21i1.30273

Abstract

Transfer students face many challenges integrating into a 4-year college that affect their retention and success, yet very little research has documented how to create wraparound programming to support them. There remains a need to establish retention models that are adaptable and can serve a variety of students and institutions. The Learning Environment and Academic Research Network (LEARN) Consortium, a partnership of Florida Atlantic University, University of Central Florida, and Western Carolina University whose focus is on engagement

Conclusions

"Once transferred, the literature reports, transfer students can improve their acclimation by participating in bridge programs, research internships (Russell, Hancock, & McCullough, 2007), learning communities (Scott, Thigpin, & Bentz, 2017), and supportive mentorship programs (Gatta & Trigg, 2001). Academic integration and social integration of transfer students into 4-year institutions have shown to be the most important posttransfer factors in predicting persistence and degree completion (Bers & Smith, 1991; Karp, Hughes, & O'Gara, 2010; Laanan, 2007; Pascarella, Smart, & Ethington, 1986). Transfer students who participated in student organizations or social activities on campus reported greater persistence at the institution (Karp et al., 2010) and better social integration in their 4-year institution with no other factor, including ethnic group, socioeconomic status, or first generation in college, having a significant impact (Laanan, 2007)." (195)

"T- LEARN was adapted from F- LEARN, an FTIC program at UCF (Schneider & Bickel, 2015; Schneider, Tripp, Nair, Straney, & Lancey, 2015; Schneider et al., in press) and was modified to address the specific needs of transfer students as described earlier. In alignment with F-LEARN, this program focuses on three pillars to establish a transfer model: (1) encouraging participation in undergraduate research to promote academic integration, (2) providing multiple tiers of mentoring to address transfer shock, and (3) promoting community building as a means of social integration." (195)

"Undergraduate research is a high-impact educational practice for enhancing student success (Boyer Commission on Educating Undergraduates in the Research University, 2003; Kuh, 2008). Early involvement in research is one of the most effective ways to interest students in STEM fields and keep them engaged (NRC, 2012). Student engagement in research can also facilitate social integration, | a factor known to lead to higher persistence in transfer students (Townsend & Wilson, 2006). A large body of literature (Brewer & Smith, 2011; Dolan & Johnson, 2009; Kenny et al., 2001; NRC, 2012) has documented the effectiveness of actively engaging undergraduate students in research and inquiry to support undergraduate learning. In addition, these studies have indicated that engagement in

in undergraduate research, addressed this need by developing and testing T-LEARN, a new model for a sustainable science, technology, engineering, and mathematics (STEM) retention program specifically for transfer students who have transitioned to a university setting after receiving their associate's degree at a community college. The new model was developed by adapting a successful retention model for 1st-year students at the University of Central Florida centered around three main pillars: (1) academics/research, (2) mentoring, and (3) community building. In this paper, we describe the development of the T-LEARN model, outline the adaptations made to accommodate the specific needs of transfer students, and present 3 years of implementation data we analyzed to determine what factor(s) most impact transfer student retention and success. Our findings indicate that T-LEARN students' involvement in research during their 1st year was the most significant factor within the T-LEARN program that contributed to their academic success. Additionally, the majority of these students had continued to do research with the same LEARN program faculty mentor 1 year after the program ended.

Limitations
Study is focused on STEM students; generalizability of results depends on the

research increases the probability that students will remain in college (Nagda et al., 1998), show increased academic achievement and graduation rates (Bauer & Bennett, 2003; Craney et al., 2011), and pursue graduate education and/or additional research opportunities (Hathaway, Nagda, & Gregerman, 2002; Lopatto, 2003; Russell et al., 2007)." (195-196)

"Mentoring has been identified as one of the key components of undergraduate student success in STEM disciplines, especially for underrepresented STEM students (Fifolt & Abbott, 2008; Gibson & Angel, 1995; LaBonty & Stull, 1993; Payton, 2004). Unlike traditional students that live on campus, many transfer students travel to campus only to attend classes or mandatory activities, so their time spent in class is even more critical to the development of both their academic and their social connections (D'Amico et al., 2014). Since transfer students spend less time on campus compared to the traditional college student, their in-class time is most likely their only time to identify a faculty or staff member to serve as a mentor. Having fewer mentored research opportunities available to them is a deficit that may be offset by having high-quality mentoring experiences with well-trained faculty members." (196)

"Although academic integration, such as participating in university programs and student organizations, as well as applying for scholarships, has been shown to have a high impact on a transfer student's overall undergraduate experience, proper social integration can also play a prominent role in the development of community. To promote the social integration of transfer students, we provided social activities that students attended outside of class that were scheduled around these students' lives (sometimes during class time) throughout the semester, so that students could get to know each other and form bonds with their peers and faculty (Jefferson, Dougherty, Steadman, & Thomas, 2013)." (197)

"The central question that has guided our research and analysis over the last 5 years has been this: Which of the identified factors (research, mentoring, and community building) most influence transfer student success and impact transfer student retention in a STEM research community?" (197)

"To participate in the T-LEARN program for the academic year, undergraduate transfer students needed to satisfy the following entry criteria:
- Enter directly from a 2-year institution with an earned A.A./A.S. degree prior to the summer or fall starting date with 60 or more credits
- Declare a major in a STEM field (see the Appendix for a list of Classification of Instructional

institution's ability to implement this kind of program. **Article Link**	Programs codes that map to STEM majors for this project) in pursuit of a bachelor of science degree ●Achieve a minimum transfer GPA of 3.0 or above from their transfer institution ●Not participate in another Living-Learning Community or other Enriching Learning Experience at the same time as T-LEARN (e.g., honors in the major, National Merit Scholars, mentoring programs, etc.)." (202) "The target experimental study sample included all the T-LEARN students from the years 2016–2018 (*N = 133*) from FAU (three cohorts), UCF (three cohorts), and WCU (two cohorts)." (202) "To provide student perceptions of various components of the program and post-program activities, a follow-up survey was administered to T-LEARN students by an independent evaluator, 1 year after the students completed the program." (207) "To evaluate transfer student perceptions of the factors that most influenced their success and impacted their retention, annual student feedback was solicited through focus groups." (208) "The T-LEARN program was implemented at three 4-year institutions that make up the LEARN Consortium with a goal of establishing a model that would be transferable to other institutions." (212) "The students in the comparison group who were selected in part based on matching previous-institution GPA…had a statistically significant decrease in GPA from entry to fall and from fall to spring during their 1st year. This statistically significant decrease in the comparison group cumulative GPAs over the 1st year of enrollment at the university level may be indicative of this population of STEM undergraduate students experiencing transfer shock (Cedja et al., 1998; D'Amico et al., 2014; Hills 1965). The smaller sample size (*N = 133*) of the T-LEARN group compared to the comparison group (*N = 652*) paired with more variability in the entry GPA of the T-LEARN students may have contributed to the reduction in GPA of the T-LEARN students not being statistically significant." (213) Positive factors regarding retention: "Data from the follow-up survey…suggest that students from all three institutions consistently identified early access to faculty-mentored | research experiences as the single most valuable factor positively impacting their choice to continue to pursue their studies at the institution when surveyed 1 year after completing the program, and it remained the highest ranked activity even after 2 years.

Focus-group data present similar findings and suggest that although these types of research experiences varied among students and institutions (e.g., some students learned laboratory techniques, supervised by graduate students and/or faculty mentors, while others conducted literature reviews), students still strongly identified engagement in undergraduate research as having the most powerful impact on their university experience…Students from each cohort also recommended starting the laboratory research experience as early as possible in fall, to receive the greatest benefits from this most valuable experience." (214-215)

"We also probed T-LEARN alumni to see how many of the students continued in research; the 1-year-postprogram survey indicated that 85% (33 of 39) of T-LEARN alumni who completed the survey continued on in research, and 67% of them (26 of 39) continued for two or more semesters after T-LEARN. Because of their late entry into the university, transfer students are less likely to become involved in high-impact practices, which are known to build a sense of academic belonging at an institution (Zilvinskis & Dumford, 2018). Early engagement in research and interaction with STEM faculty teaching research courses provides transfer students with both academic integration and a sense of belonging to a scientific community; both have been shown to increase transfer student persistence and retention in 4-year institutions (Pascarella et al., 1986; Bergquist & Pawlack, 2008; Bers & Smith, 1991; D'Amico et al., 2014; Hurtado et al., 2011; Karp et al., 2010; Laursen et al., 2010; Townsend & Wilson, 2006)." (215)

"From the surveys administered 1 and 2 years postprogram, we learned that the second most valuable component of the program was interactions with faculty mentors…Faculty mentoring consisted of (a) supervising research experiences in their laboratories and (b) teaching the introduction to research courses and serving as program PIs within the T-LEARN program…Additionally, some PIs of the LEARN grant served as faculty research mentors to T-LEARN students. In the fall 2017 follow-up survey, 82% (27 of 33) of T-LEARN alumni who had continued in research reported that they retained the same research mentor 1 year later, and 66% (21 of 32) of these students retained the same mentor 2 years after completing the T-LEARN program." (215)

"The T-LEARN program's multiple levels of mentorship include faculty research mentors, T-LEARN program faculty and staff, and peer mentors. In addition to appreciating faculty mentors, the T-LEARN students surveyed also perceived peer mentoring to be a true strength of the | program, especially when the mentoring was conducted by LEARN alumni. The peer mentors were ranked third on the survey administered 1 year post-program and, interestingly, fifth on the survey 2 years post-program." (215-216)

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"Even though academic integration seems to be more important to transfer student retention and engagement, social integration is another factor that enhances student retention (D'Amico et al., 2014; Laanan, 2007)." (216)

"Engagement with this community, as described by the students, impacted them in the following ways: 1. reduced stress; 2. bolstered grit and perseverance in STEM disciplines; 3. solidified identities as STEM majors and budding professionals; and 4. increased motivation to accomplish set goals." (217)

Negative factors regarding retention:
"The reduction in T- LEARN and comparison students' GPAs shows that college readiness issues existed in both our T-LEARN cohorts and the paired comparison groups, such as a lack of academic preparedness, a lack of understanding of the academic rigor, academic policies and procedures, and faculty expectations at a 4-year institution (Grites, 2013)." (218)

"Students who did not continue on in research articulated that a lack of time was the major factor impeding their ability to participate and perform optimally academically. Focus-group data also indicated that difficulties with work/life balance, time management, increasingly challenging coursework, and longer commute times adversely impacted their ability to be effective." (218)

"Most of the transfer students stated that they needed employment to finance their academic life and could not dedicate the needed time to academics and research." (219)

"Other studies have identified that low socioeconomic status can result in transfer students' needing to work to pay for their education, leading to a negative impact on transfer student retention at 4-year institutions (D'Amico et al., 2014; Wang, 2009)." (219)

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Citation
Clasemann, C., & Boon, R. D. (2019). Seeking patterns in swirl and drift: Retention, persistence, and transfer. *New Directions for Institutional Research, 184*, 21–32. http://doi.org/10.1002/ir.20319

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Conclusions
"In this article, we seek to provide additional ways | for IR [institutional research] professionals to reframe their institutional discussions and metrics around transfer and transfer success in light of the increasingly complex transfer patterns exhibited by students." (21-22)

"This striving for independence is strongly tied to the concept of being an adult in the United States. Settersten (2015) notes that 'the transition to adulthood has in the span of a few decades moved from

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Abstract
Although not a new phenomenon, student swirl and drift continues to grow, and student enrollment patterns are becoming progressively more complex. Many students attend multiple institutions throughout their academic careers, either separately or concurrently, often starting while they are still enrolled in high school. The role of institutional research in helping to define and measure student success, particularly as it relates to retention and persistence, also grows in importance for institutional, state, and national purposes. This chapter will examine strategies for institutional research professionals to address this murky area. Perspectives of both 2-year and 4-year institutions will be explored.

Limitations
While authors do cite research regarding the need for flexibility, their policy suggestions are not supported with much research.

Article Link

being highly standardized to being highly individualized' (p. 122). It is heavily marked by young people piecing things together from different areas of education, work, family, and other experiences to create a unique pathway. In part, this also means stretching this developmental process into later stages of life which is evidenced, in part, by the increased rate of people over the age of 25 enrolling in college.

"Pursuing an education that is unique and highly individualized likely amplifies how prone it is to barriers. Systems are generally designed to maximize efficiency for a norm or the most common denominator, which is challenging to make consistent with a made-to-order approach." (25)

"Other boundaries to student flexibility are set in the way that some metric-driven policies operate. State or institutional policies such as 15 to Finish or on-time completion requirements set standardized temporal requirements that are designed around getting broad swathes of people at a variety of institutional types, to all standardize their behavior to a traditional model." (25)

"Researchers, policymakers, | and administrators should also engage with three questions about such policies:
1. How are individualized approaches students might choose to take to designing their educational pathways captured in these metric-driven policies?
2. Do boundaries on educational pathways (time restrictions, specific course requirements, residency requirements) create barriers toward broad access/success or enable it?
3. How is measurement of student success matching the definition of student success?" (25-26)

"Settersten urges the higher education community to reframe the view of adulthood from one of independence to one of interdependence. He suggests that successful outcomes require 'wide and strong webs…[and] making and maintaining positive and mutually supportive relationships' (p. 123). The lens of interdependence gives a framework for different ways of thinking about how postsecondary systems, policies and metrics might be used." (27)

Main problem identified by the authors:
"Because we are stuck in a set of metrics, policies, and systems that emphasize straight, traditional paths to 'adulthood' and 'success,' we are missing opportunities to think about the higher education system and the new, messy, complicated, interdependent ways that people actually engage with it." (27)

"Plainly stated, the IR and policy communities must use research and metrics that recognize there is not one transfer pathway students follow. As described above, considering swirl, 2-year to 4-year transfer, 4-year to | 2-year transfer, concurrent enrollment at multiple institutions simultaneously, and the accrual of credit in high school that is applied following college matriculation means IR offices and higher education as a whole must rethink how we approach the analysis of transfer." (27-28)

Possible metrics:
"• Transfer rate
  ◦ Transfer-out rate with and without a degree/certificate
• Overall time to completion from point of matriculation
  ◦ How long does it take a student to complete from the point they first enrolled in higher education? This should also account for time at the first institution before transferring. For example, is there a difference in time to completion for a student who transfers after one semester versus a student who transfers after three semesters? This would apply from both a transfer-in and transfer-out perspective for an institution.
• Total credits earned and attempted at all institutions
  ◦ Total number of credits transfer students have earned at completion versus students who have not transferred. |
  ◦ For receiving students, how many transfer credits were accepted as disassociated credits that did not apply directly to the student's degree.
  ◦ What is the academic profile of students who transfer? Is transfer a path to completion or an opportunity to start over after a 'false start?' For example, have students been terminated due to satisfactory academic progress requirements and looking to restart Federal financial aid at a different institution, did they earn zero credits prior to transferring, or did they have a low GPA.
• Percentage of students accelerating time to completion by supplementing coursework from neighboring institution
  ◦ How many credits did the average student earn and what classes are they completing to transfer back to the receiving institution? Are there common courses?
• Impact of geography
  ◦ For inbound transfer, how far away is their previous institution (could do in ranges, such as less than 30 miles, 30–50, 50–100, 100+).
▪ There would be some impact to be considered if a student is "home for the summer"
  ◦ For outbound transfer, how far away is the receiving institution (again, using mile ranges).
▪ Is there a relationship to either the student's home or proximity to the institution from which they transferred?

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• Learning-focused metrics
  ◦ Identify ways to assess progress to degree that are not based on counting traditionally earned credits but instead utilize Competency Based education and prior learning assessment. Although existing policy structures and traditional frameworks limit how institutions identify, measure, and acknowledge them, students are creating these cohesive pathways to achieve a high-quality outcome. This could be achieved through credits awarded in this manner, competencies satisfied through external sources (ex. Industry, military), or some other criteria that is appropriate to the institutional context.
  ◦ How successfully are transfer students performing in courses that are the second or third in a course sequence if the first course was taken at another institution? For example, if a student transfers College Algebra to your institution, what is the performance in calculus and vice versa?" (28-29)

"Institutional and programmatic accreditors should also take time to evaluate their policies on credit transfer. At a high level, the core question is: Do these policies provide quality assurance sufficient to offset any barrier they may create for students who swirl among institutions?" (30)

"State and federal regulations for financial aid programs always include restrictions tied to course loads and credit accumulation. Factors such as age, criminal convictions, institutional type, and course of study also restrict access to aid. This is further complicated if the student is taking coursework at multiple institutions simultaneously, as a student may not receive federal financial aid through more than one institution at a time. If there are consortium agreements in place between the institutions, the student may be able to account for total costs from both places in their financial aid, but if the student is creating their own path to completion outside these agreements, federal aid is not an option. This increases the out-of-pocket costs for students. If the policy goal is one of ensuring aid only goes to a limited set of individuals, these restrictions are helping achieve that goal. However, if the policy goal is actually to ensure individual citizens can reach their educational goals, policymakers should consider changes that help the millions of students who are enrolling in swirling or start-and-stop patterns." (30)

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Citation
Clausen, C., & Wessel, R. D. (2015). Transfer shock. *Journal of College Orientation, Transition, and Retention,*

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Conclusions
"The phenomenon known as transfer shock can be defined as the overall integration and adaptation difficulty transfer students face (Hills, 1965). Some transfer students have academic difficulty adjusting to new teaching styles, grading expectations, and levels of effort required to succeed.

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Abstract

Transfer students have gained the attention of higher education administrators and policy-makers because of the high level of transfer activity (National Center for Educational Statistics, 2011). The phenomenon known as transfer shock is the overall integration difficulty transfer students face (Hills, 1965). This study examined Ball State University (BSU) transfer students in their first year and how to predict posttransfer GPA and 6-year graduation based on previous institution cumulative GPA, age, sex, previous institution type, and BSU college. Regression analyses were used to make predictive models for post-transfer GPA and 6-year graduation. The sample consisted of 1,857 entering transfer students. Previous institution cumulative GPA averaged 2.994, while the average post-transfer GPA was 1.681. Nearly 60% of the sample achieved 6-year graduation. Each model found most of the observed variables to be statistically significant predictors. When applied to the data, the 6-year graduation prediction model correctly predicted 6-year graduation 79.6% of the time.

Previous research supported the idea of transfer shock resulting in decreased grade point average (Gawley & McGowan, 2006; Ishitani, 2008)." (15)

"The philosophical underpinnings for this study rest with Tinto's (1993) Theory of Individual Departure from Institutions of Higher Education, which | examined how different facets of integration influence a student's commitment to an institution…Tinto recognized students must integrate into both academic and social systems. Students having trouble integrating academically, often resulting in poor grades, are more likely to drop out." (15-16)

"Some researchers, however, began to find individual groups of transfer students whose GPA increased after transferring (Cejda, 1997; Cejda, Kaylor, & Rewey, 1998; Nickens, 1972). Nickens coined this phenomenon transfer ecstasy. Cejda (1997) found students with majors in education, fine arts and humanities, and social sciences experienced transfer ecstasy. Cejda et al. (1998) found students with majors in fine arts, humanities, and social sciences received non statistically significantly higher GPAs." (17)

"Since demographic variables influence persistence, previous institution cumulative GPA, age, sex, previous institution type, and academic college were selected for this study." (18)

"The research question was, among BSU entering transfer students, which of the observed demographic characteristics are statistically significant predictors of posttransfer GPA and 6-year graduation? The following hypothesis was tested in this study: Previous institution cumulative GPA, age, sex, previous institution type, and BSU college are statistically significant predictors of posttransfer GPA and 6-year graduation." (19)

"The sample consisted of all 1,857 entering transfer students in the fall semesters from 2004-2006 so the most current 6-year graduation totals could be computed." (19)

"Whether or not the observed demographics were statistically significant predictors of posttransfer GPA was the focus of the research question. The first characteristic, previous institution cumulative GPA, was found to be a statistically significant predictor, confirming previous research (Carlan & Byxbe, 2000)." (22)

"The second characteristic was age. This study agreed with the literature that older transfer students achieve higher GPAs than younger transfer students (Bremer et al., 2013). Younger transfer students

Limitations	most likely have less college experience at their previous institutions, meaning they are undertaking a second environmental change in a short time. This likely magnifies the shock and makes academic integration more difficult." (23)
One institution study; "The study did not account for the number of credit hours transferred, limiting it. The foundational expectations and integration issues faced by a student who transferred 60 or more credits may be very different from a student who transferred 20-60 credits and different still from someone transferring fewer than 20 credits." (24)	"In this study, women had a non-significantly lower…post-transfer GPA than men…" (23)
	"Previous institution type was a statistically significant predictor. Horizontal transfer students earned lower post-transfer GPAs than vertical transfer students. In contrast, previous researchers concluded horizontal transfer students earned higher post-transfer GPAs (Arnold, 2001; Hills, 1965; Stewart & Martinello, 2012). This discrepancy is perhaps due to the fact that horizontal transfer students accounted for 61.3% of the sample for this study, whereas most quantitative research on transfer activity focused on vertical transfer students (Kinnick et al., 1998; Peng, 1978). Many students in this study came from two-year institutions that, perhaps, are designed to directly prepare students to transfer to a four-year institution. If this were true, students attending would already have some expectation of transition, lessening the magnitude of shock." (23)
Article Link	"The only BSU college that was a statistically significant predictor of post-transfer GPA was the College of Applied Sciences and Technology (CAST). Students in CAST earned higher post-transfer GPAs than students in other colleges, contradicting previous research (Arnold, 2001; Cejda, 1997; Gawley & McGowan, 2006). This inconsistency could be caused by the difficulty in comparing academic colleges from different institutions." (23)
	"This study found women graduated at a statistically significantly higher level than men." (23)
	"Though horizontal transfer students had a lower post-transfer GPA in this study, they were more likely to achieve 6-year graduation. This finding affirmed previous research (Arnold, 2001; Hills, 1965; Stewart & Martinello, 2012). Four-year institutions have many things in common, including a vibrant campus life, a residential campus, and a student profile. Perhaps, transferring from a four-year institution to another induces a lesser transfer shock than that experienced by a vertical transfer student." (24)
	Suggestions: "A possible solution to lessen transfer shock is the creation of a transfer student integration program. This could include a mandatory transfer orientation in which specific conversations could be had about the potential causes and impacts of transfer shock. Also, educators could offer academic

resources to these students throughout their first year through informal programs and meetings. An investment in a peer mentorship program may also prove beneficial for students, encouraging campus integration. Another part of the integration program could include campus resources, such as the career assessments from counseling or career centers that would be used to help students define their academic goals. Other resources, including those at an institution's learning center, library, academic advising office, student life offices, disability services, and cultural centers, could also be introduced to students. The creation of a scholarship for entering transfer students based on their academic performance or an opportunity to have lunch with a faculty member or administrator may also be a good investment for students to succeed." (24)

Citation

Dika, S. L., Siarzynski-Ferrer, K., Galloway, K., & D'Amico, M. M. (2015). Predicting the persistence of undeclared first-year and transfer students. *Journal of College Orientation, Transition, and Retention, 22*(2), 23-39. https://doi.org/10.24926/jcotr.v22i2.2886

Abstract

A significant proportion of students enter four-year institutions without declaring an academic major, and institutions have developed targeted advising and services to help these students select careers and persist to graduation. Previous research is dated and inconclusive about whether enrolling as undeclared has a negative effect on persistence, and there is little information about which pre-college attributes and early college experiences may serve as positive predictors of persistence for this student population. Utilizing a sample of 585 entering

Conclusions

"The purpose of this study is to investigate how well pre-entry demographic and academic attributes, early experiences, and early academic and social integration predict persistence among undeclared students entering a university college at a four-year public research university. We propose separate models for first-year and transfer students to acknowledge that the factors and experiences leading to persistence may differ for these groups. In this study, we refer to these students as 'undeclared' as that is the best descriptor, given their status at the institution under study." (24)

"The framework for this study assumes that factors associated with persistence of entering undeclared students may be different than those of their peers who have declared majors. As such, the framework incorporates both Tinto's (1993) Longitudinal Model of Institutional Departure along with research on the nature of decidedness and the undeclared student population to identify variables associated with persistence of undeclared students…
"Tinto's (1993) model identifies a number of causes of student withdrawal from institutions of higher education. Lack of clear academic and career goals can have an impact on students' intention and commitment to stay and graduate from their original college or university." (24)

"thus, the final sample size was 585 undeclared students: 293 FYFT and 292 transfer." (28)

"Significant predictors for FYFT undeclared student persistence in our sample included race, math preparation, and perceived social fit. Non-white FYFT | undeclared students were more likely to persist than their White counterparts in our sample, which compares with the finding in a recent Indiana state study (St. John et al., 2004), where being an undeclared major was a negative factor in persistence for White students, but not for African American students." (31-32)

undeclared first-year and transfer students at a four-year public research institution, this study explores how well pre-entry attributes, early experiences, and integration predict persistence from initial enrollment to the third semester. Implications for future research and advising practices are discussed.

Limitations
Single institution sample; Mostly geared towards undeclared students with minimal data on transfer students.

Article Link

"Among the FYFT undeclared students in our sample, previous academic achievement was not a significant factor in persistence (and showed little variance in the sample); however, perceived math preparation was positively linked with persistence. Additionally, while theory and previous research on undeclared and undecided students suggest that 'decidedness' may be an important factor in student persistence (e.g., Gordon, 1998; 2007), having a career goal or major selected did not increase likelihood to persist among FYFT or transfer undeclared students." (33)

"In our sample, perceived social fit was a positive predictor of persistence among FYFT undeclared students; however, belonging to a club or sport did not increase likelihood of persistence. Further, other studies have suggested that FYFT undeclared students are more likely to be from lower socioeconomic status backgrounds (Titus, 2006); however, the proportion of first-generation college students in our sample (50%) was very similar to the proportion in the institution's overall population. In addition, parental educational attainment did not have a significant effect on the likelihood to persist among FYFT undeclared students." (33)

"Looking at transfer undeclared students separately, we found only two significant predictors of persistence: being male and living on campus (as compared to living more than 20 miles away)." (33)

Citation
Foster, M., Mulroy, T., & Carver, M. (2020). Exploring coping strategies of transfer students joining universities from colleges. *Student Success, 11*(2), 72-81. https://doi.org/10.5204/ssj.v11i2.1617

Abstract
Students transitioning from colleges to universities in the United Kingdom (UK) into the second or third year of an undergraduate programme must quickly adapt to a new learning environment and new expectations. The process of transition includes intense demands on their time and, for many, a requirement to

Conclusions
"To explore how transfer students approach their studies across disciplines, the five themes identified in the literature review including learning expectations, peer support, online engagement, cue-seeking and efficiency were used in the mixed method study with transfer students in Engineering and Business programmes at two universities." (73)

"From a possible 138 students, 80 completed the survey (response rate 58%), 14 of whom later participated in three focus groups." (74)

"Of the 109 different reasons given for choosing to take a degree, the majority (55%) described better job prospects with similar sentiment in improved salary as a motivation (24%). Other motivations included gaining an enhanced qualification (42%) and a new experience (17%). Close links to a profession were also discussed in the focus groups, with discussion of their learning at university being more 'real' or 'proper' than at college. This included a more focused curriculum, authentic assessments, and higher demands for independent learning without the 'safety net' of college." (75)

commute. The consequence can be a limited university experience compared to those who began their studies in the traditional first year. With the increase in the numbers of transfer students studying at universities in the UK, this study was set up to explore the challenges of transition at two universities using an online survey and focus groups. Results show that transfer students cope with their transition to university in multiple ways, categorised into the following themes: learning expectations, peer support, online engagement, cue-seeking and efficiency. By supporting the use of these coping strategies, universities can facilitate a better student experience and enhance student success. Keywords: Transfer students; transition; coping strategies; engagement.

Article Link

"Some students also emphasised their professional experience as part of their group identity, so rather than seeing themselves as a group lacking experience of university study they saw themselves as a group with the advantage of work experience." (76)

"Peer support was a surprising story within these results, particularly in how students created informal groups online. Many students worked together outside of class despite often not living near each other or having dedicated study time." (76)

"Students also gave each other practical information such as where to find online resources, navigate around campus, how to submit assignments, study tips for managing their time, and finding study spaces off campus such as through the SCONUL scheme. This also helped to overcome communication breakdown for those who did not find out about key dates, with a substantial minority of students missing induction days or only finding out through a colleague or WhatsApp group." (76)

"Students clearly distinguished between social media contact with peers and with the university. Some students wanted to keep their social media separate from their studies, particularly Facebook or places where they shared photos and their private lives. Others were happy to engage with Facebook groups but did not want to be friends with university pages. In part, this was explained as a desire to avoid 'spamming', a similar issue raised with university email accounts where some students stopped checking their emails because they received too many irrelevant emails and adverts for social events. There was greater comfort with WhatsApp since students could make these groups for themselves and have sub-groups." (76)

"Students were also keen for more online engagement, including how-to videos and knowing that teleconferencing was available as part of normal contact with tutors rather than being a special arrangement they would have to make." (76)

"In addition to giving advice to each other in peer groups, students described what the approaches to learning literature would call cue-seeking behaviour. Students spent a lot of time trying to figure out what was needed for an assessment. This was seen as varying from tutor to tutor and being "a gamble" to know what was required." (77)

"Instead, students saw cue-seeking as necessary due to the inconsistency and unreliability of information coming from the university. Each tutor needed to be figured out, even to the level of how they liked essays presented on the page or their take on what were meant to be universal referencing

guides. Students were not cue-seeking in opposition to faculty but seemed united with a select few trusted tutors in opposition to the inefficient and idiosyncratic body known as 'The University'." (77)

"A common concern related to efficiency was students making good use of their days away from work. Avoiding blocks of 'empty time' in a day or isolated lectures was pragmatic not just in saving commuting time, but in justifying a block of time away from other commitments. Even social events need to be pre-planned and made worthwhile: social events at 6 p.m. are inconvenient when classes end at 4 p.m. Making small organisational improvements can benefit all students but might have even more impact on students at risk of feeling separate from their peers." (77)

"We also found that students often felt overwhelmed by emails to their university address and simply stop checking them, indicating that the only reliable source of important information comes through WhatsApp groups from those peers who still pick up their emails or receive direct emails from a tutor to a personal account. This creates problems when institutions have policies of only contacting students through their university email, but points to a more fundamental issue that emails need to be limited and coordinated." (77)

"Efficiency was strongly linked with personalisation. Students wanted to have clear, specific guidance on how to access the electronic resources they would need. Ideally, these would be videos made by their tutor. Similarly, rather than a general induction, they appreciated meeting tutors, and many stated a preference for module-level mini-inductions throughout the year rather than a front-loaded and more generic induction." (78)

"These students also retain a professional identity, but still see university study as something special and distinct from their professional learning experiences to date. They are happy to go along with the goals of the programme, and do not seem to question the demands made of them. This makes sense since they mainly chose their university study with a specific programme and career progression goal in mind. These students generally worked as hard as they could and sacrificed a great deal in their personal lives to give their university study the time it deserved. Grades were not so much about personal progress as a way of finding reassurance that they were doing enough. This seems a crucial distinction, absent in how student groups have previously been described. It was discussed how the 'herd mentality' seemed to disappear as students became individuals rather than groups, but it seems there is still a desire for students to reference their behaviour to their peers in order to understand what is expected of them and how hard they should be working." (78)

"Within the limits of these two samples and reassured by the similarities between what were intended to be contrasting groups, there seems to be evidence of an increasingly collaborative community among students. Transfer students are willing to take charge of their own university experience and will use social media and online tools to collaborate if official communications are deemed insufficient." (79)

"The similar experiences of what were intended to be contrasting groups of students suggest that induction needs are more similar than they are different between different subject groups and could potentially open opportunities for cross-subject induction events, helping to consolidate much-needed resources. Ongoing support that engages with students' informal and online communities is much more efficient from students' perspectives, which makes it more effective and engaging. Frontloaded, formal induction may be more efficient for the university, but is not recommended." (79)

"As universities strive to make themselves more relevant to a diverse pool of students, with degree apprenticeships and short courses gaining ground as well as further ways to engage mature students, this study suggests a new type of student professionalism. This approach positions faculty and students closer together rather than in opposition, adopting a boundary-crossing role as invited members of informal online spaces. From the feedback in our surveys and focus groups, it has been shown that student-led fora and WhatsApp groups can help bridge the formal and informal support and address student progression and attainment for transfer students." (79)

"Nevertheless, the study offers a common recommendation to streamline information to all students and make sure to be as organised as possible. In particular, this means minimising timetable or location changes, communicating well in advance, and avoiding the clutter that creeps into group emails. The latest information must be prominent so that rumours or misinformation are not spread through informal channels. It must also be recognised that lecturers will need to devote some of their time to students' administrative enquiries. While full-time students may manage perfectly well with dedicated administrative staff, this seems not the case with transfer students. There is value in a single point of contact with the authority of an academic, even if it is simply to tell students what the referencing system is or how to reset a Moodle password. How to account for such tasks in a workload model could be problematic, but helping with such simple tasks may perform important relationship-building and trust-building work. Alternatively, universities may need to find ways to develop trusted single points of contacts within administrative staff who can take on such mediation roles." (79)

Citation

Hern, L., McKay, R., & Brown, S. (2019). "We need community": Assessing the impact of faculty, advising, campus social life, and racial formation on the transfer student experience at a diverse island campus. *Journal of Applied Social Sciences, 13*(2), 115–138. https://doi.org/10.1177/1936724419876680

Abstract

In this paper, we examine the experiences of lower division transfer students at a diverse island campus. We conducted this study to increase our understanding of why lower division transfer students are one of the most at-risk populations in relation to completing their education at Island University. The question "how might the institution better serve these students in order to increase retention" guided our research process. The intended goal was practical—to create new programming that facilitated the process of transferring to Island University and increased student retention—specifically in relation to lower division transfer students. The conclusions drawn from the data also have important implications for a more general understanding of the problem of creating socially just educational systems, which is highlighted by the issue of student retention—

Conclusions

"…lower division transfer students, defined as students who are transferring less than 60 credit hours…" (115)

One guiding lens:
"We found that in addition to developing a better understanding of the practical matters important to the experience of transferring to Island University, such as advising and social life on campus, it was also important to better understand how institutional and cultural differences between the transfers previous and current institutions affected the transfer student experience in a unique setting grounded in postcolonialism racial politics." (116)

"There is a wide spectrum of variables that are potentially significant to student retention and persistence, such as the student's personality, the student's intersecting social identities, the student's relationship with institutional actors within the campus environment, and the differences between the first and second educational settings. These factors can facilitate or inhibit the student's integration into the educational institution. Successful integration into the campus community can result in the student staying at the college until the degree is finished, while continued disconnection from the campus community can result in the student leaving the college for other endeavors (Tinto 2015)." (116)

"The type of institution from which the student transfers may impact the process of transfer for the student. D'Amico et al. (2014) found that the previous college background of students was particularly relevant to the integration of transfer students into the new campus community. Students transferring from community colleges to four-year institutions, a vertical transfer, are in particular need of high-quality support programs, including advising (Blaylock and Bresciani 2011; Flaga 2006; Townsend and Wilson 2006) as the expectations of both students and faculty at the new institution will likely differ. Students transferring from similar four-year institutions—or a lateral transfer—are less likely to experience a shift in expectations but are still likely to experience other institutional differences that can impact their experiences (D'Amico et al. 2014)." (117)

"Studies have also shown the important role that the campus environment plays in molding the identity of students, which then affects their integration into the campus community (Abes and Jones 2013; Volkwein, King, and Terenzini 1986). An immersive institutional experience, such as living on campus, is a facilitating factor in the process of adapting to the new norms and expectations of the campus environment, but not all transfer students live on campus." (117)

especially on diverse campuses that serve economically disadvantaged communities.

Limitations
N=230 for survey responses and *N=32* for focus group participation; while the sample is diverse it lacks representation from African Americans, Japanese, Pacific Islanders, Samoans, and Native Americans.

Article Link

"The personal identity of students, which includes personality characteristics tied to emotion state, can affect his or her integration into the new campus community (Abes and Jones 2013; Lodi-Smith et al. 2009)." (118)

"While students from educationally advantaged backgrounds may find academic mentorship from both inside and outside of the educational institution, transfers from poor urban areas are more likely to lack a mentor to help them in their plans to complete their degree (Lee and Frank 1990). Students are put into a myriad of academic, as well as social, situations in which they may gain the cultural and social capital that can facilitate academic social mobility, such as mentorship programs and orientation geared specifically to student background (Townsend and Wilson 2006; Wilkins 2014), but that process can be stymied by social class background, as well as other social identities." (118)

"The racial identity of minority students may typically be more salient than the racial identity of white students, even in institutions where a racial minority is a numerical majority, because 'white' is an unmarked and privileged racial category in most educational institutions in the United States (Hurtado, Alvarado, and Guillermo-Wann 2015)." (118)

"With these issues in mind, we raised the following research questions:
    Research Question 1: How do lower division transfer students experience the transition to Island University?
    Research Question 2: How do institutional factors, such as faculty, staff, resources, and campus facilities, affect this experience?
    Research Question 3: How might institutional actors develop programming that will facilitate this transition and increase the retention of lower division transfer students?" (121)

Study found four main factors affecting transfer student's experience at the university: faculty, advising, social life, and the nonlocal label. (124)

"Except for a few notable exceptions, the students in our focus groups were very positive about their experiences interacting with faculty at Island University. Students were positive about their one-on-one interaction with professors and their level of helpfulness during these interactions, which indicated to them that the 'professors care'; the level of knowledge and enthusiasm of their professors which made classes interesting; and the institutional features, such as small class sizes, that made more interactions possible." (124)

"Students also indicated an awareness of and appreciation for institutional factors that facilitated these positive interactions with professors. The institutional factor that was most positively highlighted was the small class sizes at Island University." (126)

"While students appreciated some institutional-level factors, such as small class sizes, they were more critical of others, such as interactions with 'administration.' Another shared concern for our focus group participants was rooted in negative experiences when communicating with 'administration.' This was tied to a negative perception of communication at the university between faculty, administration, and staff. It is important to note that the students used 'administration' as an umbrella term for all 'staff,' including both academic and operational offices." (126)

"Although the experience of alienation from administrators may be shared with non-transfer students, transfer students experience a unique set of problems due to their reliance on administrators to communicate with faculty and students to facilitate the transfer process." (127)

"The issue of advising was discussed by participants in every focus group session, indicating that this is an issue of concern for most of the students. The transfer students were, for the most part, not positive about their advising experiences…This lack of direct communication with advisors was a problem for transfer students…Transfer students who have not had the opportunity to work with faculty in introductory courses, would benefit from introductions to faculty advisors—either through e-mail or through departmental orientations." (127)

"Most of the participants agreed that social life is an important aspect of college life and that it is something that is lacking at Island University….
"Participants indicated that while they knew that there were activities occurring on campus, they could not participate because they were not usually aware of specific activities or they were too busy to participate. The students wanted to be more informed about what activities, such as clubs, were available." (129)

"While social life may seem the least important concern for an academic community, it is actually a very important concern because students view this as an integral component of developing a community that goes beyond academics." (129)

"When students feel like they are part of a community, and when they are integrated into that community, they may be less likely to leave that community. Being labeled as a transfer, or nonlocal student, can prohibit integration into the community." (129)

"The problems in the areas of administration, advising, and social life are all significant factors in relation to the more general issue that transfer students often felt disconnected from the campus. This feeling of disconnection also stems, in part, from the 'transfer student label,' which in Hawaii is tied to not being 'local.'" (130)

"This nonlocal identity affected both resident and nonresident transfers because it is tied to race and ethnicity as well as residency, which is a result of the racial formation that occurs in the state of Hawaii due to its specific history of colonialism." (130)

"Nonlocal students, especially those who identified as white, expressed a new awareness of their racial identity due to their experiences in Hawaii. The development of this identity solidified their disconnection from the larger community." (131)

"For these students, this experience of racial formation was a defining factor in their experiences as transfers in the university, which varied depending on whether this process defined them as nonlocals in the larger Hawaiian context." (132)

"Several changes could be made to the process of advising that would improve the transfer student experience at Island University. First, a uniform process of advising could be developed and implemented throughout the campus. Although some uniformity exists within the advising center, this form of advising is often not available to transfer students due the center's focus on first-year students. The process of faculty advising varies from department to department and from advisor to advisor, with some departments having solidly defined best practices for advising and others having no defined practices at all." (133)

"Peer advising programs may address multiple issues discussed in this paper. A peer advising program that provided the resources and training that students would need to advise their peers may serve to not only facilitate the process of becoming a student at Island University but may also increase the communication between students. This could have important implications for community building on campus." (133)

	"Advising that is focused on the transfer student experience would also be a positive step forward. This advising would include an awareness of the process of transferring credits from previous institutions as well as an awareness of how a student's experiences at the previous institutions may impact their perception of experiences at Island University. For example, the process of working with a student who has transferred from a local community college may be different from the process of working with a student who has transferred from a research-intensive university in another state." (133)
	"Tied to each of these issues is the overarching goal of community building which should be a focus for programming in relation to transfer students. This programming might primarily focus on two areas—the development of community between students through facilitating a campus social life and the development of community with faculty, staff, and administration through the facilitation of open communication between all parties." (134)
Citation Ishitani, T. T., & Flood, L. D. (2018). Student transfer-out behavior at four-year institutions. *Research in Higher Education, 59*(7), 825–846. https://doi.org/10.1007/s11162-017-9489-4	**Conclusions** "'Students who leave are often counted as lost to attrition. The consequence of this is that we lack the complete story of where students came from, and what happens when they leave. In other words, when studies follow institutions as opposed to students, they can talk about where students start but not where they go. The statewide student unit record databases available in many states have the capability to address this issue. However, such tracking currently is limited to only those students who move within state boundaries and only within public institutions.' (p. 11)" (826)
Abstract While abundant studies on college student departure exist, few studies focus on student transfer-out behaviors. One may reasonably believe that transfer students leave their institutions at different times for different reasons. Coupled with the national dataset, this study longitudinally investigated transfer students who left their initial 4-year institutions. Results suggest that student characteristics, such as race and family income, had varying effects on the timing of transfer. Social	"…this study aimed to interrogate the student transfer phenomenon to provide insight on the factors that preempted students' decisions to depart 4-year institutions and transfer into another institution of higher education (Kearney et al. 1995; Porter 2003)." (826) "Tinto's (1987) student integration model served as the conceptual framework for the current study." (827) "Lundquist et al. (2002) defined academic integration as a student's general level of engagement in academic opportunities and activities, and they discovered that faculty support, accessibility to students, and quick responses to student questions were positively associated with students' decisions to remain in school." (828)

integration was found to have significant effects on reducing the likelihood of transfer. **Article Link**	"More recently, Swecker et al. (2013) discovered that academic integration, measured by the number of advising sessions, was significantly associated with student persistence. College GPA was a unique indicator of academic integration as it was simultaneously related to academic motivation and persistence (Allen et al. 2008)." (828) "Astin's (1975) theory of student engagement suggested that student departure be examined with consideration given to student's background characteristics, academic ability, institutional environment, and other factors that influence the college experience." (829) "Relevant factors included in this study included race/ethnicity, parental education, student achievement, and student financial aid." (829) "This study discovered unique time-varying effects of certain variables on transfer behaviors. Females were found to be less likely than males to transfer in each academic year except for the third year, and the effect was most prominent later years in college. Females were about 47% less likely than males to leave their original 4-year institutions in the fourth year and after. In comparison to Caucasian students, Asian and Hispanic/Latino students were less likely to transfer. Asian students were about 38 and 56% less likely to transfer in their first and second years, while Hispanic/Latino students were 43 and 40% less likely to do so in the first 2 years in college." (839) "Effects of family incomes were statistically significant mainly in later years in college in this study." (839) "College GPAs were associated with reducing the likelihood of transfer in the first 2 years. Every one-point increase in the GPA was lowering the probability of transfer by 13 and 24% in the first and second years, respectively. Effects of social integration were statistically significant through all the academic years. The effect level of social integration was prominent in the third and fourth. For every 50-point increase in social integration scores, the likelihood of transferring to other institutions was reduced by approximately 11% in the first year and 10% in the second year. The effect of social integration was boosted for third and fourth year. Students were 45 and 36% less likely to transfer for every 50-point increase during the third and fourth years." (839) "Increased amounts in Pell grant reduced the likelihood of transfer in the first and third years. Every $1.000 increase in Pell grant was associated with lowering the odds of transfer by 19% and 14% in the first and third years. Loan amounts were also found to have positive effects on reducing transfer rates

over 3 years. Students were less likely to transfer in second, third and fourth years by 8, 12, and 43% for every $1000, respectively." (839)

"Study findings herein suggested that students in certain disciplines were less likely to transfer than those with undeclared majors. Students who were in Life, Physical Sciences and Math were about 31% less likely to transfer out in the first year, whereas students enrolled in Vocational/Technical programs were about 33% less likely to transfer in the same academic year. For the second year, the likelihood of transfer was reduced by about 55 and 46% when students were enrolled in Computer/ Information science, while students | enrolled in Health related programs were about 53% more likely to transfer. Students who changed majors were approximately 64% more likely to transfer in the third year." (839-840)

"Turning to institutional characteristics, students enrolled in Baccalaureate colleges and Special institutions were 30 and 48% less likely than students enrolled in Doctoral institutions to transfer in the second years. Students who enrolled in Master's institution were about 31% less likely than students attending research institutions to transfer in their third year." (840)

"Upper-level courses are known to be more costly than lower-level courses (Li, 2010). This may explain the reason that average loan amounts increased as students advanced in their college careers. However, this may also suggest that students' institutional commitments are strengthened when students and their parents invest more money into their college education. Unlike students who withdraw from and never return to postsecondary institutions, students who persist and graduate view a college education as a form of upward social and economic mobility. Thus, they may not consider transferring to other institutions as cost-effective." (841)

"Moreover, this study also suggests that students who experienced academic misfit were prone to student transfer. Students who changed majors were ultimately more likely to transfer, evidence parallel to the findings of Li (2010). Li found that desired programs/courses offered at transfer destination institutions were the most frequents [sic] reason for students transferring out of 4-year institutions." (841)

"Instead of discussing how to increase the number of students with lower risk, institutional personnel may need to focus on factors applicable to their educational practice to reduce institutional transfer rates. For example, social integration unveiled its positive and longitudinal effect on lessening the number of transfers. Furthermore, the effect of social integration increased in later years in their native

institutions. This finding demonstrated the importance of the social domain when it comes to discouraging student transfer." (841)

"Given the significant effects of social integration, a lack of social support within the college environment partially triggers students to decide to transfer to other institutions throughout college years. Furthermore, conventional wisdom may suggest that students with higher academic achievement are inclined to transfer to other institutions for more academic challenges. However, the findings in this study failed to support this notion, particularly students who had higher GPAs were less likely to transfer during the first 2 years in college. Our study also found that students with lower admission test scores were more likely to transfer during the first 2 years in college." (844)

Citation
Lakin, J. M., & Cardenas Elliott, D. (2016). STEMing the shock: Examining transfer shock and its impact on STEM major and enrollment persistence. *Journal of The First-Year Experience & Students in Transition, 28*(2), 9–31.

Abstract
Students who transfer between institutions of higher education often experience "transfer shock", a temporary decrease in academic performance (GPA) hypothesized to be due to changes in academic expectations between institutions. This study used university institutional records to explore the magnitude of transfer shock; the factors contributing to the GPA effects of transfer shock; and the impact of shock and other student characteristics on important academic outcomes, including persistence in a STEM major and baccalaureate degree. We found that STEM majors and

Conclusions
"Research suggests transfer students experience shock primarily in the first semester after transfer, suggesting its impact is temporary. However, other research points to lasting consequences of even one semester of transfer shock. For instance, Ishitani (2008) found that students with lower GPAs were significantly more likely to withdraw from college, suggesting transfer shock plays a pivotal role in degree persistence behavior. Similarly, Glass and Harrington (2002) showed that transfer shock in the first semester impacts student withdrawal and dropout behaviors." (11)

"Transfer students, especially those from two-year institutions who have done well in high school and community college, may find academic interactions to be a particular obstacle. They come to the transfer institution knowing they can handle their academic demands (Elliott & Lakin, 2016). However, previous research has identified a number of challenges, including access to academic support, major fit, adjustment to larger classes, access to instructors, greater independence in class, and less flexibility from instructors (Berner, 2012; Foote & So, 2013). For STEM students, these differences are often more dramatic (Packard, 2011)." (12)

"Opportunities to interact with faculty in informal situations about non-academic topics (e.g., careers) can be very important for future success, yet transfer students have fewer opportunities to establish a social network and connect with faculty because of their shortened graduation clock at the four-year institution. Transfer students also experience social challenges, including developing social supports and friends and adjusting to a new campus culture, which theoretically may impact transfer shock (Berner, 2012)." (12)

students transferring from two-year institutions experienced the largest degree of transfer shock and that shock was a significant predictor of change of major. Most intriguingly, we found interaction effects where shock had a greater impact on institutional retention for two-year transfers and science or mathematics majors. Implications for future research and academic policies and interventions are discussed.

Limitations
Article focuses on STEM persistence only.

Article Link

"Schlossberg's transition theory (1984; Schlossberg, Waters, & Goodman, 1995) provides a useful framework for understanding college transitions as evidenced from previous studies (e.g., Flowers, Luzynski, & Zamani-Gallaher, 2014; Griffin & Gilbert, 2015; Milsom & Hartley, 2005). Briefly, transition theory emphasizes the meanings attributed by individuals to transitions accounting for the context, impact, and type of transition (Schlossberg, 1984). Context and impact refer to situational factors such as how central the transition is to daily life and routines, perceptions of self, and roles (Schlossberg et al., 1995). Three types of transitions exist: anticipated (e.g., college acceptance); unanticipated (e.g., job loss), and nonevents (i.e., anticipated transitions that fail to occur; Chickering & Schlossberg, 1995). Generally speaking, the more impactful a transition, the longer the assimilation period (Sargent & Schlossberg, 1988). According to Schlossberg (1984), adaptation to a transition rests on personal characteristics and outlook on the transition, situational circumstances (e.g., timing, duration), the availability of support systems, and coping strategies." (13)

"Institutional data provided student characteristics and academic records for all transfer students (n = 14,159) first enrolling at the institution between 2004 and 2013." (13)

"We found that transfer students experienced an average of 0.6 GPA drop in their first semester, but students transferring from a two-year institution experienced more shock (about 0.8 GPA points). We also found students in STEM colleges, especially two-year transfers, experienced the greatest amount of shock. STEM majors from two-year institutions had an average GPA drop of 1.2 and 1.0 points, respectively….
"These substantial changes in academic performance are likely related to the academic climate, which is more differentiated between two- and four-year institutions than among four-year institutions (Cejda, 1997; Lazarowicz, 2015). Prior literature has shown that community college transfer students struggle with increased | pace of instruction, coursework intensity, and larger class size (Cejda, 1997; Johnson, 2005), all of which can impact academic performance and contribute to transfer shock. Although we cannot determine what causes shock from these data, such large decrements in GPA are clearly problematic. Low GPAs must be discouraging to students and reflect substantial stress in the first transfer semester." (23-24)

"In terms of student- and institutional-level characteristics associated with experiencing greater transfer shock, we found that African American students and female students, as well as those who brought fewer transfer credits and had a higher transfer GPA, had significantly greater shock with moderate effects." (24)

	"Interestingly, students with higher GPAs also experienced significant transfer shock. This finding may be an artifact reflecting a greater disparity in grade distributions or grading standards across the two institutions, rather than a direct effect of student performance. Nevertheless, the sudden drop in GPA seems likely to impact students' perceptions of their academic success." (24) "Although transfer shock in the first semester was not associated with STEM major persistence, it was associated with changing majors in general and with longitudinal institutional retention. The effect on major change was small, where students with transfer shock greater than 1.0 were 18% more likely to change major during their time at the university. However, the effect of shock on institutional retention was large, with students experiencing a one-point GPA shock being twice as likely as other students to leave the institution." (24) "Other factors associated with changes in college major were race; transfer factors, including bringing fewer credit hours or having a lower transfer GPA; attempting more credit hours in the first semester after transfer; and entering into a science or mathematics major. It is important to note that transferring from a two-year institution did not affect change of major, which was unexpected given the large effect it had on shock." (24) "Given the substantially larger shock experienced by transfer students in STEM colleges, it was unexpected to find that factors associated with leaving a STEM major were very similar to those associated with leaving any major, which included the effects of race, transfer GPA, transfer credit hours, and number of credit hours attempted in the first semester. In this analysis, women were found to be somewhat more likely to leave a STEM college, consistent with prior research noting women earn fewer STEM degrees (NCES, 2012). Interestingly, science and math majors were significantly more likely than engineering majors to leave a STEM college for a non-STEM college." (25)
Citation Lane, F. C., Martin, G. L., & Henson, R. K. (2015). A multidimensional comparison of traditional, transfer, and online students' university attachment. *Journal of College Student Development,*	**Conclusions** "The purpose of this study was to test an alternative measure (the University Attachment Scale) for comparing traditional, transfer, and online students' institutional attachment/belonging." (747) "The University Attachment Scale (UAS) was developed by France et al. (2010) in an attempt to operationalize attachment/belonging as an affiliation to both an institution and individuals within that

Abstract

Institutional belonging has been connected in the literature to college student well-being, achievement, persistence, and retention. However, much of this literature uses a one-dimensional scale to examine this construct. The University Attachment Scale (UAS; France, Finney, & Swerdzewski, 2010) is a multidimensional instrument with purported value, but structural results are limited to a single sample from a primarily traditional student population. This study re-examined the UAS at an institution with a large transfer student population and compared the latent means between traditional (n = 561), transfer (n = 372), and online (n = 50) students. Findings indicated transfer and online students report lower levels of member attachment relative to traditional students, a dimension not currently captured by other belonging scales. This may have value for the college student development literature, given increased calls for belonging research and a rise in distance-based education.

Limitations

While this article does present data concerning transfer students, it is also

institution. It is similar to institutional commitment (Nora & Cabrera, 1993) in that it examines belonging, but is differentiated by the multidimensional view of this construct and in that it does not consider institutional choice or prestige. Findings from France et al. (2010) suggested 'both attachment subscales correlated positively with the two subscales of perceived cohesion; and, although group and member attachment were highly correlated, they had differential utility predicting the perceived cohesion subscales' (France et al., 2010, p. 453). Furthermore, transfer students reported lower member attachment scores than traditional students. According to Harper and Quaye (2008), 'colleges and universities have historically failed to recognize the frustrations, anxieties, and challenges of...transferring from another institution' (p. 225)." (747)

"…resulting in 983 usable surveys (traditional *n = 561*, transfer *n = 372*, online *n = 50*)." (747)

"The UAS is an 8-item instrument in which participants self-report their level of agreement on a scale from 1 (not at all accurate) to 5 (extremely accurate) to statements concerning their attachment to the university. The instrument is purported to comprise two dimensions (France et al., 2010). Group attachment refers to the social cohesion of the community representing the university. Member attachment reflects an individual's interactions to other members within that community." (748)

"Results suggested online and transfer students did not differ in their level of group attachment but did differ in their level of belonging to individual members of that community…" (749)

"Findings also suggested the latent means in member attachment decreased as students reported having transferred from another institution or taking a majority of classes online. This finding seemed notable given that group differences were identified on the member attachment dimension not currently captured in other belonging scales. The ability to capture such differences may hold value given that 'deprivation of belonging in college prevents achievement and wellbeing' | (Strayhorn, 2012, p. 11). Belonging is also a part of institutional commitment that has been linked to persistence and retention theory (Cabrera et al., 1993; Nora & Cabrera, 1993)." (749-750)

"Online programs and services have become 'a ubiquitous feature of most universities' to promote increased access to higher education (Smith & Mitry, 2008, p. 147). Yet, online and transfer students report feelings of isolation (Rovai & Wighting, 2005). It has been reported that as many as one third of online students are dissatisfied with existing services and desire greater access to programs such as 'book clubs, a student newspaper, current events chat rooms, academic clubs, seminars related to

partially a study seeking to represent the efficacy of the UAS model. **Article Link**	career choices, online tutoring, degree maps that can be accessed online' (LaPadula, 2003, p. 128)." (750)

Citation

Lane, F. C., Martin, G. L., & Thompson, K. (2015). Distinguishing differences in the academic motivation of entering and persisting transfer students. *Journal of The First-Year Experience & Students in Transition, 27*(2), 9–27.

Abstract

Transfer students make up a significant portion of the student body in higher education today; yet, representation of their college experiences and outcomes in the literature seems sparse. This study explored transfer students to determine whether their level of engagement and belonging in college was related to their academic motivation. We further tested to ascertain differences between transfer students at the beginning of their time at a new institution (entering transfer students) with those who were continuing at their institution (persisting transfer students). Overall, engagement and belonging or attachment were positively related to transfer students' academic motivation. These findings are further discussed along with implications for practice.

Conclusions

"A meta-analysis of psychological and study skill factors suggests the motivation to achieve success in college is an important predictor of many outcomes (Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004). Academic motivation, as a construct, is described by multiple dimensions, such as in-class factors, out-of-class factors, as well as characteristics of the college environment (Van Etten et al., 2008), and refers to an individual's willingness to work hard to grasp academic material, propensity to read out of interest rather than solely for class requirement, and enjoyment of academically challenging tasks (Pascarella & Colleagues, 2007). Research suggests that a student's level of academic motivation is connected to both academic performance (i.e., GPA) and persistence in college (Allen, Robbins, Casillas, & Oh, 2008)." (10)

"Further, transfer students may not always know how to identify or seek out the academic, social, and emotional supports needed at a new institution since many institutions do not offer targeted new student orientations for transfer students (Chin-Newman & Shaw, 2013). When such orientations are offered, they are not often required. Limited opportunities for integration on campus are problematic given that research has identified significant direct effects of social connectedness and commitment to one's college with a students' third-year enrollment status (Allen et al., 2008)." (11)

"The purpose of this study was to explore how a student's level of engagement and sense of belonging or attachment were related to their academic motivation in college. Variable relationships were also examined separately for entering and persisting transfer students because some of these students experience difficulties in the first year of transition even if they have outperformed their peers at four-year institutions in similar courses (McCormick et al., 2009). This comparison provided an opportunity to explore the invariance of regression models between groups. The following questions guided this study: |

•How are student engagement and belonging related to a transfer student's level of academic motivation?
• How do entering and persisting transfer students differ with respect to these relationships?"
(11-12)

Article Link	
	"Belonging or attachment was positively related to transfer students' academic motivation although a student's social adherence to the college or university (group attachment) showed more association with their level of academic motivation than their individual interactions with other students at the institution (member attachment). Astin (1999) suggested that the 'fit' between students and their institution was related to their persistence in college and that 'the origin of such effects probably lies in the student's ability to identify with the institution' (p. 524)." (21)
	"Transfer students have reported lower levels of university attachment compared to their traditional student peers (France et al., 2010; Lane et al., in press), a finding further supported by the data from this study...Colleges and universities may need to do more in terms of creating opportunities that help support a culture of belongingness for transfer students and increasing transparency in the existing institutional culture for prospective students." (21)
	"The current research also yielded evidence that engagement indicators were more strongly associated with the academic motivation of transfer students than in other studies using more traditional student populations (Ellis, 2013; Kuh et al., 2008)." (21)
	"A troubling finding was that entering transfer students scored lower than first-year students nationally on some engagement indicators (i.e., LS, QI, and SCE), despite the fact most participants were classified as juniors or seniors. The largest difference was found on the Supportive Campus Environment–SCE indicator…Perhaps more concerning was the lack of change in these SCE scores among transfers students identified as persisting at their university...We anticipated persisting students to be more engaged than entering students. A lack of evidence for engagement may call into question the value of existing programs designed to help encourage a supportive campus environment for transfer students." (22)
	"Lastly, the Learning Strategies–LI variable appeared to be the most important engagement indicator (based on standardized regression coefficients and squared structure coefficients) related to a students' level of academic motivation. Many colleges and universities have developed first-year experience (FYE) programs to target and improve the learning strategies and academic skills of entering college students, but these programs may not necessarily include transfer students because it may be assumed that transfer students have already acquired those skills at a previous institution. Yet, Hossler et al. (2012) indicated that about 17% of transfer students changed institutions during their first year, suggesting many transfer students may be developmentally similar to first-year students. As such,

institutions may benefit from formal programs that build the learning strategies of transfer students." (22)

"Belonging or attachment has predictive value in K-12 research (Becker & Luthar, 2002) and parallels affective organizational commitment in industrial/organizational psychology (a work-related outcome)—that is, the strength of an individual's identification with and involvement in a particular organization..." (22)

"Including belonging or attachment measures may allow for researchers to make broader theoretical connections, and to facilitate this exploration, multiple tools are available." (23)

"Existing transfer programs aimed at increasing student engagement may need to be critically examined for their ability to do so. Three of the four statistically significant engagement indicators (i.e., LS, DO, and QI) showed little or no change between the means of entering and persisting transfer students (see Table 4). This seems contrary to what we would expect among students with greater exposure to college or university programming. Perhaps transfer students come to college with other obligations that make increasing levels of cocurricular and extracurricular involvement prohibitive." (23)

Citation	**Conclusions**
Lee, H., & Schneider, T. (2018). Does post-transfer involvement matter for persistence of community college transfer students? *Community College Journal of Research and Practice, 42*(2), 77–94. http://doi.org/10.1080/10668926.2016.1251351	"Given the lack of knowledge on the relationship among academic and social involvement according to the types of receiving institutions and persistence of community college transfer students, and the needs of filling these research gaps, we ask the following research questions: (1) How does the academic and social involvement of community college transfer students differ by the institutional type of a receiving institution? (2) How do academic and social involvement and institutional type of receiving institutions predict persistence and degree attainment?

Abstract

Because of increasing mobility among various college student populations, both the baccalaureate degree attainment of community college beginners and the role played by their receiving 4-year institution are growing in importance. In this study, we examined how the academic and social involvement of community college transfer students differs by the type of receiving institution, and how strongly their post-transfer involvement is associated with persistence. Results indicated that academic and social involvement were higher for students who transferred to private not-for-profit doctoral institutions, as compared to those who transferred to other types of institutions. Also, among the involvement variables, academic advising is the factor that is most positively associated with the persistence of these students. Our findings make the case for a comprehensive examination of persistence of community college transfer students, looking at both their level of involvement and the type of institution they move to.

Limitations

"All these theories [used to inform the study e.g. Tino's interactionalist model] have limitations because they are based on extensive research of White students on 4-year campuses. As a result, normalized successful practices of student transition

(3) How does the institutional type of receiving institutions moderate the effect of involvement on persistence and degree attainment?" (78)

"Tinto's definition of integration is a student's psychological and behavioral fit into an institution, while involvement and engagement means his/her actual behavioral participation in academic and social activities (Wolf-Wendel, Ward, & Kinzie, 2009). Though our research on involvement is based on students' actual participation on campus, we draw from Tinto's integration concept because integration and involvement influence each other—and one is often believed to be proximal to the other." (79)

"Critical to our study from Astin's (1984) student involvement theory is the amount of time and effort students devote to participating in academic experiences, social encounters, and other activities within academic and social communities (Astin, 1993; Kuh, 2009b; Wolf-Wendel et al., 2009). Because of the critical role of first-year experiences on student success, we expect that the amount of time and energy transfer students spend on educationally purposeful activities in the receiving institutions affects their outcomes." (79)

"The findings [from studies examined in the literature review] suggested that it is essential for students to be more interactively engaged in campus activities because more engagement results in higher goal achievement. Some studies posited that interaction with other students, particularly when they make inquiries for information and advice on navigating the university, helps transfer students to develop informal relationships and engage socially on campus (Laanan & Starobin, 2004)." (79)

n=860 (82)

"Through an explanatory analysis of involvement, we found that community college transfer students showed different patterns of academic and social involvement depending on the type of the receiving institution...our findings suggest that transfer students were academically and socially involved in their receiving institutions, but the extent of involvement differed by the specific indicator being examined. Another trend is that students are more academically involved rather than socially involved regardless of institutional type." (85)

"While students transferred to public doctoral, public non-doctoral, and private non-doctoral institutions experienced similar increases in level of involvement, those who transferred to private not-for-profit and private for-profit institutions showed significantly different patterns. Students who

to a new campus discussed in the aforementioned studies do not reflect experiences of the new majority (Lundberg, 2014) of community colleges that have to navigate structural and institutional norms that were intentionally developed for White students." (85)

Article Link

transferred to private not-for-profit institutions became more actively committed to faculty, academic advisor, peers, and social groups compared to those who | transferred to other types of institutions. On the other hand, students who moved to private for-profit institutions received low marks of post-transfer involvement. Their involvement between pre- and post-transfer remained the same or decreased." (85-86)

"For individual background variables, the relative likelihood of persisting or attaining a degree is significantly associated with race and with parents' highest education attainment level. In the race component, being Hispanic showed as a statistically significant indicator predicting persistence and degree attainment…Hispanic transfer students have a 1.87 times better chance to persist or attain a bachelor's degree than their White counterparts. Transfer students who have parents with bachelor's degree or above are 1.69 times more likely to persist or attain a degree than transfer students whose parents lack a postsecondary degree." (87)

"Regarding the effect of pretransfer experience, students with a goal of attaining a bachelor's degree or above have 2.92 times higher odds of persisting and attaining a degree than those with a goal of an associate's degree or no degree. In examining the effects of environmental pull variables, working hours per week are significantly associated with the likelihood of persisting or attaining a degree among transfer students. Similar findings by Bahr et al. (2013), Owens (2010), and Townsend and Wilson (2006, 2009) revealed that the more transfer students worked, the less those students persisted or attained a degree. Our study indicates that for every 1-hour increase in weekly working hours, the odds of persisting or attaining a degree decreased by 2.0." (87)

"Regarding the effect of college experiences, Grade Point Average (GPA) and academic advising are significantly associated with persisting or attaining a bachelor's degree...In the same manner, the study suggests that students with a better GPA in the third year of postsecondary education after transferring have better chances to persist or attain a bachelor's degree. A 1.0 increase in the third-year GPA is associated with an increase in the likelihood of persisting and attaining a bachelor's degree by 1.32 times. Among the variables of academic involvement in the receiving institutions, only academic advising was a statistically significant indicator predicting transfer students' success. Students who more frequently visited academic advisors in the receiving institutions were 2.14 times more likely to persist or attain a bachelor's degree than students who met less frequently with academic advisors after the transfer." (87)

"Because degree goal is important for increasing students' persistence, community college transfer students should receive encouragement in their new institutions not only to aim at attaining a bachelor's degree, but also to consider pursuing a higher degree. Finally, working hours play an important role in the degree of involvement of community college transfer students." (88)

"Regarding the involvement effects on persistence, our research, unlike other studies, shows that faculty and peer interactions are not strong indicators of students' involvement and persistence. This can be explained by the fact that community college transfer students experience difficulties developing relationships with faculty in a new institution." (89)

"It is also important to augment the role of academic advisor in regard to enhancing students' interactions with faculty and peers. Our study reveals that faculty and peer interaction are not strong indicators of community college transfer students' success. To the extent that this represents community college transfer students' lack of skills in initiating and developing close relationships with faculty and peers, academic advisors can assist with providing tools and mechanisms for building these relationships and facilitate the process." (90)

Citation
Martinello, F., & Stewart, J. (2015). Transfers from college to one Ontario university: A four-year outcome study. *Canadian Journal of Higher Education, 45*(1), 18–36.

Abstract
In this follow-up study, college students who transferred to one Ontario university in 2008-2009 were compared to non-transfer students using several different measures of academic success at university. When compared to non-transfer students, college transfer students earned fewer credits each year, had lower GPAs, and were less able to earn credits from course attempts. The differences

Conclusions
"Compared to non-transfer students, college transfers are less likely to persist from Year 1 to Year 2 but the difference is small and statistically insignificant. College transfer and non-transfer students are virtually identical in their persistence from years 2 to 3. College transfer students, however, are much less likely to attempt courses in Year 4, given that they attempted courses in Year 3, and the difference is statistically significant. Again, persistence from Year 3 to Year 4 excludes all students who graduated at the end of years 2 or 3...
"Persistence from Year 1 to Year 3 is lower for transfer students but not significantly different. Persistence from Year 1 to Year 4 is much lower for transfer students and the difference is statistically significant at very low probability levels." (23)

"On average, college transfer students earn fewer credits in every year than non-transfer students and the differences are statistically significant. The differences in years 1 and 2 are only around a quarter of a credit. But college transfer students earn almost 0.7 fewer credits in Year 3, on average, and the difference grows to over one full credit in Year 4." (24)

"Despite their lower average grades, college transfer students are eligible for academic suspension at exactly the same rate as non-transfer students." (25)

were small for students' first and second years but larger in years three and four. Despite the lower GPA, college transfer students were not more likely than non-transfer students to be eligible for academic suspension. College transfer students also attempted fewer courses and were much less likely to persist to Year 4. By spring 2012 (after four years of university), the college transfer students were more likely than non-transfer students to have graduated, but their degree of choice was a 15-credit three-year degree (as opposed to a 20-credit four-year honours or non-honours degree). Policy implications are discussed.

Limitations
"An important caveat is that the evidence suffers from a self-selection problem. All of the transfer students in the sample voluntarily chose to transfer, so they may have systematically different characteristics (possibly unobservable) from other college students whose academic records would also make them eligible for a transfer to university." (33)

Article Link

"Over Years 1 and 2, college transfer students were able to convert attempts (course enrolments) into credits at roughly the same rates as non-transfer students. In Year 1, college transfers were less successful, but the difference in the conversion rate is only 1.2 percentage points. In Year 2, college transfer students actually earned more credits from their attempts, but the difference is very small. In Year 3, and especially in Year 4, however, college transfer students were much less successful at converting course attempts into credits and the differences are statistically significant." (26)

"College transfer students were actually less likely than non-transfers to fail or repeat their completed courses in years 1 and 2 but the differences were small and far from being statistically significant. In years 3 and 4, however, transfer students were much more likely to have failed or repeated their completed courses and the differences were statistically significant." (27)

"College transfer students were less successful at earning credits from their attempts in years 3 and 4, but the difference is not nearly large enough to explain the differences in total credits completed. "The main reason why transfer students completed fewer credits is that they attempted (enrolled in) substantially fewer courses in each year." (27)

"College transfer students are much more likely to graduate before non-transfer students and all of the differences are statistically significant. Fewer than 5% of non-transfer students graduate within three years of their start at Brock, while almost a quarter of college transfers graduate within three years. The difference between transfer and non-transfer students is smaller for graduation by spring of their fourth year, but the basic result is unchanged." (30)

"The biggest difference between transfer and non-transfer students is that transfer students enrolled in (attempted) fewer courses in every year. The differences are especially large in the third and fourth years of study. The smaller number of attempts is the most important reason why transfer students earned fewer academic credits in each year. In the third and fourth years of their studies at Brock, transfer students earned 0.68 and 1.08 fewer academic credits, on average, compared to non-transfer students." (32)

"Transfer students use the additional credits to graduate earlier than non-transfer students, on average. Transfer students also graduate with lower level degrees, which also help them to graduate earlier. Among students who graduated in or before the spring 2012, college transfers were much more likely to be awarded 15-credit pass degrees rather than 20-credit honours or non-honours degrees." (32)

	"As for support for college transfer students, it is notable that academic support programs in universities are mostly focused on first- and second-year students, the years when college transfer students do not appear to require more help compared to non-transfer students. There are very few academic support programs targeted at third and fourth year students, which is when college transfer students have poorer academic results and require more help." (33) "As for university and government policies to support college transfer students, we speculate that the lower likelihood of progressing to fourth year and the weaker performance in upper years may be due to exhaustion of the financial and family resources required to support the extra years of education and resulting delay of earnings and career progress. This seems all the more likely given the generally less advantaged status of transfer students documented in the literature (Lee & Frank, 1990; Wattamaniuk, 2010). It follows that improved family, social, and financial support would increase the rate of transfers, their academic performance, and the level of education achieved at university." (34) "Finally, the results strongly suggest that transfer students require more academic and administrative support focused on their upper years in addition to any supports that already exist in their first and second years following the transition from college. This additional support could include proactive advising and skills development focused on upper year rather than introductory course level skills and course management." (34)
Citation Mobley, C., & Brawner, C. E. (2019). "Life prepared me well for succeeding": The enactment of community cultural wealth, experiential capital, and transfer student capital by first-generation engineering transfer students. *Community College Journal of Research and Practice, 43*(5), 353–369. http://doi.org/10.1080/10668926.2018.1484823	**Conclusions** "…we use the conceptual lenses of community cultural wealth (CCW), experiential capital, and transfer student capital (TSC) to interpret the | perceptions and experiences of 15 first-generation engineering transfer students (FGETS), as expressed during in-depth interviews. The current article seeks to explore the intersection of these three identifiers—generational status, transfer status, and engineering major—to better understand how FGETS navigate their way through their engineering studies. We were interested in learning how specific forms of capital, particularly relevant to first-generation transfer students (FGTS), shape student decisions and experiences." (353-354) "In this article, we seek to expand understanding about how FGETS enact CCW and TSC to succeed in engineering education. CCW integrates an asset-based perspective to our analysis of engineering education to assist in the identification of factors that contribute to the success of engineering students. This anti-deficit approach (Harper, 2010) allows for a deeper understanding of the assets that people of color and minority groups bring to their educational pursuits, standing in contrast to the deficit

Abstract
Community colleges have long been recognized as pivotal institutions for broadening educational opportunity for a variety of marginalized populations, including first-generation students. These institutions are also an important starting point for students desiring to eventually earn a bachelor's degree in a science, technology, engineering, or mathematics discipline. Our qualitative study explores the experiences of 15 first-generation community college transfer students majoring in engineering. We use the theory of community cultural wealth and the concepts of experiential capital and transfer student capital as lenses for analyzing and interpreting our semi-structured interview data and for formulating recommendations to improve the transfer experiences and educational outcomes of this population. This sample of students enacted several types of community cultural wealth and experiential capital when navigating the engineering transfer pathway and in their engineering studies. They were less likely to enact the elements of transfer student capital, however. Instead, our results indicate that the participants attribute their successful transitions to their self-motivation and initiative associated with community cultural wealth and experiential capital, rather than institutional interventions associated with

frameworks that tend to assume that students from underrepresented groups lack the qualities and experiences that would enable them to succeed in higher education (Ovink & Veazey, 2011)." (355)

"In this article, we focus on the four types of CCW capital that were most relevant to the students interviewed: familial, aspirational, navigational, and social. We also utilize an additional form of capital, experiential capital (O'Shea, 2016a), to deepen understanding of the assets that FGETS enact in engineering education." (355)

"TSC refers to 'how community college students accumulate knowledge in order to negotiate the transfer process, such as understanding credit transfer agreements between colleges, grade requirements for admission into a desired major, and course prerequisites' (Laanan et al., 2010, p. 177). Four primary components of TSC are: academic counseling, perceptions of the transfer process, experiences with faculty, and learning/study skills. We focus on those elements of TSC that involve interaction with faculty and staff at the sending and receiving institutions (academic counseling and experiences with faculty) to reflect the relationships formed at these institutions." (355)

"Familial capital refers to the cultural knowledge and connected history that is developed among family members and represents a commitment to the well-being of one's family and community (Samuelson & Litzler, 2016; Yosso, 2005). Clear family-based educational expectations and lessons from family members about caring, coping, and providing for one another are key components of familial capital (Goldenberg, Gallimore, Reese, & Garnier, 2001). In the context of FGS, family financial struggles and other challenges serve as a form of capital that can inspire students to persist in their engineering studies (Huber, 2009).
"Familial capital was an important component for the participants' choices to attend a community college and pursue an engineering degree. As is common for many transfer students, 3/4 of the participants (n = 12) chose to attend a community college for financial reasons connected to their family history, both in terms of college affordability and long-term goals related to economic security…" (356)

"Parents provided clear expectations that they wanted their student to attend college and this family encouragement was an important motivator for nine of the participants. The families' values and norms pushed the students further along their chosen pathway." (358)

"Three participants said that pursuing an undergraduate degree allowed them to break new ground, potentially facilitating intergenerational change in familial capital." (358)

transfer student capital. We conclude with recommendations for strengthening institutional programs directed at first-generation engineering transfer students. **Limitations** Small sample size of one department (*n=15;* mostly White, male engineering students) **Article Link**	"For these FGS, familial capital resides in parents' emotional support and participants' hopes to strengthen intergenerational and intragenerational educational capital. This is in contrast to the forms of familial capital common for students whose parents have earned a college degree (e.g., tangible and experientially based advice about applying to college and parents' first-hand knowledge about navigating through higher education, based on their own experiences)." (358) "According to Yosso (2005), aspirational capital taps into the concept of resiliency and 'the ability to maintain hopes and dreams for the future, even in the face of real and perceived barriers' (p. 77) such as structured inequality. Individuals enact a 'culture of possibility' (Gándara, 1995, p. 112) in order to 'succeed against all odds' to achieve their goals (Sandoval-Lucero, Maes, & Klingsmith, 2014, p. 522), thus overlapping somewhat with familial capital. However, aspirational capital taps into the internal, individual-level sources of motivation. "Three students described being motivated to attend college after considering what their options would be without a college degree." (358) "For this sample of FGETS, aspirational capital was reflected in their persistence, sometimes in the face of doubt and uncertainty." (359) "Six participants were aware that their educational aspirations set them apart from other family members, demonstrating the interactional nature of familial and aspirational capital." (359) "Thus, while their aspirational capital was essential to the success of these students, it was also a marker of separation between participants and their families. Family support was also often the source of self-induced stress and tension for three participants." (360) "The fear of disappointing family members often provided the students' with the motivation to remain in school after experiencing setbacks, as expressed through their aspirational capital. These aspirations shaped their decisions about school and their ability to work their way through a challenging major like engineering." (360) "Yosso's (2005) conceptualization of navigational capital recognizes how individual agency is brought to bear within institutional constraints. Specifically, this form of capital refers to the ability of students to maneuver through social institutions that are generally created for students from the dominant group, in the case of this article, continuing generation students and students who initiate

their studies at 4-year institutions (non-transfer students). The concept of TSC overlaps with navigational capital as TSC incorporates the processes and institutions that students navigate in order to transfer from one institution to the next in pursuit of their engineering degree (Laanan et al., 2010)." (360)

"Fourteen of the 15 participants said they took it upon themselves to figure out what they needed to do to navigate through the transfer pathway, even if institutional services were available." (360)

"Thus, participants did not fully enact their TSC, as expressed through formal advising and faculty relationships. Rather, students preferred to work the process out on their own, even at those schools that | had extensive advising programs or a formal partnership with the receiving institution." (360-361)

"As students embark upon and proceed through the educational pathway, they often draw on networks of individuals who provide both instrumental and emotional support during their journeys, what Yosso (2005) and others (Coleman, 1988) call social capital. The knowledge about how to apply to college and succeed in college is embedded within these networks.
"Eleven of the FGETS included in our study said they relied on personal networks to navigate the transfer pathway and engineering education; nine of these students relied on other transfer students in particular." (361)

"O'Shea's (2016a, 2016b) research on FGS revealed that students' previous experiences (prior to college itself or prior to transferring to the receiving institution) provide unique advantages (i.e., knowledge and skills) in higher education. In the case of the FGETS interviewed in our study, these experiences manifested in several ways: choosing to major in engineering and providing a foundation to succeed at both the sending and receiving institutions.
"Students' rationales for majoring in engineering mirrored that for students featured in previous studies on engineering education, such as a lifelong love of tinkering or a preference for science and math courses while in high school (*n = 10*) (Brawner & Mobley, 2014)." (362)

"However, the participants' discourse about choosing to major in engineering often centered on their prior informal and formal work experience. For this group of eight students, growing up in a first-generation family motivated them to pursue engineering through their exposure to the technical professions associated with engineering practice in blue-collar or service occupations." (362)

"The community college experience itself was another form of experiential capital that these students enacted to succeed in their engineering studies at the receiving institution, going beyond the aspirational capital associated with attending a community college that was described earlier." (363)

"The various forms of capital were not mutually exclusive. Rather they intersected and interacted with one another to contribute to student success. For example, familial capital, in the form of family norms, influenced aspirational capital. Students were able to enact their navigational capital through their networks (i.e., social capital) and despite receiving inadequate advising at the community college or receiving institution (i.e., TSC). Community college attendance was both a form of aspirational and experiential capital.
"Together, the various forms of capital allowed the participants to successfully negotiate the transfer pathway and their engineering studies." (364)

"Rather than portraying them as only facing challenges and having to overcome obstacles, programs can highlight their strengths and assets that originate specifically in their first-generation status and transfer experiences. Our study results suggest that community colleges can increase efforts to embrace an asset-based framework and recognize the resilience and strength of these students (Castro & Cortez, 2017).
"For example, when planning FGS programs, it is important to recognize that dual enrollment programs can help students to more clearly articulate the transfer pathway and boost their educational confidence. In turn, participation in these programs serves as experiential capital that students draw upon while attending community college, and then provides a solid foundation for succeeding in bachelor's degree programs at universities." (365)

"Given the importance of the social capital enacted through their networks with other engineering transfer students, community colleges could create formal opportunities for these students to interact with one another, prior to arriving at the receiving institution. Meeting people at the 2-year institution and continuing those friendships in engineering education at the receiving institution was especially important for these students who are in a challenging major. As Wang, Chan, Soffa, and Nachman (2017) contended, 'engaging with peer role models sharing similar identity backgrounds who transferred into STEM fields may help dismiss notions that they are not capable or not able to attain support, should they pursue a baccalaureate STEM pathway' (p. 11). To facilitate the development of these networks, community college alumni could serve as mentors to current community college students who are looking for role models." (365)

"Our study also provides evidence that institutions could do more to develop a transfer-receptive culture. While many participants expressed that they benefitted from their community college education, nearly all of them reported that they experienced challenges in obtaining the advising that they needed and in locating information pertinent to their engineering studies. It could be the case that these students preferred to work things out on their own, as they were so used to doing. Nevertheless, transfer-oriented interactions could be strengthened to ensure that those students who do want to enact their TSC can do so with little difficulty." (366)

Citation

Scott, T. P., Thigpin, S. S., & Bentz, A. O. (2017). Transfer learning community: Overcoming transfer shock and increasing retention of mathematics and science majors. *Journal of College Student Retention: Research, Theory & Practice, 19*(3), 300–316. http://doi.org/10.1177/1521025115621919

Abstract

The College of Science at Texas A&M University developed a transfer student learning community with one 2-year institution after receiving National Science Foundation funds for scholarships to support students majoring in engineering and science. To date, 89% of the students that matriculated to Texas A&M University under this grant have completed their degrees or are on target to do so. Eighty-three percent of historically underrepresented students supported through the grant have completed their degrees. Lessons learned from success of the grant have been implemented to create a mandatory learning community for

Conclusions

"This article outlines programmatic elements developed following the funding of a NSF-funded Scholarship in Science, Technology, Engineering, and Mathematics (S-STEM; DUE-0728685) at a large, public, research intensive university. Although originally targeting students from a predominantly Hispanic serving 2-year institution, this institutionalized model now serves all incoming transfer students majoring in biology, chemistry, mathematics, and physics. It is hoped that this program can be adapted and modified to fit the structure of individual campuses to facilitate more successful transfer and graduation of STEM students." (302)

"Students had to qualify for financial aid, as required by NSF, and be in good standing and progressing in a STEM major. Based on studies at the 4-year institution, 2-year students had to post at least a 3.00 overall grade point average (GPA) at that institution to be considered for the program. Initial attempts to identify promising high school students were abandoned in favor of selecting those students with a proven track record at the 2-year campus. To participate, students had to sign letters of commitment to attend the 4-year institution, attend study hall at the 2-year campus, maintain grades, restrict outside work…" (302)

"The hallmarks of the S-STEM program included two components, a customized orientation called Academic Boot Camp and required monthly meetings. The three meetings during the semester included intentional advising closely correlated to the academic calendar and procedures (add or drop, withdrawal, preregistration, etc.). These meetings also included an introduction to undergraduate research (where to find information, how to approach faculty, and use in degree plans) and focus groups." (303)

"Successful transfer students from previous semesters are recruited to mentor incoming transfer students…" (304)

every incoming transfer student. Hallmarks of the program include an Academic Boot Camp prior to the start of the semester and monthly meetings. Monthly meetings include intentional advising, campus resources, academic policies, access to peer mentors, and introduction to undergraduate research opportunities. Overall retention rates to the university have risen through this expanded learning community, as have overall grade point averages. **Limitations** STEM program tested at one university to help transfer students develop in STEM degree paths. **Article Link**	"Academic Boot Camp is intended to prepare them for this transition, openly discuss transfer shock and begin to establish the necessary relationships and trust so that students feel they have resources and advocates, should the need arise." (304) "Boot Camp is less than 3 hours in length and is always held the Friday afternoon prior to the start of the fall or spring semester. It begins at 1:30 p.m. and ends by 4:30 p.m. While snacks and refreshment can be provided, it is not required and the timing negates the need to provide a meal. Each of the first 2 hours consists of the same schedule: ● 20 minutes hearing from, and interacting with peer mentors, ● 20 minutes of presentation about current research-based learning theory, and ● 20 minutes of an interactive and hands-on activity." (304) "In the first year, that TLC was implemented (2012/2013), overall retention increased by 1% from the previous year (87%–88%). However, the students retained to science dropped as on overall percentage (80%–68%), while the students retained to non-science majors at the university increased (7%–20%)." (311) "Second year retention among science majors increased from 52% to 56%, as did their GPA (from 2.977 to 3.100). Although Year 2 retention grew overall by 3%, from 80% to 83%, non-science major retention dropped by 1%. This drop is likely due to the increase in Year 2 retention of science majors. GPA for the non-science group in Year 2 also rose from 2.886 to 2.911." (311) "Year 1 retention in science was 77%, and the average GPA of these students was 2.918. Year 1 retention for non-science majors was 12%, and the average GPA of non-science students retained was 3.217. Overall, first-year retention grew to 89%, the highest in the 3 years studied." (312)
Citation Umbach, P. D., Tuchmayer, J. B., Clayton, A. B., & Smith, K. N. (2019). Transfer student success: Exploring community college, university, and individual predictors. *Community College Journal of Research and Practice, 43*(9), 599–617.	**Conclusions** "As the community college system has become more focused on the transfer function, this study seeks to illuminate the turbulent pathway community college transfer students experience en route to the baccalaureate. While numerous studies have examined the influence of individual factors on the success of community college transfer students, there is a relative absence of research on the individual, community college, and university factors that enhance a student's academic success and persistence post transfer (Bahr, 2013)." (600)

Abstract

This paper investigates community college transfer success by exploring the relationship between individual and institutional-level characteristics at students' two- and four-year institutions. Using statewide administrative data from North Carolina, this study employs a cross-classified multilevel model to investigate the impact that a student's community college and four-year transfer institution have on post-transfer success. Our findings offer important and compelling insights into the relationship between transfer students, the community college they attended, the four-year transfer institution, and educational outcomes. While individual effects were small, we find several institutional factors associated with student success. Attendance at a large community college or having a public university in the same county as their community college is positively associated with student success, whereas size of the university is negatively related to grades during the first year and persistence to the second year. While the four-year institution's selectivity is negatively related to many of our outcomes, transferring to a Historically Black College or University is

"The objective of this study is to examine the relationship between individual and institutional factors at students' community college and four-year transfer institutions, and the association of these characteristics with transfer student success. In this study, success is defined by academic achievement, year-to-year persistence, and bachelor's degree completion. Given the significant number of students who enter two-year institutions with the intention of transferring to a four-year university, it is important to consider what factors are associated with post-transfer academic persistence and success. Therefore, the purpose of this study is to examine individual and institutional-level characteristics associated with student success in transferring from a North Carolina community college to one of the state's 16 public four-year universities." (600)

"Therefore, four research questions guide this study:

    (1) How much of the variance in our transfer student success measures lies between individuals, between community colleges, and between universities?
    (2) To what extent are individual pre-transfer measures (e.g., community college GPA, credits accumulated, associate's degree earned) and demographic characteristics (e.g., race/ethnicity, gender) associated with success at the university? |
    (3) To what extent are characteristics of the community college (e.g., public university in the county, size) from which a student transfers associated with student success?
    (4) To what extent are structural characteristics of public universities (e.g., size, selectivity, Historically Black College or University) related to student success?" (600-601)

"Students' prior academic ability, preparation, and their intention to transfer have been found to strongly predict academic success, first-year GPA, and likelihood of both transfer and baccalaureate attainment (Kuh, Cruce, Shoup, Kinzie, & Gonyea; 2008; LaSota & Zumeta, 2016; Monaghan & Attewell, 2015; Mourad & Hong, 2011; Wang, 2016a, 2016b)." (601)

"In addition to associate's degree completion, credit accumulation is also positively associated with transfer student success. Students who planned to transfer to a four-year institution when they first matriculated into the community college ultimately attempted more credit hours, successfully transferred more credits—particularly in core subjects like math, English, and the sciences, maintained higher course loads post transfer, and were more likely to complete the baccalaureate (Bahr, 2010; LaSota & Zumeta, 2016). Relatedly, attempting and completing more credits in the first year is positively associated with transfer and persistence at the four-year institution (Adelman, 1999; 2004; 2006; Doyle, 2009, 2011)." (602)

positively associated with GPA, college persistence, and degree completion. **Limitations** Information is drawn from one community college's and one university's administrative data. **Article Link**	"Research suggests that full-time attendance, greater credit accumulation, and higher community college GPAs positively influenced post-transfer persistence and degree completion (Crook et al., 2012; LaSota & Zumeta, 2016), although an inverse relationship is found between the length of enrollment by semester at a community college and baccalaureate completion (Mourad & Hong, 2011; Shapiro et al., 2016)." (602) "For instance, gaining learning and study skills such as time management and problem solving at the community college positively affected students' baccalaureate performance and adjustment. Satisfaction with the university environment and students' interactions with faculty members were also significant predictors of positive social adjustment (Laanan et al., 2010)." (603) "Student persistence and graduation rates, for instance, have been found to be positively associated with institutional size (Ryan, 2004; Titus, 2004), a greater proportion of higher income students (Jenkins & Fink, 2016), and institutional selectivity (Gansemer-Topf & Schuh, 2006; Jenkins & Fink, 2016; Kim, 2007; Oseguera, 2005; Titus, 2004, 2006b), although very few community college students transfer into highly selective four-year institutions (Wang, 2016a)." (604) "The theory of human capital accumulation, which suggests individuals invest in developing their knowledge and skills in order to increase their productivity and value (Becker, 1993), guides this study." (604) "According to human capital theory, variance in the investments that individuals have made in themselves, including education and job training, have implications for a person's labor market outcomes in the form of higher wages based on heightened productivity, knowledge, and ability (Becker, 1993; Mincer, 1974). However, returns vary by individual characteristics, field, and other factors." (604) "In terms of grade point average, it seems the further the students get from entry into the university, the less community college and university affiliation matter in explaining grades." (608) "Across all four semesters studied here, higher community college GPAs were associated with higher GPAs at the four-year institution." (608) "Credit hours accumulated at the community college is also positively related to GPA at the four-year college. For every credit earned, GPA at the four-year institution increases approximately .002 points.

Similarly, those arriving at the university with an associate's degree have statistically significantly higher GPAs, at least in the first three semesters. In the first semester, those with an associate's degree have university GPAs that are .119 points higher. The difference drops to .038 points in semester two and .028 points in semester three. By semester four, the difference is not statistically significant." (609)

"In general, the more subjects of remedial courses required, the lower the transfer student GPA. Those who take only one remedial course do not perform much differently than those who take none." (609)

"We also observe important differences between various student demographics and GPA. In general, age is positively associated with GPA at the university. Women, on average, have higher GPAs than men across all semesters, ranging between .068 and .087 points higher. Students of color, primarily Asian American and African American students, are found to have lower GPAs than white transfer students. African American student GPAs range between .149 and .194 points lower than whites across the four semesters, and Asian American GPAs range between .106 and .162 points lower than whites." (609)

"In terms of community college attended, students who attend a community college that has a public university nearby have statistically significantly higher GPAs at the four-year institution than other community college transfers. The difference is .137 points in the first semester, and it steadily decreases to .089 points in the fourth semester. Community college size, as measured by student enrollments, appears to matter early in transfer students' success at the four-year institution. During students' first semester post transfer, for every increase of one thousand students at the community college, GPA, on average, increases .01 points. The number drops to .009 points in the second semester and is insignificant in subsequent semesters." (609)

"Our models again suggest that, in general, capital accumulated while at the community college enhances the likelihood of success at the four-year institution. For example, GPA at the community college positively predicts persistence to the second and third semesters, and the likelihood of earning a baccalaureate degree. A one-point increase in community college GPA is associated with transfer students being 1.5 times as likely to persist to the following fall. The relationship between community college performance and baccalaureate degree attainment is even stronger: a GPA increase of one point is associated with students being 1.9 to 2.3 times as likely to earn a baccalaureate degree." (609)

"However, we see no association between remediation and degree attainment." (610)

"Gender and race appear to matter less when predicting persistence and degree attainment. We see few race and gender differences among transfers in the likelihood to persist and earn a degree. Women, however, are more likely than men to persist to the spring (1.26 times as likely), but they are 18 percentage points less likely to persist to the following fall." (610)

"For example, persistence is associated with the location of a public four-year institution in the same county as the community college. Students attending these community colleges are 1.14 times more likely than those attending other colleges to persist to the spring semester. Relative to persistence and GPA, fewer institutional variables are significantly associated with degree attainment. The existence of a public university in the same county as a community college is positively associated with baccalaureate degree attainment (between 19 and 14 percentage points more likely). We also find that transfer students at HBCUs are 11 to 12 percentage points more likely than those at majority white institutions to obtain a baccalaureate degree." (610)

"It appears that having a public university near a community college is positively associated with student success. This runs counter to some research that suggests a negative association between a community college's proximity to a public university (Clotfelter et al., 2013). However, it is important to consider the differences in outcomes. For example, Clotfelter et al. (2013) investigated students' completion of associate's degree requirements, which is less likely if a student has a nearby public university in which to transfer. However, in the case of those who transfer, it is quite likely that community colleges and universities in close proximity have strong relationships and mechanisms that ease the transition between the two institutions." (611)

"Size of the community college and university is also an important predictor of success, particularly early in the transfer student's experience at the four-year university. Students transferring from large community colleges earn higher grades in their first year and are more likely to persist to the second and third semesters. In contrast, size of the university is negatively related to first-year grades and persistence to the second year. This may be helpful when we think about the transfer shock students experience when they arrive on the university campus. Coming from a large community college lessens the shock of entering a large four-year institution, particularly early in the transfer student's experience at the university. Likewise, a large campus likely seems daunting to a new community college transfer." (611)

"Selectivity is also negatively related to many of our outcomes, suggesting that selective institutions may not be as transfer-friendly as less selective universities. These campuses are advised to examine support structures that enhance the likelihood of transfer student success and to explore the possible areas that may be causing challenges in transitioning transfer students." (611)

"A cause for concern is the performance of transfer students of color. In particular, African American and Asian American transfer students appear to be less successful after transitioning to the university. It is important to note that while both groups have lower GPAs at the four-year institution, they persist and obtain degrees at the same rates as their white peers. Our findings regarding Asian American students may be surprising, as this population has some of the highest post-secondary enrollment and attainment rates and are often characterized as the model minority, a stereotype that masks differences in post-secondary outcomes by ethnicity and socioeconomic status (Museus & Kiang, 2009; Museus & Vue, 2013)." (612)

Citation

Walker, K. Y., & Okpala, C. (2017). Exploring community college students' transfer experiences and perceptions and what they believe administration can do to improve their experiences. *Journal of Continuing Higher Education, 65*(1), 35–44. https://doi.org/10.1080/07377363.2017.1274618

Abstract

This study explored the interconnected-ness of the transfer student experience and used it as a foundational framework to inform the administrative leadership on a North Carolina, midsized, historically Black college of the existing transfer students' experiences. This study focused on (a) how transfer students at a midsized historically black college and university

Conclusions

"…the richest information regarding assistance for transfer students tends to come from the voices of transfer students (Blaylock & Bresciani, 2011; Jackson, 2013; Lester et al., 2013; Monroe, 2006; Reyes, 2011; Tipton & Bender, 2006; Townsend & Wilson, 2006). Because administrators express the desire to assist the population, but do not necessarily know how (Tobolowsky & Cox, 2012), there may be some benefit to university administrative leadership if transfer students were able to inform them of what best practices, programs, and initiatives they believe could contribute to their retention and persistence from semester to semester." (36)

"The questions that guided this study are as follows:
1. How do transfer students at a midsized historically Black college and university (HBCU) describe their experiences?
2. How do transfer students describe what they believe are the factors affecting their retention?
3. What do transfer students' believe university administrative leadership can do to ensure their retention?" (36)

"A specific type of qualitative research—phenomenology—was used to explore the perceptions and experiences of transfer students regarding their retention and what the transfer students believe university administrators should do in order to improve their retention at a four-year, midsized, historically Black university in the state of North Carolina. The goal of the phenomenological strategy is to understand the essence of a lived experienced [*sic*] shared by a group of individuals in an effort to

(HBCU) describe their experiences, (b) how transfer students described the factors that affected their retention, and (c) what transfer students' believed that university administrative leadership could do to ensure their retention. Twelve transferred students participated in the study. The findings from the qualitative analysis show that (a) students are aware of the differences that exist between themselves and native students and desire for administration to recognize those differences, (b) they desire more resources tailored to their needs as transfer students, and (c) they have substantial academic and non-academic barriers that need to be recognized by those who regularly come into contact with the transfer population.

Article Link

articulate what the individuals have in common in regards to the phenomenon of interest (Creswell, 2013). Phenomenology focuses on shared meanings between individuals. These perceptions influence their lives and, effectively, represent their realities (Blummer, 1969)." (37)

"Three of the themes mentioned in the literature were repeatedly addressed by the transfer students… The themes that were mentioned by students were their *diversity*, their need for more *resources*, and the *academic and non-academic barriers*. The final theme that is addressed is the *suggestions for administrators*, and this was a direct question posed in order to have the students explicitly state what they needed in regards to their overall experiences and their challenges." (38)

"Several participants—like the two students just quoted—reported feeling implicitly different and separate from their native counterparts. This perspective lends itself to Tinto's (1993) focus on integrating a student into the entire university both socially and academically. The aforementioned participants expressed that the university had failed to successfully integrate them for both categories." (40)

"Tinto (1993) suggests that educational institutions should have an educational commitment to all of its students; however, the aforementioned students felt that the commitment was lacking both academically and financially. Moreover, the lack of resources dedicated solely to the needs of transfer students was notable in that it impacted several aspects of their retention and persistence." (40)

"As found in the literature, transfer student barriers to success tend to be almost entirely non-academic factors (Duggan & Pickering, 2008). This finding tended to be supported by the participants; however, many mentioned having barriers that were related to the university in general or specifically concerns in the classroom.
"Even though the participants' specific barriers varied tremendously, the majority of the barriers faced by the students fell into several broad categories—working, familial requirements, illness, social isolation—that are, arguably, not faced by their native counterparts to the same extent. These non-academic factors that are barriers for transfer students support the findings of the literature (Doyle, 2006; Goldrick-Rab & Pfeffer, 2009; Palmer, 2013; Wang, 2009)." (40)

"Holistic student focus includes students' mental and physical health. Tinto's Model of Institutional Departure (1993) ascertains that students need institutions to take them into consideration as a whole person and not just the student aspect. As demonstrated by the participants just quoted, familial and work obligations can sometimes obscure the educational goals. When that happens, the university

could have programs in place to assist these students if there is awareness regarding the potential for the aforementioned concerns." (41)

"Essentially, a communication 'superhighway' must be built to effectively ensure that the mandates outlined in the articulation agreement are adhered to by those who complete the day-to-day task of transcript evaluation and transfer-credit acceptance decisions." (41)

"Moreover, there are state policy implications for this study. As Fann (2013) noted, there needs to be incentive for both the community colleges and the universities to graduate transfer students. Regarding fiscal credits, the only students who are counted as completions (those who obtain the bachelor's degree) at the university are students who began as first-time, full-time freshmen at the same institution (Fann, 2013). Essentially, transfer students are not financially motivating for community colleges if they transfer prior to completing the associate's degree and they are not financially motivating for the university if they do not begin and end their educational endeavors at the same institution. This indicates that neither community colleges nor universities are rewarded for the efforts that | are put into the transfer population. There may be a greater willingness to assist the population in more tangible ways if the institutional evaluation and accountability measures included the success of transfer students (Fann, 2013)." (41-42)

"One of the most important practices that needs to be addressed is the quality of advisement (Allen et al., 2013) for students transferring from the community college into the university. Several participants mentioned being ill-advised regarding what courses to take at both the community college and the university." (42)

"The issue of communication and miscommunication was a recurring theme throughout the interview process. Participants expressed extreme frustrations in relation to the lack of communication that occurred between them and advisors, between the community college and the university, and between individual departments regarding the transfer students." (42)

"They [university leadership] simply need to follow the four basic principles of this leadership style [transformational leadership], which are being inspirational and motivational, intellectual, considerate, and being a role model.
"Inspiration and motivation are necessary for the transfer students to feel important on the university campus. One manner in which these students can feel inspired and motivated is by allowing them to interact with faculty and staff who were once transfer students themselves. Reyes (2011) refers to this

	assistive tactic as providing students with university mentors. Allowing this level of interaction can act as encouragement to students who may be experiencing what is known as 'transfer shock' (Fann, 2013)." (42)
Citation York, T. T., & Fernandez, F. (2018). The positive effects of service-learning on transfer students' sense of belonging: A multi-institutional analysis. *Journal of College Student Development, 59*(5), 579–597. https://doi.org/10.1353/csd.2018.0054 **Abstract** More than 1 in 3 undergraduate students transfers from one college or university to another, but many do not go on to graduate. Literature suggests that service-learning pedagogy supports both social and academic integration; therefore, we examined whether transfer students' participation in service-learning courses is related to sense of belonging—an important predictor of graduation. We conducted ordinary least squares estimation with institution fixed effects and found that students who participated in service-learning courses post-transfer had a higher sense of belonging. We also found that the relationship between service-learning and sense of belonging may be curvilinear.	**Conclusions** "For decades, educational researchers have found that students leave college due to a lack of academic or social integration—both of which are central aspects of students' sense of belonging (Bean, 1983; Braxton, Milem, & Sullivan, 2000; Cabrera, Nora, & Castañeda, 1993; Nora, Attinasi, & Matonak, 1990; Tinto, 1993, 2012)." (579) "We address the question: Do college students who participate in service-learning courses after transferring from one college to another tend to have an increased sense of belonging at their new institution?" (579) "Service-learning is a pedagogy that engages students with organized community service activities to achieve a course's intended learning outcomes. Service-learning courses use a variety of opportunities outside of the classroom and include reflective processes to allow students to connect, apply, and integrate course content to their service experiences (Mayhew & Engberg, 2011). A growing body of research has indicated that students who participated in service-learning courses had significant gains in several academic and affective outcomes, including college GPA, cognitive development, diversity skills, reduced stereotyped thinking, and civic awareness (Astin et al., 2000; Brandenberger, 2013; Campus Compact, 2011, 2012; Eyler & Giles, 1999; Jones & Abes, 2003; Jones & Hill, 2001; Vogelgesang & Astin, 2000; York, 2016)." (580) "Scholars have largely ignored the effects of service-learning participation on students' sense of belonging, an affective outcome defined as a student's 'psychological sense that one is | a valued member of the college community' (Hausmann, Schofield, & Woods, 2007, p. 804)." (580-581) "Through meaningful dialogue, service-learning courses can help students develop a critical perspective of the world 'that connects to personal histories' (Mitchell, 2008, p. 61). Thus, service-learning pedagogy views students' past experiences as integral elements in student learning and development, especially when these experiences serve as the foundation for students' interactions with new and diverse experiences (Eyler & Giles, 1999)." (582)

Limitations "Finally, we did not have data to examine whether the relationship between service-learning and sense of belonging may vary by academic major." (592) **Article Link**	"…we found that the estimated effects of service-learning were strongest for students who took the least (1) and most (5+) service-learning courses compared to students who did not take any service-learning courses; conversely, the relationship between service-learning and sense of belonging was smallest for students who took 2–4 service-learning courses. Robustness tests indicated the relationship between service-learning and sense of belonging was still significant after controlling for student experiences with other course types." (593) "Service-learning courses are often framed in a critical theory perspective (Mitchell, 2008)—a perspective that requires what Kegan (1982, 1994) described as a shift from third order (socialized mind) to fourth order consciousness (self-authoring mind). Love and Guthrie (1999) point out that students do not automatically shift into more complex ways of thinking about the world; rather, students need 'sympathetic coaches' to model the more complex ways of thinking and to aid students in adopting those thought processes through repeated exposure (p. 74)." (593) "One possible explanation for our results is that as students participate in multiple service-learning courses they may be faced with difficult systemic issues creating the opportunity for this shift in cognition. Similar to King and Baxter Magolda's (2005) multidimensional model of intercultural maturity, this process is likely to be challenging to students, which may result in the temporary dip in students' sense of belonging when they took 2–4 service-learning courses. Increased exposure to service-learning may ultimately give way to increased gains as students move through the dissonance into increased self-authorship and agency." (593) "We demonstrated that service-learning is positively related to college students' sense of belonging—a key antecedent to retention (Hurtado & Ruiz Alvarado, 2015). In terms of magnitude, the estimated positive effect of taking a single service-learning course was larger than the negative relationship between low- | income status and sense of belonging." (593-594) "Prior literature has suggested that lateral and vertical transfer students exhibit different patterns of student engagement (e.g., Kirk-Kuwaye & Kirk-Kuwaye, 2007), but we did not find any statistically significant differences in sense of belonging between lateral and vertical transfer students in our regression results." (594) "We controlled for other post-transfer experiences, and we found evidence to suggest that students had higher sense of belonging if they felt that they had received helpful advice or perceived that faculty held an interest in transfer students' success." (594)

	"Institutions wishing to increase the success of their transfer student populations should consider emphasizing or institutionalizing service-learning courses specifically for this population. In addition, institutions should provide adequate resources to support faculty in developing or redesigning courses to utilize service-learning pedagogy. Such resources might include (a) faculty–student affairs partnerships drawing on the pedagogical and student development theory strengths of both professionals; (b) centrally managed and cultivated community partnerships that faculty can draw upon for their service experiences; and, (c) promotion and tenure structures that support and recognize the additional time and effort required by faculty to develop service-learning courses." (594)

Trade Publication Articles

Citation	Conclusions

Anderson-Rowland, M. R., & Rodriguez, A. A. (2015, June 14-17). *Sophomore transfers: Who are they and what support do they need?* [Paper presentation]. ASEE Annual Conference & Exposition, Seattle, WA, United States. https://strategy.asee.org/24721
 	
Abstract
Due to the increasing need for more engineers in the United States and given that less than 50% of the students who begin an engineering degree actually complete it, retention has recently drawn a lot of attention and study. Over the past 10-20 years, an increased emphasis has been placed on supportive freshman programs as an answer to "weed-out courses." As freshman retention has increased, attention has turned to the next highest dropout point for engineering students which is during or after their sophomore year. Sophomore retention programs are becoming popular. As the need for more engineers continues, another area which has received increased attention is the recruitment of engineering students from community colleges. Although some upper division transfer students are able to graduate in two years, many take three years or more. Although classified as juniors, the students who
	Referring to the "sophomore slump":
	"Interestingly, 73% of the surveyed students agreed that they needed to study more than they did last year. The study suggests that sophomores should not be assumed to have 'successfully transitioned' to college: as a cohort and as individuals they have distinctive needs and experiences." (26.4)
	
	"Although one might assume that transfer students already understand the academic system and do not require special help, Noel-Levitz found that transfer students exhibit similar levels of academic confidence as second-year students. In addition, transfer students may suffer from 'transfer shock,' a period of adjustment which usually results in a decrease in their GPA from a half to a whole grade point." (26.4)
	
	"A recent book, 'Completing College: Rethinking Institutional Action' by Vincent Tinto, details the four conditions within colleges and universities that promote retention and graduation:
	    1. Expectations,
	    2. Support (academic, social, and financial),
	    3. Assessment and feedback, and
	    4. Involvement.
	"Student retention is greatly influenced by clear and high expectations. Tinto points out that students need to know what to do and what level and quality of effort is expected to be successful. The institution needs to have consistent and clear expectations for behavior and degree completion. Good advising and roadmaps (programs of study) are necessary. Students also need to know what is expected of them in the classroom. The students then, of course, need to adopt these expectations as their own." (26.5)
	
	"Support always includes academic and social support and, sometimes, financial support. Most transfer students need financial support. At ASU, over 90% of transfer students have unmet financial need. A major reason that most transfer students chose a CC is the lower tuition and the proximity to home which saves on room and board. The CCs in Arizona have a tuition fee approximately 25% that of the state universities. Tinto lists the usual academic support that is important for students: basic skills, developmental, or remedial courses (usually found at the CC); tutoring; study groups; supplemental instruction; and summer bridge programs. Support programs help students succeed, enhance self-efficacy, reduce stress, and increase future success. Social support is also important,

need at least three more years to graduate are really "sophomore transfers." Very little research has been done on sophomore transfers in engineering. Beginning in fall 2013, Arizona State University recognized this group of students and placed a cohort of them in a lower division Academic Success and Professional Development class. This paper will discuss who "sophomore transfer" students are and explore the type of support that they need.

Limitations
Focuses on the implications for transfer students seeking engineering degrees at a large state university (ASU).

Article Link

especially 'those that influence students' sense of belonging and membership in the social communities of the institution.' Peer mentoring is an additional good social support." (26.5)

"Scholarships are the key to the success for the transfer students program. Scholarships allow the students to work less hours or not at all. Scholarships can also require the students to take a class which can help them to succeed." (26.5)

"The minimum criteria for a scholarship is: US citizenship, permanent residency, or refugee status; full-time student of at least junior status; minimum 3.0 GPA; and unmet financial need as determined by FAFSA. Students are now awarded scholarships at the rate of $2K per semester ($3,250 per academic year in 2002 which almost matched tuition at that time) which covers about 40% of full-time tuition. A condition of the program is that a scholarship student must attend the academic success class each semester of the scholarship. The academic success class was at first a seminar, but it was difficult to maintain good attendance and to have a good effort on assignments. We changed the seminar to a one-credit class and then changed it to a two-credit class with buy-in from the students. The two-credit class does not count on a Program of Study, but the assigned grade does count in the student GPA.

"The Academic Success and Professional Development (ASAP) class assignments are all designed to have the student know and do the things that they need to do to be a successful student including: a detailed time management schedule, the Guarantee 4.0 Plan, visits to the professors of their classes, a resume, an interest/research paper, a career planning paper including 10 years past the Bachelor's degree, and a portfolio. Class topics include how to interview and work a career fair, understanding the different structures of companies, research, internships, and what graduate school is all about. The students are also given success tips and constantly encouraged to do well and to aim for graduate school. If the students turn in satisfactory assignments on time, they can earn an A+ in the course. Ten volunteer hours are also required. Hours for being either a mentor or a mentee count toward the 10 hours, as well as hosting potential students who visit the Motivated Engineering Transfer Students (METS) Center, which is the hub of the program. The transfer students who work in the Center act as informal consultants to especially assist new transfer students. This center is visited by 300-400 students per semester, 70% of which are transfer students." (26.6)

"Because they are new transfers to the university, the sophomore transfers would normally have approximately the same 'transfer characteristics' as an upper division transfer student. In a study done in Fall 2012, 120 of 133 transfer students in an ASAP class completed an on-line survey. The students were asked what their expectations were before transferring to ASU and what were their realities. The

top 10 realities for females were the same as for males except that males were not 'overwhelmed with classes/logistics' in their top 10.The females top 10 realities were: higher tuition, expensive parking, some very large classes, the university is large, the Transfer Center helped, a long commute, overwhelmed with classes/logistics, difficulty parking, pace of classes is much faster, and classes have more assigned homework. These 10 realities were each selected by 50% or more of the 24 female respondents. Additional realities included: classes are harder than expected, hard to get into study groups, lonely (don't know anyone in class), too many credit hours/too much work, easy classes taken (upper division classes are harder), did not spend much time on campus, had a friend/mentor, transfer GPA may drop, hard to get to know professors, feel like a freshman, don't know where the resources are, feel lost, and worked too much to do well academically. In addition, there were five categories that were statistically more of a reality for females than for males: higher tuition, upper division classes are harder, took too many credit hours to do well or due to work, all of the easy non-engineering classes have already been taken, and being overwhelmed with classes and logistics. These results indicate that female transfer students may have a more difficult time adjusting to transfer than male students." (26.9)

"An area of our Academic Success program for upper division students that is equally appropriate for sophomore transfers is having high expectations and strong encouragement for the students. The program students are told from day one that we expect them to graduate with a strong GPA and to go on to graduate school and that we believe they are capable of doing so. In fact, when we talk to CC students about our program before they have even decided on a transfer, we tell them that we will expect them to go to graduate school. At first we thought that this would scare off students, but they have told us that it was a factor in them choosing to transfer to ASU." (26.10)

"Our ASAP class for upper division transfer students includes academic support, primarily through the Guaranteed 4.0 Plan which includes detailed time management and a system to learn how to learn. The plan is difficult to follow since it includes the requirement of 8 hours of sleep per night, but the closer students follow the plan, the better they can do academically. The students are encouraged to get in a study group for each of their classes. This not only helps them academically, but helps them get involved and provides social support. They are also warned that they cannot work as much and carry as many hours as they could at the CC. The students are encouraged to spread their class load over the week and to spend as much time on campus as possible…" (26.10)

"Social support is provided through the ASAP class and the METS Center. The Academic Success class with over 100 students, meets at five different times for each program. In this way each meeting

	has only 16-25 students in attendance, which allows for networking and discussions with and between the students. The smaller meetings of the Academic Success class help to mitigate the large classes that the students may face. Not only are the students given advice, but questions are answered, and students receive social support when they learn from their peers that they are not the only one with challenges in one or two classes." (26.11)
	"Early assessment is made on the students when they apply for the scholarship and program. The students are given feedback on a tendency for new transfer students to enroll for too many credits while working too many hours. The students are given feedback on their time management plans and all assignments designed to help them become better students. The students know they have several people in the METS Center with whom they can talk if they have problems. Of course, the students also need to get good assessment and feedback from their other classes." (26.11)
	"Since the ASAP class meetings are small, networking is encouraged through introductions and answering a question of the day, such as 'What was the best thing that happened to you in the past two weeks?' or 'What is your biggest concern between now and the end of the semester?' The students are further urged to become involved in two student organizations: one in their major and one such as the Society of Hispanic Engineers (open to all students), the Society of Women Engineers, or an engineering fraternity. All students in their first or second semester at ASU are required as a part of the ASAP class to have a more senior mentor from the class." (26.11)
	"Since transfer students have the academic confidence of a second-year students, perhaps by placing them with native sophomore students, they will feel more 'normal.' It may also be that because the sophomore transfer student is not as far into their engineering program, there may be more doubt if engineering is the right major. We have found in our research that at least 30% of the transfer students only decided on engineering while at the CC; therefore, sophomore transfer students may need more of an emphasis on what engineers do and more of an effort to get them to discover a 'passion' for some area related to engineering." (26.12)
Citation Ford, D. M., Rees, P., & Rubin, K. G. (2015, June 14-17). *The impact of federally funded scholarship programs on the success of transfer students at a public engineering college* [Paper presentation].	**Conclusions** "Our activities [granting of scholarships to STEM majors via government grants i.e. S-STEM] were designed to overcome known barriers to persistence for our target population. 'Compared to students who began and persisted at a single four-year institution, students who transferred to a four-year institution from a two-year institution tended to have fewer interactions with faculty and fewer educationally enriching activities such as internships, community service, and senior capstone

Abstract
Nationally almost half of the students receiving baccalaureate degrees in science and engineering complete part of their education at a community college, and this statistic is expected to increase with the rising costs of attending a four-year public institution. The demographics of almost all four-year engineering programs fail to align with U.S. Census data for women and underrepresented minorities. Community colleges, on the other hand, serve a high number of these students. Programs designed to support community college student transition and graduation from four-year engineering programs will naturally increase the pipeline of diverse students entering the workforce. This paper will review the impacts of two National Science Foundation S-STEM (Scholarships in Science, Technology, Engineering, and Mathematics) grants on undergraduate minority engineering transfer student retention and development during the period 2007-13 in the College of Engineering at the University of Massachusetts Amherst. The programs were designed to overcome known barriers to persistence of transfer students from community college, including lack of engagement on campus, underdeveloped

courses'. Academic and career development support for the S-STEM students will shift with their needs. As noted by Dr. Shirley Ann Jackson, '…we have to meet the students where they are: we have to give them personal attention. Programs that are structured this way see the value of personal attention at every stage of higher education and are committed to meeting students' individual learning needs, which includes mentoring and tutoring'. Through our work with two S-STEM cohorts, we have identified early and intensive involvement of the S-STEM students with faculty and staff advisors as an integral part of a successful program." (26.3)

To foster engagement and belonging:
"The Associate Dean for Student Affairs of the CoE and additional professional staff members met formally with the Scholars once a semester, providing an opportunity for students to talk about any issues as well as to learn about opportunities. In addition to providing basic program updates, these meetings facilitated peer-to-peer support amongst the Scholars. Proposed enhancements for 'all hands' meetings include additional professional networking events to provide the S-STEM Scholars an opportunity to interact with faculty, upper-level undergraduates, and graduate student mentors in a more relaxed, informal environment. We believe that this meeting in a low-stakes environment leads to greater understanding of each student's background and needs." (26.3)

Barriers	Activities
Lack of Engagement/Sense of Belonging	- Personal academic advising by faculty - Meetings with DPO Director - All hands meetings
Deficient Study Habits	- Study groups - Free tutoring and study jams - Supplemental Instruction (SI) sessions
Underdeveloped Professional Work Ethic & Goal Setting	- Peer mentoring - Career development workshops
Insufficient Opportunities to Gain Practical Competence & Reflect on Learning	- National conference participation - Research and internship opportunities
Working for Pay	- S-STEM scholarship - Personal financial aid advising

Table 1. S-STEM Scholars program activities organized by the barrier each aims to overcome (26.4)

Study habits:

professional work ethic and goals, deficient study habits, fewer opportunities to gain practical competence/reflection on learning, and working for pay. The elements of the programs included cohorting, team-building, mentoring, tutoring, and advising, as well as monetary support in the form of scholarships. Compared to control groups, the cohorts participating in these programs showed significantly higher retention rates, a shorter time-to-degree, and higher placement rates in industry or graduate school. The College also experienced an increase in diversity and an expanded pipeline of students continuing on to graduate school. Key elements of the programs that lead to success will be highlighted and the challenges for attaining sustainability discussed.

Limitations
Focused on a program geared towards engineering students who transfer.

Article Link

"We provided the Scholars with detailed information about free tutoring and supplemental instruction (SI) resources on campus; most of these activities were offered through the Learning Resource Center (LRC)." (26.4)

Practical competence:
"In the future we will employ a three-pronged approach to overcome this barrier by focusing on professional development, K-12 outreach, and community engagement.
"We plan to partner further with the CSDC to offer professional development workshops customized to meet the needs of the S-STEM Scholars, rather than asking them to attend sessions open to the full CoE. These workshops will start with the basics of how to get research experience on campus and progress to off-campus REUs and internships and ultimately the search for a post-graduation position." (26.5)

Working for pay:
"Our intent was to award a scholarship large enough to have a significant, positive impact and to mitigate the need to work. An $8,000 annual scholarship was more than 30% of the total annual cost of tuition, mandatory fees, room and board for an undergraduate instate student in the College of Engineering at the University of Massachusetts Amherst. Paired with the financial aid and other financial support programs, this covered the educational costs of most transfer students. We also offered personalized financial aid advising to all Scholars." (26.6)

"We describe the assessment and outcomes related to each of two basic questions.
   • Does an S-STEM program with the elements described above, increase retention and placement rate?
   • What specific elements of our S-STEM program were most effective?" (26.6)

"For transfer students entering CoE in the years 2007-09, the four-year graduation rate is between 61 and 64%. The S-STEM Scholars graduated at rates that were more than 20% greater." (26.6)

	S-STEM cohorts		All CoE Transfer Students
Transfer student graduation rate in engineering	87%	Grant #1	61 – 64% after 4 years in CoE (transfers entering 2007, 2008, 2009)
	85%	Grant #2	
Placement upon graduation (grad school, industry)	83%	Grant #1	80% (2012 – 2013 data)
	85%	Grant #2	77% (2013 – 2014 data)

Table 2. Graduation (within engineering) and placement rates for the S-STEM cohorts, as compared to those for all transfer students entering the College.

(26.6)

"Two S-STEM grants from NSF allowed the College of Engineering at the University of Massachusetts Amherst to offer scholarships and support activities to almost 80 engineering transfer students, known as S-STEM Scholars, over a recent six-year period. The four-year graduation rate of the Scholars was significantly higher than that of the general population of transfer students during the same time frame. The job placement rate was also higher for the Scholars, although the difference was statistically significant only for the cohort supported by the second grant. Many of the support services designed for the Scholars, were also open to the entire engineering student population. A regular survey helped us to identify effective elements of the S-STEM program. The scholarship funds were critical in helping Scholars to reduce their weekly hours spent on work-for-pay below 10 and thus boost their hours spent on studying above 15. Program elements providing academic support (tutoring) and professional development (career services and conference attendance) were heavily utilized." (26.8)

Citation	**Conclusions**
Glynn, J., & Jack Kent Cooke Foundation. (2019). *Persistence: The success of students who transfer from community colleges to selective four-year institutions* (ED593989). ERIC. https://files.eric.ed.gov/fulltext/ED593989.pdf	"This report presents new research on the extent to which community college students transfer to and subsequently graduate from selective four-year colleges and universities. Key findings include the following: • Over 35,000 community college students enroll at selective colleges and universities each year. • Selective institutions are less likely to enroll community college students than other institutions. • Community college students represent fewer than half of all transfer students at selective institutions, and are underrepresented compared with students coming from high school or transferring from other four-year institutions.

Abstract
Nearly half of all postsecondary students today begin their college journey at a two-year institution (49.2 percent). Students enrolled at a community college are more likely to come from lower- income families than those at four-year institutions. Indeed, low-income students are three times as likely to start at a community college as high-income students. This report focuses on community college transfer as an entry point to selective colleges and universities. Given that lower-income students are disproportionately enrolled at community colleges, the resulting analyses offer insights for transfer of high-achieving community college students with financial need to selective institutions. The report presents new research on the extent to which community college students transfer to and subsequently graduate from selective four-year colleges and universities. Key findings include the following: (1) Over 35,000 community college students enroll at selective colleges and universities each year; (2) Selective institutions are less likely to enroll community college students than other institutions; (3) Community college students represent fewer than half of all transfer students at selective institutions, and are underrepresented compared with students coming from high school or transferring from other four-year

• Community college students who transfer to selective institutions have equal to higher graduation rates as students who enrolled directly from high school or those who transferred from other four-year institutions. They graduate in a reasonable amount of time, earning their degrees within two and a half years, on average." (2)

"**Part 1 focuses on four-year institutions,** answering five questions:
• How many students transfer to selective institutions from community colleges? (Exhibit 2, Page 5)
• How many selective institutions enroll community college transfer students? (Exhibit 4, Page 6)
• Are selective institutions as a group less likely to enroll community college transfer students than other institutions? (Exhibit 3, Page 6)
• Do some selective institutions enroll more community college transfer students than other selective institutions? (Exhibits 4 and 6, Pages 6 and 8)
• Have these trends changed in the last 10 years? (Exhibit 7, Page 8)

Part 2 focuses on two-year institutions, and answers the following questions:
• What percent of two-year institutions transfer students to selective four-year institutions? (Exhibit 8, Page 9)
• What are the characteristics of community colleges that successfully transfer students to selective institutions? Where do these transfer students come from? (E.g., rural versus urban schools, large versus small schools, etc.) (Exhibits 9 – 13, Pages 10 – 12)

Part 3 focuses on transfer students themselves. We examine student characteristics and outcomes for community college transfer students, by institutional selectivity, and answer the following questions:
• Do community college students transfer directly to selective institutions or do they take time off beforehand? (Exhibit 14, Page 13)
• What percent of community college transfer students at selective institutions complete an associate's degree prior to enrolling? (Exhibit 15, Page 14)
• Are community college students retained after transferring to selective institutions? What percent | return for a second year of enrollment? What percent graduate with a bachelor's degree? (Exhibits 16 and 17, Pages 15 and 16)
• How long does it take community college transfer students to earn their bachelor's degree, once enrolled at selective four-year institutions? (Exhibit 18, Page 16)

institutions; and (4) Community college students who transfer to selective institutions have equal to higher graduation rates as students who enrolled directly from high school or those who transferred from other four-year institutions. They graduate in a reasonable amount of time, earning their degrees within two and a half years, on average.

Limitations
"The Clearinghouse data lack information on the application process. Thus while most of the students classified as 'community college transfer students' likely transferred through a formal transfer application process, some may be students with community college credits who gained admission to a four-year institution through its traditional application process." (3)

Article Link

• How do community college transfer student outcomes at selective institutions compare to those of community college transfer students at less selective institutions? (Exhibits 14 – 18, Pages 13 – 16)

Part 4 compares the outcomes of community college transfer students with those of other students, and answers the questions:
• How do the persistence and graduation outcomes of community college transfer students compare to other students enrolled at selective four-year institutions? (Exhibits 19 – 21, Pages 17 and 18)
• In what fields do community college students major at selective institutions, compared to other students? (Exhibit 22, Page 19)" (2-3)

Exhibit 3: Distribution of New Undergraduates across Institutions
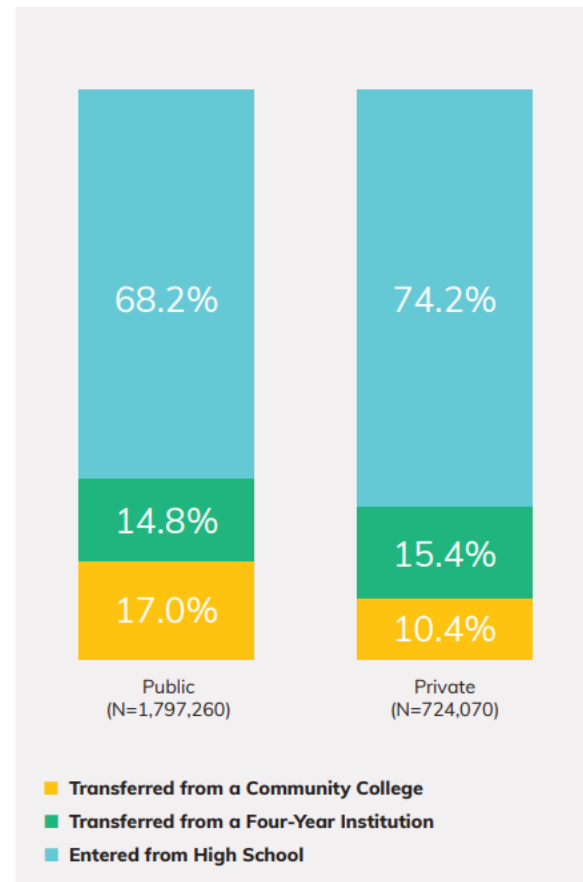(Percent of students in the 2016 Entering Class)
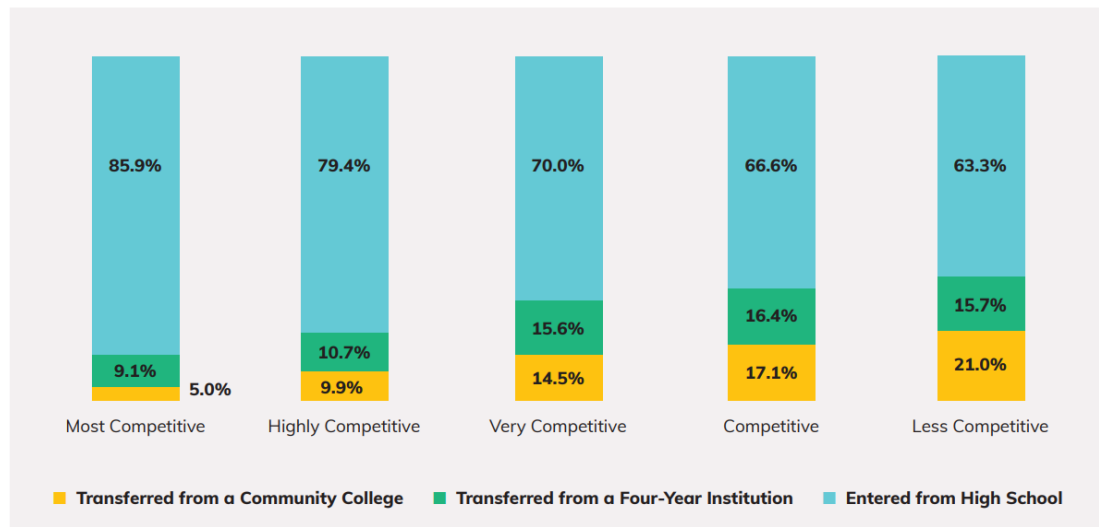
Note: Reporting on 2,517,030 students enrolled at 1,237 institutions in the NSC database.

(6)

"Public institutions enroll four times as many community college transfer students as private institutions: 305,730 versus 75,190, respectively. This is not just because they are larger but also

because transfer students make up a larger percentage of their enrollment (Exhibit 5). Overall 17 percent of the 2016 Entering Class at public institutions come from community colleges, compared to 10 percent at private institutions." (7)

Exhibit 5: 2016 Entering Class
by Institution Type
(Undergraduate Students)

	Public (N=1,797,260)	Private (N=724,070)
Entered from High School	68.2%	74.2%
Transferred from a Four-Year Institution	14.8%	15.4%
Transferred from a Community College	17.0%	10.4%

■ Transferred from a Community College
■ Transferred from a Four-Year Institution
■ Entered from High School

Note: Numbers are rounded to the nearest 10s place.

(7)

"Affordability may be a key driver of this trend, reflecting lower tuition prices at public institutions. Public institutions are also more likely to have relationships with local community colleges that facilitate transfer." (7)

"**Community college students who transfer to selective institutions are more likely to be enrolled one year after matriculation and more likely to earn their bachelor's degree than students who transfer elsewhere.** Furthermore, they do so in less time than transfer students earning degrees at other types of institutions. We find that:
>	• Eighty-eight percent of transfer students at Most Competitive institutions are still enrolled one year after transfer, compared with 76 percent of students at Less Competitive schools…
>	• Three-quarters of community college students who transfer to a Most Competitive institution receive their bachelor's degree, compared to only half who transfer to Less Competitive schools: 76 percent versus 53 percent…
>	• Degree recipients at Most Competitive institutions take slightly less time on average to earn their degree than students at Less Competitive institutions: 2.6 versus 2.8 years….This may be because students enrolling at Most Competitive institutions successfully transfer in significant numbers of credits, or that they are more likely to enroll full-time.

"These findings indicate that previous enrollment at a community college does not preclude academic success at a four-year institution, including the nation's most selective institutions. These data do not disaggregate results by student income level. It is possible that outcomes for lower-income students differ from those for higher-income students." (15)

"Examining the 2010 Entering Class, **we find that community college transfer students have roughly equal one-year retention rates to students enrolling from high school, and higher one-year retention rates than those students transferring from other four-year institutions**…While researchers have documented the 'transfer shock' phenomenon, in which transfer students experience a temporary decrease in grade point average during their first year on campus, such shock does not appear to affect community college transfer students' persistence." (17)

"**Furthermore, we find that community college transfer students have equal to higher graduation rates than students enrolling from high school or transferring from other four-year institutions**…This trend holds true across all selectivity categories. At Most Competitive institutions, 76.0 percent of community college transfer students graduate within six years of transferring, on par with a 75.5 percent graduation rate for students entering from high school." (19)

Exhibit 23: Recommended Practices for Selective Four-Year Institutions to Increase Transfer Access and Success

1

Pave the Way for Change
- Address transfer issues in the institution's mission or strategic plan
- Build a critical mass of supporters across campus, including administrators and faculty members
- Fundraise for endowed scholarships for transfers

2

Partner with Two-Year Colleges
- Identify prospective students early
- Nurture students' self-belief
- Ensure students take the right classes
- Have two-year and four-year faculty collaborate on pedagogy and curriculum development
- Have four-year and community college presidents meet with each other

3

Reach Out Early and Often to Prospective Students
- Appoint a campus point person for transfer students
- Offer joint classes and summer academic programs to prepare students and demystify the selective campus experience
- Provide workshops so students can learn what it takes to succeed at a four-year institution
- Facilitate campus visits
- Include well organized and up-to-date "Transfer Centers" on websites

4

Support Students Post-Transfer
- Improve credit transfer policies
- Offer specialized orientation programs for transfer students
- Offer transfer students institutional financial aid packages equal to those offered to other undergraduates
- Develop social integration strategies (cohort activities, peer mentoring)
- Designate trusted "transfer agent" administrators to help students
- Ensure that advising regarding course selection accounts for "transfer shock," work, and family obligations
- Ensure all majors are open to transfer students
- Have tenured faculty members advise transfer students in internships, service learning, and research projects
- Collect and monitor outcome data and disaggregate by socioeconomic status and transfer status

(21)

Citation

Goodwin Roberts, K., Bowles, T., & Lavelle, J. P. (2015, June 14-17). *Building a better transfer community: Improving engagement and advising of prospective transfer students* [Paper presentation]. ASEE Annual Conference & Exposition, Seattle, WA, United States. https://strategy.asee.org/23635

Abstract

The College of Engineering at NC State has consistently admitted 200-300 transfer students each academic year over the past decade. These students ultimately make up about one quarter of the graduating class in the College of Engineering each year. During this time, annual reports from the College of Engineering regularly reported that approximately 50% of engineering transfer students transferred from one of the 58 institutions in the North Carolina Community College (NC CC) system. This data was extracted from the Office of Admissions database, which reports only the last institution attended, as listed by the transfer applicant. Over the summer/fall 2013 (n=259) and summer/fall 2014 (n=293) transfer cohorts, we collected data on all institutions attended by admitted transfers students and learned that 70% of transfer students each year have previously enrolled at a NC CC. Yet, very few resources were devoted specifically to

Conclusions

"Inspired by the success of these strong relationships with our TPT partners and motivated by NC State's strategic plan to expand the proportion of transfer students, the College of Engineering teamed with the College of Education at NC State. We established initiatives aimed directly at NC CC's and their communities: 1) to disseminate accurate information regarding engineering at NC State and 2) to develop a valuable network of higher education institutions in North Carolina. In addition to promoting the transfer of high quality students into engineering at NC State, our goal was to improve their retention and performance. In this paper, we detail the strategies we employed to achieve these goals, including programming and publications created by the College of Engineering, targeted solely to NC CC students and advisors." (26.2)

"Students choose the community college pathway for a number of reasons. For students unsure of their academic goals, starting at community college offers the opportunity to explore various fields without incurring significant debt." (26.3)

"Proximity is another factor for students deciding between four-year institutions and a NC CC." (26.4)

"With an increase in applications also comes improved diversity. As mentioned earlier, students choose the community college pathway for various reasons. By encouraging this pathway, NC State can gain access to rural applicants, applicants with varied socioeconomic circumstances, and applicants with an array of religious, ethnic, and racial backgrounds." (26.4)

"The central objectives were to increase the awareness and understanding of engineering among North Carolina residents and develop a valuable network of institutions of higher education in North Carolina to promote the transfer of high quality students into engineering at NC State." (26.7)

"We reasoned that the success of these transfer students stemmed from high-quality advising and extremely strong communication between COE and the advisors at these partner institutions." (26.7)

"The College of Education's Department of Leadership, Policy, Adult and Higher Education has connections with NC CC's across the state. Meanwhile, COE transfer admissions has some interactions with a number of pre-engineering advisors at NC CC's. Using these contacts, a list of key professionals closely tied to engineering transfer from their home NC CC's was generated. These individuals were invited to attend a workshop, 'Effectively advising pre-engineering NC community college transfer students,' held on NC State's campus in the Golden LEAF Biomanufacturing Training

educating and recruiting prospective transfer students from NC CC's. Instead, students and advisors have historically relied almost entirely on information provided on the NC State website. On these websites, transfer requirements and engineering curricula are provided along with a NC CC equivalency worksheet to assist with course selection prior to transfer. The College of Engineering has been the beneficiary of strong 3+2 dual degree and 2+2 partnerships (TPT's) with institutions like Elon University, Meredith College and the University of North Carolina at Wilmington. Students transferring from these institutions are provided high-quality advising and enjoy a high acceptance rate due to the strong communication pathways between the College of Engineering and the pre-engineering advisors at these partner institutions. The students at the local North Carolina Community College, Wake Technical Community College, also benefit from accurate, high-quality advising due in large part to the diligence of their pre-engineering advisor who is able to attend advising meetings and stay in regular contact with Engineering Academic Affairs. Inspired by the success of these strong relationships with our TPT partners and motivated by NC State's strategic plan to expand the proportion of transfer students, the College of Engineering teamed with the College of

and Education Center, a center on NC State's campus that partners with the NC CC system…. | In addition to structured presentations, time was allotted for open discussion on how advising is administered at the various institutions, concerns about NC State's tuition surcharge, when students might contact the College of Engineering directly, career opportunities for engineering students, minors for transfer students, the effect of AP credit on transfer, how transfer credit from other non-NC CC institutions is handled, admission to highly competitive engineering programs, the CAA, engineering outreach, improvements in communication, reverse articulation, and summer offerings to reduce time at NC State." (26.7-26.8)

"The second primary product of this work was the first official publication of the 'Engineering North Carolina Community College Transfer Guide.' Included in the publication are explicit details on the transfer course requirements, using color codes to indicate course numbers at NC State and course numbers at NC CC's. All degree options as well as concentrations and locations, since NC State offers two site-based engineering programs in Asheville, NC and Havelock, NC, are provided. Then, to assist students in planning one, two, three or four semesters at the NC CC level, additional course options (using NC CC course numbers) for each of NC State's 18 engineering programs is listed, including all NC CC courses that can be taken to fulfill NC State general education requirements. Finally, the guide addresses frequently asked questions in the areas of transfer requirements (ex. how is transfer GPA calculated?), transfer credit (ex. how long will I be at NC State?), attending NC State as a non-degree student (ex. can I start at NC State before officially transferring into an engineering program?), and CAA…" (26.9)

"In addition to disseminating important information, the workshop allowed for critical feedback to improve the transfer advising process from the NC CC side." (26.11)

"During the open discussion portion of the workshop, attendees were encouraged to share advising strategies as well as ask questions about NC State policies that can be tricky for transfer students. For example, scenarios were offered illustrating the advantage of students in some disciplines starting in the summer prior to officially transferring (NC State accepts only fall transfers). Depending on course offerings, this small step could reduce a student's time by as much as an entire year. We also covered NC State's tuition surcharge. Transfer students are frequently excluded from surcharge fees so long as their NC State course work is consistent with their declared engineering program. This information is helpful to a prospective student budgeting for their entire degree early on." (26.12)

Education at NC State. We established initiatives aimed directly at NC CC's and their communities: 1) to disseminate accurate information regarding engineering at NC State and 2) to develop a valuable network of higher education institutions in North Carolina. In addition to promoting the transfer of high quality students into engineering at NC State, our goal was to improve their retention and performance. In this paper, we detail the strategies we employed to achieve these goals, including programming and publications created by the College of Engineering, targeted solely to NC CC students and advisors. We describe key components of the efforts, share feedback from our NC CC colleagues and transfer students, and discuss best practices for other institutions seeking to create or strengthen their ties with community colleges.

Limitations
A program instantiated between multiple colleges that might have limited generalizability elsewhere; this report focused on transferring engineering students.

Article Link

"Institutions seeking to duplicate these efforts would be encouraged to evaluate frequency of transfer and travel limitations in determining the best timing of workshops and when/if teleconferencing might be more appropriate." (26.13)

"The community college system already plays a significant role in educating engineers across the United State and has enormous potential as we enter the twenty-first century. The community college era has arrived and four-year engineering institutions will benefit most by taking an active approach in establishing and strengthening partnerships. Students, future employers, taxpayers, community colleges, engineering institutions, and the general public all profit when clear, consistent and comprehensive agreements are formally instituted and subsequently executed through accessible networking, programming, and publications." (26.14)

Citation Gose, B. (2017). A clear path. *Chronicle of Higher Education, 63*(18), A8–A12. **Abstract** The article discusses efforts to increase retention of students who transfer from community colleges to four-year universities and colleges. Topics include the program Everett University Center to help transfer students at Everett Community College and Washington State University at Everett, joint admission to Texas A&M University's College of Engineering and several Texas community colleges, and efforts to academically assist transfer students. INSET: 5 Ways to improve the Transfer Experience. **Article Link**	**Conclusions** "Bringing the university to the community college -- through centers like the one at Everett -- is just one such strategy. Others include encouraging collaboration between university and community-college faculty members; guaranteeing admission to a four-year university when a student enters a community college; and automatically signing students up for coordinated course advising by both the community college and the university." (para. 5) "One of the challenges for community-college students is simple logistics -- they typically need to relocate to a university setting to earn a bachelor's degree. For two-year college students, many of whom are low-income, the first in their families to attend college, or raising their own families, that relocation can quash hopes for a bachelor's degree." (para. 8) "Meanwhile, the program's transfer profile has shifted -- formerly about 60 percent of Everett's engineering graduates went on to the University of Washington, in Seattle. Now 60 percent are choosing Washington State's Everett program, and avoiding what can be a grueling 30-mile, 90-minute commute to the UW campus." (para. 11) "Roughly 1,000 new students at five community colleges in Texas will start the 2017 fall semester with a nice boost of confidence -- they will have already been admitted to Texas A&M University's College of Engineering. "At two Blinn College campuses near A&M's College Station campus, and four additional community colleges in Austin, Brownsville, Dallas, and Houston, the students will be admitted to the community college and A&M Engineering at the same time. The engineering 'academies' allow the students to spend the first two years at the community college, and then finish their degrees at A&M. Even while at the community college, the students will take one course each semester from a visiting A&M instructor. They'll also make regular bus trips to College Station for campus tours, a football game, and an engineering career fair; A&M hopes to reduce the 'transfer shock' some community-college students encounter during their first semester at a university." (para. 14-15) "The A&M academies solve a problem that many community-college students encounter: If you don't know what four-year degree you plan to seek, and precisely where you will pursue it, odds are good that you will end up taking courses that don't count toward your degree. "Mr. Wyner, of the Aspen Institute, says inadequate 'program maps' -- a listing of the course sequences and prerequisites that two-year students need to transfer into a four-year degree program -- are one of the greatest hurdles faced by students transferring from community colleges." (para. 21-22)

"Transfer shock for community-college students can be especially acute at private colleges, where many students come from privileged backgrounds and attended high-performing high schools. Bucknell University brings in 30 students each summer for a six-week program, after the students have completed their first year at one of five community-college partners. The goal is to give the students a taste of Bucknell's academic rigor and experience what it's like to study at a rural liberal-arts college." (para. 31)

"At LaGuardia Community College, in New York, the additional support is more informal and focused on helping students navigate the often complex admissions process required by elite institutions. At LaGuardia, a team of Manhattan moms who helped their own children get into selective colleges are sharing their expertise with low-income students seeking to transfer. Karen Dubinsky, the LaGuardia administrator who created the team of volunteers, dubbed the group 'Pushy Moms.'" (para. 37)

"The Pushy Moms work mostly with ambitious students who are eager to get into highly selective colleges, but the volunteers will also assist LaGuardia's transfer office in January. The office expects more than 1,000 students to seek help submitting transfer applications to four-year institutions in the City University of New York system before a February 1 deadline.
"After CBS This Morning reported on the Pushy Moms in November, Ms. Dubinsky received about 100 emails requesting more information -- from community colleges, nonprofits, and 'lots of moms.' She's now working with a student at Harvard Business School to explore creating a national platform. One possibility: Universities interested in the diverse students at community colleges might provide revenue to support the rollout of Pushy Moms." (para. 39-40)

"**5 Ways to improve the Transfer Experience**
Community colleges and four-year institutions are working together to ease students' transition from one to the other. Here are five examples.

Guaranteed admission. When students are simultaneously admitted to both a community college and a university, they have a visible path to a bachelor's degree and are far less likely to take courses at the community college that won't count toward their four-year degree.

Automatic enrollment. New community-college students who express interest in a bachelor's degree are automatically enrolled in a program that involves academic advising by both the community college and a nearby university that students frequently transfer to.

University centers on two-year campuses. Many universities now offer bachelor's degrees at centers on community-college campuses, allowing students to finish a four-year degree without changing their commutes or moving away from their families.

Summer programs. Some four-year institutions invite promising community-college students to summer programs after their first year to allow the students to experience a residential campus and university-level courses.

Admissions mentoring. LaGuardia College links mothers who have already shepherded their own children through the admissions process with community-college students who are looking to transfer. The program, called Pushy Moms, is now exploring the possibility of expanding to other colleges." (para. 43-48)

Citation

Kadlec, A., & Ashburn, E. (2021, June 10). The invisibility of transfer students. *Inside Higher Ed.* https://www.insidehighered.com/blogs/tackling-transfer/invisibility-transfer-students

Abstract

Interviews with enrollment managers and CFOs reveal insights: "Most of the accountability metrics are focused on first-years, and so [transfers] are kind of hidden. They come and go without much impact."

Limitations

A brief summary of a study done by another institution.

Conclusions

"While different types of four-year institutions have different incentives for serving transfer students, we were surprised to hear across conversations -- even at institutions that serve large populations of transfer students -- that little strategic attention is paid to actively recruiting and supporting transfer students." (para. 2)

"Until recently, community college transfers were a reliable pool of new students for four-year institutions, and colleges didn't have to work particularly hard to bring them in. This is changing as enrollment declines at community colleges -- quite drastically in some regions -- but this 'they'll show up' mentality still dominates at many four-year institutions, even those that serve large numbers of transfer students." (para. 3)

"Recruitment is about far more than just bringing in a class -- it's the first step in managing the entire enrollment cycle. And a good enrollment manager is recruiting with an eye on retention and graduation, not just filling seats. But for the vast majority of institutions, transfer students don't count in official retention and graduation rates, or in performance-based funding or other state accountability frameworks. So there's every incentive for four-year institutions to enroll community college

	transfers, but little incentive to recruit them actively or to prioritize packaging financial aid and scholarships for transfer students." (para. 4) "At more selective institutions, enrollment managers aren't just recruiting for FTEs, they are recruiting to bolster the class profile -- average GPA, standardized test scores, diversity -- and other markers of status like admission and yield rates. Transfer students are completely missing from those reputational metrics. At institutions that view their reputation and rank as just as existentially important as total enrollment, that makes transfer students a distant priority when it comes to recruiting. It should be deeply troubling to equity-minded reformers that the invisibility of transfer students increases with institutional selectivity." (para. 5) "Many other institutions reported concern about transfer enrollment now and in the longer term. Transfer enrollment at four-year institutions dropped 2.6 percent this past fall, while non-transfer enrollment essentially held steady (0.1 percent increase). And community colleges saw steep enrollment declines last fall and this spring, which doesn't portend well for transfer enrollment in the next couple years. Some of the finance and enrollment leaders we spoke with were taking proactive measures now to shore up transfer enrollments, but many were taking a 'wait and see' approach." (para. 7) "Beyond these key themes, we've also found that it's relatively rare to find strong strategic relationships between leaders in enrollment management/institutional finance and academic leaders charged with making progress on core student success priorities. Our conversations with provosts from four-year institutions echo what we're hearing from enrollment managers and CFOs. The ongoing invisibility of transfer students, coupled with weak ties between academic leaders and those leaders focused on the institution's enrollment strategy and broader financial health, points toward important areas of work for institutions committed to ensuring transfer student success." (para. 8)
Citation Kilgore, W. (2021, June 3). Understanding the needs of today's student. *Inside Higher Ed.* https://www.insidehighered.com/blogs/tac	**Conclusions** "Over a million transfer students enrolled for fall 2018 at degree-granting institutions, and 31.5 percent of community college students transfer to four-year institutions within six years. These numbers alone support why transfer students are, and will remain, part of our student population and deserve our best level of service. Service can only improve when we understand the student

kling-transfer/understanding-needs-todays-student **Abstract** Higher education leaders need to understand the barriers and enablers of the transfer student experience, then do the work to create an environment aimed at giving credit where credit is due. **Article Link**	experiences in navigating not only the transfer-related institutional procedures and policies, but also the transfer culture of the institution." (para. 1) "A recent report from the American Association of Collegiate Registrars and Admissions Officers, commissioned by the American Council on Education, revealed that 43 percent of students did not know why their credits did not transfer. This response from students is not surprising given what we know about the institutional permutations and intricacies of transcript evaluation policy and practice. However, institutions are not overtly trying to be opaque about why credits did not transfer. On the contrary, Title IV-eligible institutions are required to make available to students the conditions under which credit is evaluated for transfer, and most criteria are posted on institutions' websites. The disconnect is that we often expect transfer students to seek out, read and understand these policies, and we assume they know why their credits did not transfer. The data on the read/open rate of college-issued email should tell us otherwise. Few students will take the time to read these policies, and even fewer will take the time to ask questions about why their credits did not transfer." (para. 2) "However, in a recent AACRAO report about institutional policy and practice for transfer credit evaluation, we found that 63 percent of institutions provide transfer students with an explanation of how their credits apply to their selected program of study, but just 51 percent tell students why credits do not transfer." (para. 3) "Academic advising -- both from the sending institution and receiving institution -- is an area students identified as needing significant improvement. The aforementioned AACRAO report with ACE examines transfer credit evaluation and advising practice research based on transcript data, transfer credit evaluation policy and advising policy. One of the data points from the statistical analyses showed a strong relationship between the type of advising a transfer student receives and the percentage of earned credits awarded in transfer." (para. 5) "Most, if not all, pathway models support requiring students to meet with an academic adviser on a regular basis. This should absolutely be the case if the student intends to transfer to another institution. Anecdotal and qualitative data tell us that consistent, well-informed academic advising plays a strong role in the courses students take. One published AACRAO case study used a qualitative approach to understand more about barriers and enablers for transfer students. A key finding is that 'transfer students are often ignored or are given individualized attention only after "things settle down" in the semester.' This supports the data we collected on transfer student advising practice and reflects some students' perceptions of the transfer experience." (para. 7)

"The dual-enrollment credit-loss issue could be at least partially addressed by eliminating any policies that do not allow for college credit earned while in high school to be awarded in transfer." (para. 8)

"In summary, institutional leaders should conduct a review of all the transfer credit evaluation policies and practices for unnecessarily complicated and restrictive practices. Where they are found, a concerted effort should be made to simplify and create an environment aimed at giving credit where credit is due. Students should not be put in the position to retake credits for which they have already earned a passing grade in a course at another institution because of idiosyncratic institutionally based transfer credit evaluation practice or policy." (para. 10)

Citation
Lavinson, R. (2021, May 27). Paving an efficient transfer pathway to a bachelor's degree. *Inside Higher Ed.* https://www.insidehighered.com/blogs/tackling-transfer/paving-efficient-transfer-pathway-bachelor%E2%80%99s-degree

Abstract
San Antonio College has built a comprehensive transfer system that gets and keeps students on track with clear pathways to a bachelor's degree and strong connections with four-year institutions.

Limitations
Focuses on the successes of a community college creating transfer opportunities for students.

Article Link

Conclusions
"Those seeking a model should look to San Antonio College, which won the 2021 Aspen Prize for Community College Excellence earlier this month. SAC, one of five community colleges in the Alamo Colleges District in Texas, has built a comprehensive transfer system that gets and keeps students on track. The Alamo Colleges have built clear pathways to a bachelor's degree and provide inescapable, personalized guidance for students. What's more, SAC creates strong connections with four-year institutions and continuously evaluates systems and student outcomes to improve processes." (para. 2)

"These practices have resulted in strong outcomes. Students in the Alamo Colleges District complete their associate degrees in 65 hours, on average, compared to a national average of over 80 hours, helping students maintain momentum (and preserve financial aid dollars). SAC students transfer at rates eight percentage points above the national average. The rate at which transfer students attain their bachelor's degrees also exceeds the national average -- and at several partner universities, students who transfer from SAC attain their credentials more quickly than students who began there as freshmen." (para. 3)

"Guided pathways are an important component for saving students time and money in pursuit of their degree. The Alamo Colleges District has over 1,000 Transfer Advising Guides (TAGs), which lay out pathways to 26 Texas colleges and universities within a compact. The TAGs are a result of close coordination between faculty, student services and administrators at SAC, Alamo Colleges District and university partners.
"The TAGs tell a student in a given program which courses they need to take each semester to transfer to a specific university with junior standing in their major. Students who follow TAGs are guaranteed to only lose a maximum of three credits, or one course, upon transfer, compared to a national average

of 13 credits. In addition, about half of the transfer pathways are 'seamless,' meaning that transfer students won't lose any credits upon transfer and will save an average of $40,215 if transferring to a public university within the compact." (para. 4-5)

"To get students on the right pathway as soon as possible, SAC works to understand their goals and ambitions during their first semester and help them make choices early that will facilitate a smooth transition to a four-year school or the workforce. SAC students are expected to select their transfer destination by 30 credits -- and, unlike at many colleges, they are encouraged to do so even earlier." (para. 6)

"At orientation, students choose one of six broad educational pathways (such as public service or health and biosciences) and attend group advising sessions based on their area of interest. During these sessions, advisers provide information on the necessary course work for the degree, review TAGs and begin working with students on individualized student plans (ISPs)." (para. 8)

"The 'guided' portion of SAC's guided pathways is especially strong. The Alamo Colleges District has built a highly organized and robust advising structure, called AlamoADVISE, where each student sticks with an adviser throughout their journey, and the adviser is embedded in their degree program. Advisers work with SAC faculty and faculty from partner universities to stay up-to-date on course changes, departmental requirements and other information highly relevant to transfer students -- which is made easier because advisers specialize within degree programs." (para. 9)

"Advisers in the Alamo Colleges District go through trainings to effectively guide their students and must complete a set of core competencies annually. These competencies include identifying a student's intent to transfer, understanding advising milestones and using TAGs to direct student course work. SAC advisers also monitor student success indicators for students in their caseload each week and reach out to those who appear to need extra support.
"After each advising session, students complete a survey of the advising appointment, probing whether they learned what they needed to (about satisfactory academic progress, for example) and collecting information on student satisfaction ('Was the adviser prepared?'). Advisers review the results each week and work to address ongoing issues." (para. 11-12)

"SAC also tracks how graduates perform at transfer destinations, with a completion team meeting weekly to assess transfer student outcomes by program." (para. 13)

Citation Ryan, J., & Soto, C. (2021, May 20). From California to Connecticut: Building the will to untangle community college transfer. *Inside Higher Ed.* https://www.insidehighered.com/blogs/tackling-transfer/california-connecticut-building-will-untangle-community-college-transfer **Abstract** Six ways stakeholders should prepare to tackle their transfer policy push. **Article Link**	**Conclusions** "As experienced legislative advocates for advancing equitable, student-centered pathways in education, we believe that policy makers can and should be compelled to remove persistent systemic barriers that prevent far too many students from reaching their college dreams. "The following considerations should help stakeholders prepare to tackle their transfer policy push: ● **Assess what role you or your organization are best positioned to play.** Just like actors play different roles in a movie, advocates, too, play different roles to help create policy change. Are you the convener of different voices, are you providing critical data on an issue, are you scorching the earth outside the Capitol in press conferences? It is important to play to your greatest strengths. ● **Identify a strong champion who has the wherewithal to remain on the issue.** The key to building and sustaining support, and ultimately victory, for a legislative initiative is to early on identify a policy maker who will carry the water and stay engaged for the long haul. As California sought to address historic transfer reform (SB 1440) by creating an associate degree for transfer that would guarantee admission to the California State University system, the highly respected Senator Alex Padilla was that essential policy maker. He dug into the issue, carried follow-up legislation and continued to advocate for successful implementation of the policy as he ascended to secretary of state and his appointment to the U.S. Senate. ● **Build a winning coalition.** Once you've committed to your role and found your champion, it is critical to build a 'bulletproof' winning coalition. Your coalition should bring together a diverse team that is collectively aligned on the broader goal of enacting change. This means that the tent may be bigger than you initially envisioned but that's OK. Policy wins when the constituents or those impacted win, not one organization. Additionally, a winning coalition can include unlikely voices or those with different views. But remember that at the end of the day, while compromise is important and aligned interests are golden, you shouldn't sacrifice core elements of policy to satisfy the opposition. ● **Weave together student voice and data to tell transfer students' stories.** Transfer students have a compelling story to tell about how they are navigating their learning, work and lives. Combine student voices with data -- disaggregated by key student characteristics such as income, race/ethnicity and age -- to illustrate the many complexities and barriers students face on their paths to completion, and their ideas for how to better support their success. In Connecticut, this was a key strategy during the push to offer undocumented students institutional aid. It was hard to argue against the policy when students who had graduated from

the state's public high schools were walking around with robes and graduation caps, vividly sharing their journeys and aspirations to be part of Connecticut's workforce.

- **Research the opposing view and engage the opposition.** While you may think you have the best policy idea on earth, there will always be an opposing view. A former secretary of education once imparted these words of wisdom: 'No policy change worth pursuing is without opposition.' The key is to hear the opponent's concerns while remaining focused on the remedy you're seeking. The best advocates can hear the critiques, develop sound alternatives and communicate them better than the opposition.
- **Approach your campaign to transform transfer with a long-term vision.** Finally, it is best to set the expectation that the policy change you are seeking will not happen the first year you attempt it. A long-term vision means you are committed to building allies and becoming a trusted source for policy makers seeking information on the issue. Long-term vision means a commitment on your part to see the journey through until change is made. Good advocates will help get policy enacted. The best advocates are also engaged for policy implementation to ensure fidelity and accountability." (para. 4-11)

Citation Wootan, G., & Washington Student Achievement Council. (2017). *2017 transfer report: A review of improvements in transfer.* (ED592997). ERIC. https://files.eric.ed.gov/fulltext/ED592997.pdf **Abstract** Transfer is the movement of students and their earned credits from one institution to another. This process includes how students' work from the sending institution is applied toward degree requirements at the receiving institution. The Washington Legislature has tasked the Washington Student Achievement Council (WSAC) with "improving student transitions from secondary to postsecondary education and	**Conclusions** "Washington also has the fifth highest percentage of students who earn an associate degree or certificate from a public CTC before transferring to a baccalaureate institution…Evidence suggests that students have a higher probability of earning a bachelor's degree if they transfer after earning an associate degree or other credential." (2) "Furthermore, students who transfer to Washington's baccalaureate institutions are more likely to earn their bachelor's degree compared to institutions in the rest of the United States. Washington's public baccalaureate institutions lead the country in the percentage of students who earn a bachelor's degree after transferring from any community college nationwide, and the state's private non-profit colleges are second in the country…" (2) "This makes clear transfer policies necessary because they ensure that students: ● Receive fair treatment when they transition. ● Understand in advance the process and implications of transferring from one institution to another." (3) "Impending nursing shortages and a national movement toward increasing Bachelor of Nursing (BSN) graduates led Washington to review its nursing pathways for CTC students. In 2012, the JTC

training and between and among postsecondary institutions." A strong transfer policy plays a critical role in improving transitions because it supports student access and completion. WSAC also has a statutory responsibility to establish and adopt transfer policies to improve educational transitions. WSAC sends a biennial report to the Legislature on improvements in transfer efficiency. The report covers progress on transfer indicators, and outlines development of additional transfer associate degrees. This report outlines improvements in transfer that will support underserved and underrepresented students as well as working-age adults. These improvements will contribute to the number of Washington adults who have a postsecondary credential.

Limitations
This report details information about a university in Washington that has a high success rate of transfer retention and completion. Results might not be generalizable.

Article Link

established a workgroup to develop a more streamlined pathway for CTC students transferring to BSN degree programs. The workgroup finalized the new Nursing MRP based on the DTA degree in 2014." (14)

"A JTC workgroup developed a Computer Science MRP based on the DTA degree, effective fall 2016.
"The degree will transfer to all public baccalaureates, six private non-profit baccalaureates, and Bellevue College. The JTC will revisit the MRP in 2017 to assess efficacy." (15)

"Reverse articulation, or reverse transfer, lets eligible students earn their associate degree after transferring to a baccalaureate institution. Students who transfer to a baccalaureate institution before completing their associate degree can complete any remaining requirements as part of their baccalaureate program and transfer credits back to the CTC to receive their associate degree.
"For years, many Washington institutions have offered reverse transfer on an unofficial basis." (15)

"In 2015-16, Eastern Washington University (EWU) and Washington State University (WSU) signed agreements with SBCTC to offer official reverse transfer. Western Governors University–Washington also signed an agreement. The remaining four public baccalaureates will have agreements by the end of 2017. Since making the agreements, WSU and EWU have reached out to eligible students to let them know about the program. At WSU, five out of 934 eligible students followed up and earned their associate degrees." (16)

"WSAC staff updated its transfer webpage at www.wsac.wa.gov/transfers to ensure that all transfer degree agreements and references to state laws and other policies are posted. The WSAC page is intended for people who reference policy guidelines." (16)