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Research Spotlight

2333 - Longitudinal Analysis of Transfer Students

Credits and Degree Pathways, Matriculation Trends and Issues

We followed a cohort of approximately 17,000 freshmen who entered community college in Fall 2013, as they moved through the various stages of transfer and enrollment in bachelor's programs. We quantified how many students did not progress or perform positively through the pipeline at four challenge points (lack of transfer application, transfer melt, lack of credit transfer, and transfer shock). We found substantial lack of progress in the pipeline at each of these points.

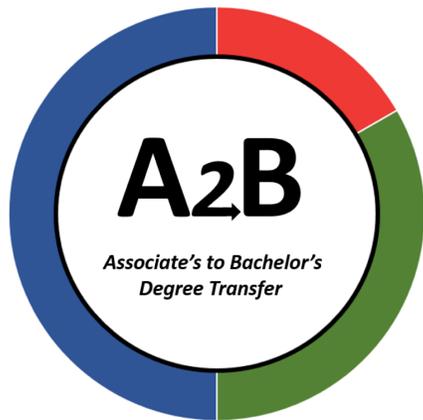
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Longitudinal Analysis of Transfer Students:
Application, Transfer Melt, and Transfer Shock

The City University of New York
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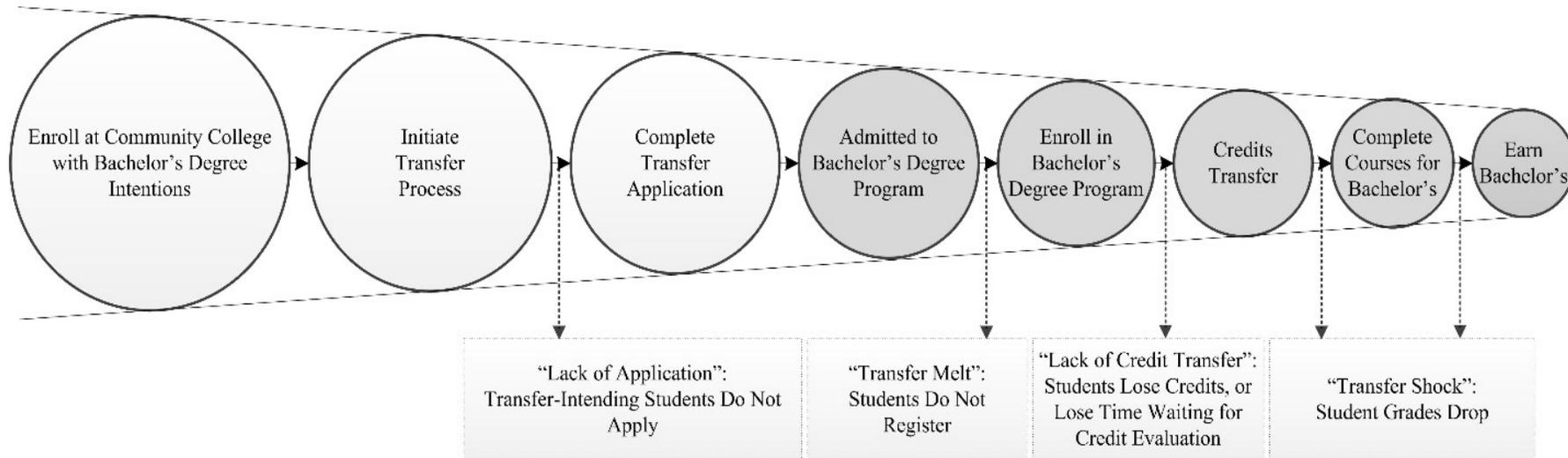
Overview of Transfer Opportunity Project (TOP)

- At the start of college, 87% of CUNY community college students say that their ultimate goal is to attain at least a bachelor's degree, but only 16% do so within six years.
- Bachelor's degree receipt is consequential: over the course of a lifetime, graduates with a bachelor's degree earn significantly more than graduates with an associate's degree.
- TOP explores the possible factors contributing to the low percentage of community college students who go on to earn bachelor's degrees.
- The project uses a combination of quantitative and qualitative research in the CUNY system of colleges. Here, we present findings from the longitudinal analysis.

Overview of longitudinal analysis

Goal: We tracked the Fall 2013 cohort of first-time-freshmen who entered a CUNY community college with a focus on the transfer pipeline and quantified how many students are lost at each of four potential major leakage point. (This deck includes findings from the first two and transfer shock, we will cover credit transfer in a brief on our website.)

Data sources: Policy Tracking Cohort (enrollment, outcomes), National Student Clearinghouse (non-CUNY enrollment, outcomes), ASTA (transfer applications prior to Spring 2019), CUNYfirst (transfer applications starting Spring 2019)



1. Transfer Application

In this section, we count how many students from our community college cohort apply for transfer and compare their characteristics to those who do not.

Before even reaching the point of possible transfer application, many students stop out in the very first semesters of community college: only 56% remain enrolled in the fourth semester.

Students from the Fall 2013 cohort who are still enrolled in CUNY community colleges

	F13	S14	F14	S15
N	17,455	14,240	11,276	9,768
% of initial	100	81.6	64.6	56.0

- The size of the pool of possible transfer applicants shrinks rapidly early on, which has implications on how we measure rates of application to transfer. If we use everyone in the starting cohort as a denominator, our calculated rate of application to transfer will be lower than if we use everyone who made it through the first two years of community college.

47% of students in the community college cohort apply for transfer to a bachelor's program within 6 years.

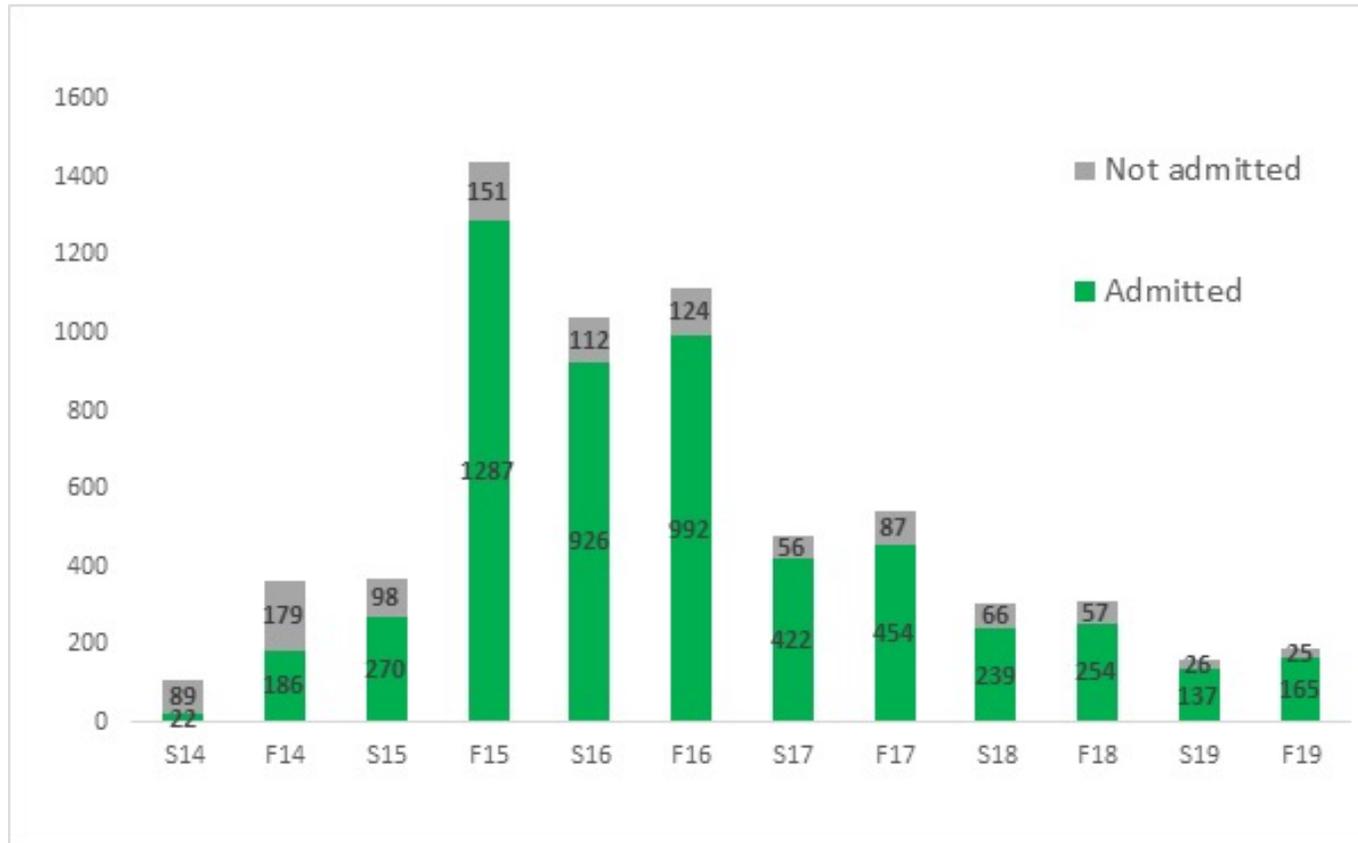
Students from the Fall 2013 cohort (N=17,455) who apply for transfer

	Number of students
Enrolled in CUNY community college	17,455
Total applied to bachelor's program	8,126
Application record to CUNY bachelor's	5,460
Inferred application - record of enrollment at CUNY bachelor's	1,262
Inferred application - record of enrollment at non-CUNY bachelor's	1,404

- The category of "Inferred application" consists of cases where we did not have an application record itself, but inferred that a student applied because they appeared as enrolled in a bachelor's program in some later semester.

The most popular time for transfer application is 2-3 years after starting at the community college.

Transfer applications to CUNY bachelor's degree programs, by term:
Fall 2013 cohort (N=6,424)



- The majority of applications (83%) result in the student being admitted to a bachelor's program.

Applicants are more likely to be female and Asian or White, and less likely to be male and Black or Hispanic than non-applicants, and they have stronger academic preparation.

Characteristics of students who applied for transfer vs. did not apply for transfer, Fall 2013 cohort (N= 17,455)

	Baseline (N=17,455)	Applied (N=8,126)	Did not apply (N=9,329)
<i>Demographic characteristics</i>			
% Female ***	52.9	60.5	46.3
<i>Race / Ethnicity ***</i>			
% Asian	14.3	17.3	11.7
% Black	27.9	26.0	29.7
% Hispanic	43.6	40.0	46.7
% White	13.8	16.4	11.6
Mean age (college entry) ***	20.1	19.6	20.5
% Pell (college entry)	74.6	74.3	74.9
<i>Academic preparation</i>			
High school GPA ***	75.7	77.6	73.9
% Assigned to any remediation ***	73.2	67.0	78.6

Chi-square/t-test: *** = $p < 0.01$

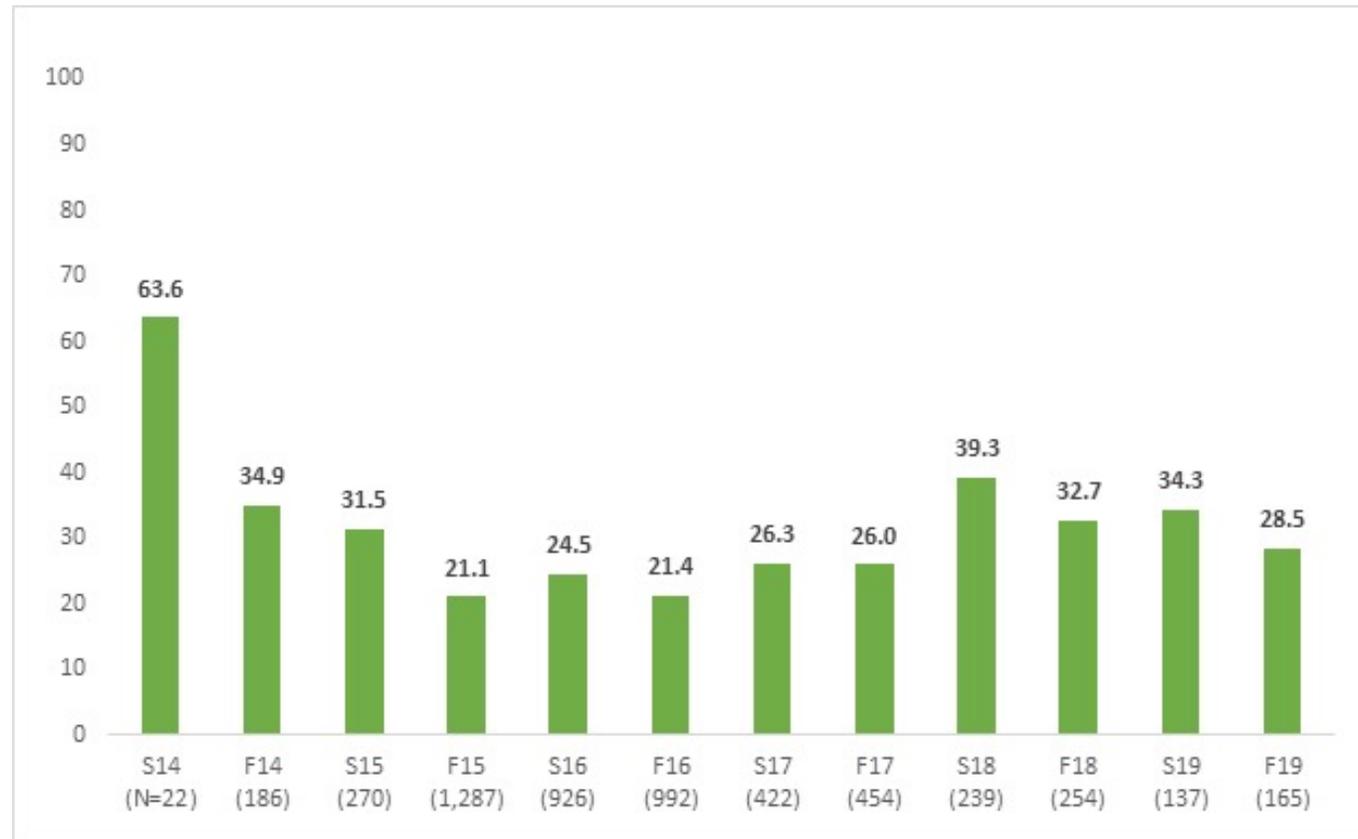
2. Transfer Melt

Definition: We created the term “transfer melt” to refer to the phenomenon in which students who were accepted for transfer do not enroll or register at their new institution (cf. “Summer Melt,” high school students who are accepted to college but never enroll in the fall, Castleman & Page, 2014).

In this section, we count how many students from our community college cohort drop out of the pipeline due to “Transfer Melt”. We also look at their characteristics and pathway after melt.

26% of all applications that yielded admissions to a bachelor's program result in transfer melt. Transfer melt is the least prevalent 2-3 years after entry and is higher for spring than for fall terms.

Percentage who did not enroll in a bachelor's degree program (CUNY or other), of those admitted to a CUNY bachelor's program, by term: Fall 2013 cohort (N=5,354 applications)



Admitted students who enroll in bachelor's programs are more likely than melters to be Asian, White, or Hispanic, and less likely to be Black. They are less likely to be a Pell recipient, slightly younger on average, and have higher mean GPA and cumulative credits.

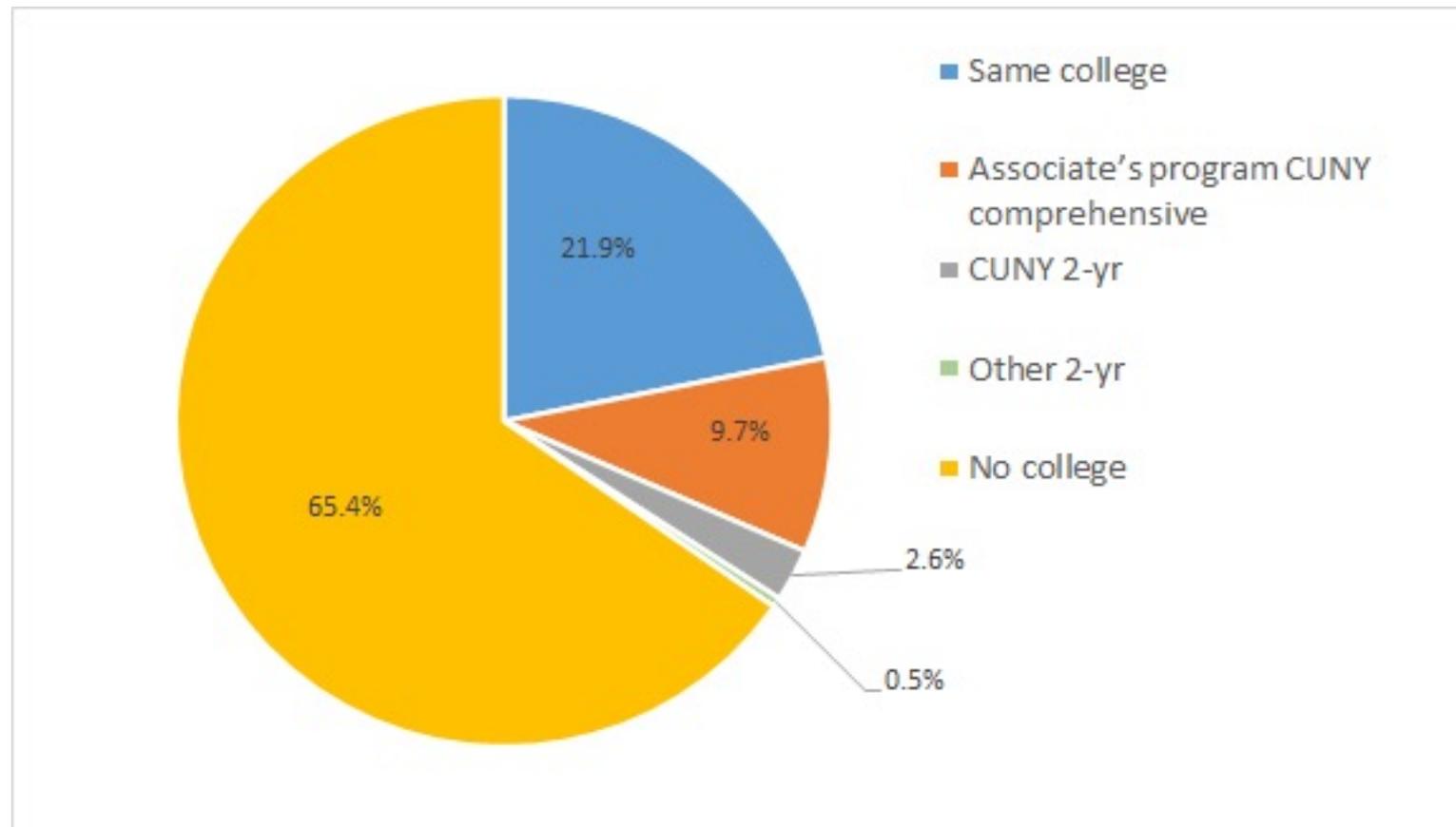
Characteristics of admitted students who enrolled in bachelor's program vs. melted:
Fall 2013 cohort (Total N=4,816)

	All admitted students (N=4,816)	Enrollees (N=3,979)	Melters (N=837)
<i>Demographic characteristics</i>			
% Female	62.6	62.6	62.8
Race / Ethnicity ***			
% Asian	20.3	20.8	17.9
% Black	21.8	20.1	29.9
% Hispanic	39.8	40.2	37.5
% White	17.7	18.4	14.6
% Pell (college entry) **	76.6	76.0	79.5
Mean age (college entry) ***	19.7	19.6	20.2
<i>College performance</i>			
Mean cumulative GPA ***	3.0	3.1	2.9
Mean cumulative credits ***	55.7	56.6	52.0

Chi-square / t-test *** = p < 0.01, ** = p < 0.05, * = p < 0.1

Almost three quarters of students who melt don't enroll in any college following melt. Of those who remain in community college, the vast majority stay at their original college.

Pathway of students in Fall 2013 cohort who melt (N=837)

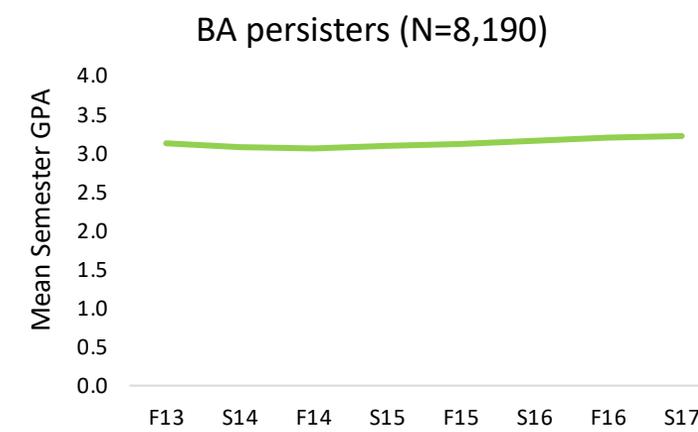
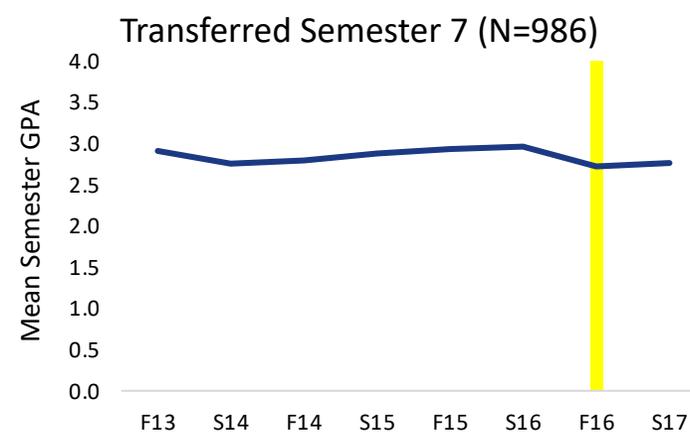
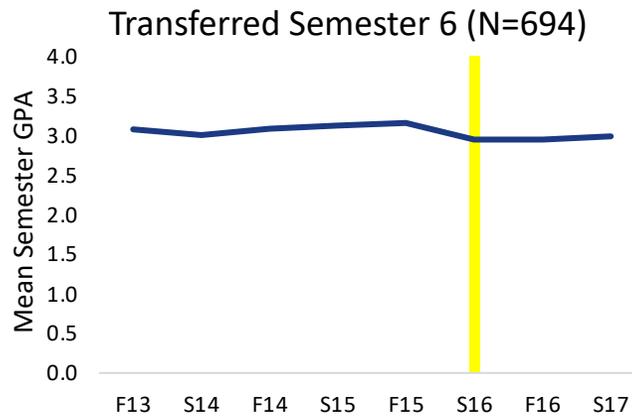
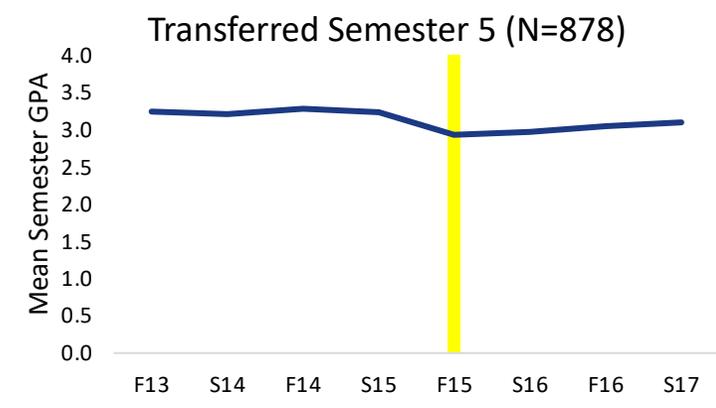
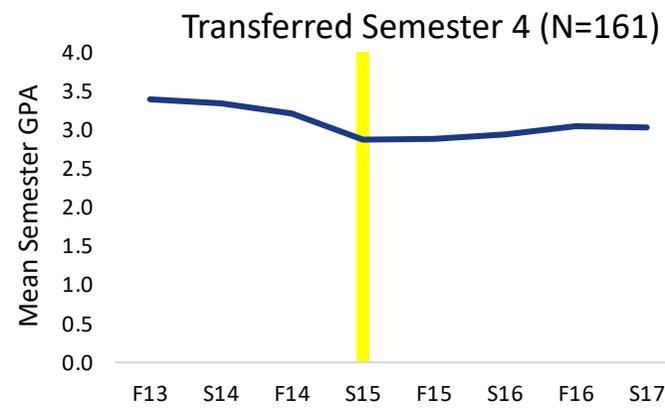
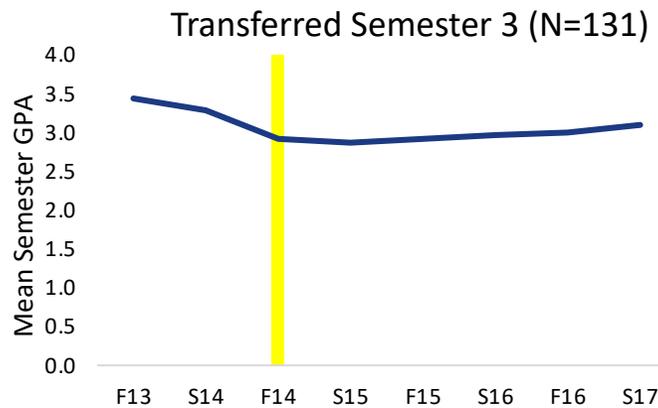


3. Transfer Shock

Definition: Transfer shock is a post-transfer drop in student performance during the initial semesters of enrollment. Transfer shock has been found in some studies (Hills,1965; Lui 2013; Cejda 2006; Glass and Harrington 2002), but not in others and some of the studies have very specific populations.

In this section, we first show evidence of transfer shock, using data from 5,700 CUNY students. Given that not all students experience it, we then explore what factors are associated with transfer shock.

Regardless of when students transferred, we see a drop in average GPA at the time of transfer, with some recovery later, though not reaching the level of native bachelor's students at equal semester in college.



Note: The populations in all charts include only students who persisted to semester, meaning they were enrolled in both Sem 1 and Sem 8.

The mean drop in GPA at transfer is 0.24, but not *all* students experience a drop, with 40% of transfer students seeing an increase in GPA.

	All students (N=5,326)	GPA decreased (N=3,131)	GPA increased (N=2,153)
Mean pre-transfer cumulative GPA	3.02	3.09	2.91
Mean post-transfer 1st-semester GPA	2.78	2.37	3.36
Mean change in GPA	-0.24	-0.72	0.45

- Among those whose GPA decreased, there is variation in the size of the decrease: 25% saw a drop smaller than 0.25 GPA points and an additional 25% saw a drop larger than 1 point.
- Among those whose GPA increased, there is also variation, but not as much.

Not all students are equally likely to experience transfer shock: what happens to GPA after transfer differs by student demographic characteristics and transfer timing.

- Male students are more likely to experience transfer shock than female students.
 - Their estimated GPA change during transfer is 0.07 points less than that of female students.
- Black and Hispanic students are more likely to experience transfer shock than White students.
 - Their estimated GPA change during transfer is 0.07 and 0.06 points less than that of White students.
- Students who transfer without an associate degree and students who transfer earlier are more likely to experience transfer shock compared to students who transfer after receiving an associate degree and students who transfer later, respectively.

Summary

- In addition to large decreases in the size of the community college cohort during the early semesters of college, both lack of application and transfer melt represent substantial leaky pipeline points for students on the pathway to a bachelor's degree.
 - 47% of students in the community college cohort apply for transfer to a bachelor's program.
 - 26% of applications that yielded admissions to a bachelor's program in a given semester result in transfer melt.
- On average, CUNY transfer students experience transfer shock, but a substantial minority do not.
 - The mean change in GPA after transfer is -0.24.
 - 40% of students experience an *increase* in GPA after transfer.
- Students who are male, Black or Hispanic, and who apply for transfer earlier are more likely to experience transfer shock than their female, White, and later-transfer counterparts, respectively.
 - Our analysis does not allow for any causal conclusions.

Thank you

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