Comparing the bachelor's completion rates of native and transfer students using multiple informational sources

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Part of a demonstration project funded through the Longitudinal Data System Grant

- Funded by Illinois Board of Higher Education, managed by DePaul, implemented by IERC

- Part of the P-20 to Workforce initiative in Illinois

- Project intent is:

  - Gain experience in using a longitudinal data sets
  - Explore issues in merging data
  - Demonstrate types of questions that can be addressed
  - Identify additional data elements institutions would want to use

Project Concept

- Hybrid approach combining:

  - high school graduating class (pipeline)

  - institutional-level records (college cohort)

- Using multiple sources of information

- Includes both public and private high school graduates

Data Sources

- College level data similar to what colleges will have to report to the state
  - Enrollment
  - Degree Completion
  - Demographics
  - Financial Aid Markers and Transfer Hours

- Illinois High School Class of 2003 (source IBHE and ACT)
  - Prairie State Achievement Examination/ACT
    - Student Information
    - College Readiness Measures
  - National Student Clearinghouse
    - Enrollment/Transfer Patterns
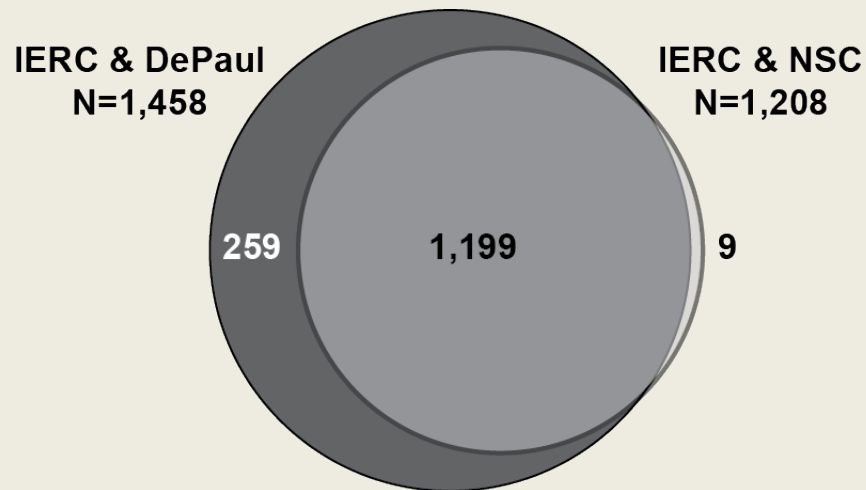   - Degree completion beyond DePaul

Benefits of the Approach

- Additional information on the transfer students that DePaul does not collect (ACT scores).

- Explore churn among the native students, specifically how different enrollment/transfer patterns impact bachelor's completion.

- Augment institutional data sources with degree completion information from the NSC for both transfer students and native students
  - Degrees completed elsewhere prior to and after enrolling at DePaul
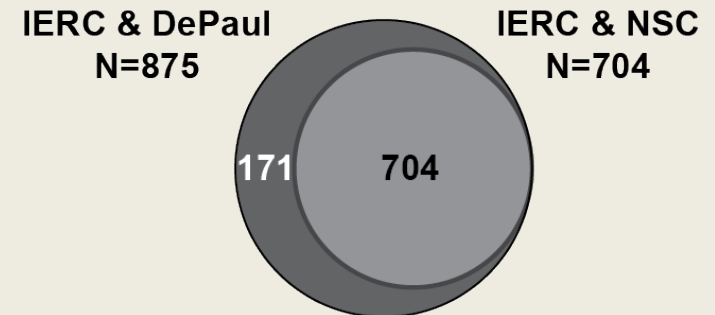
Conceptual Diagram of Full Study
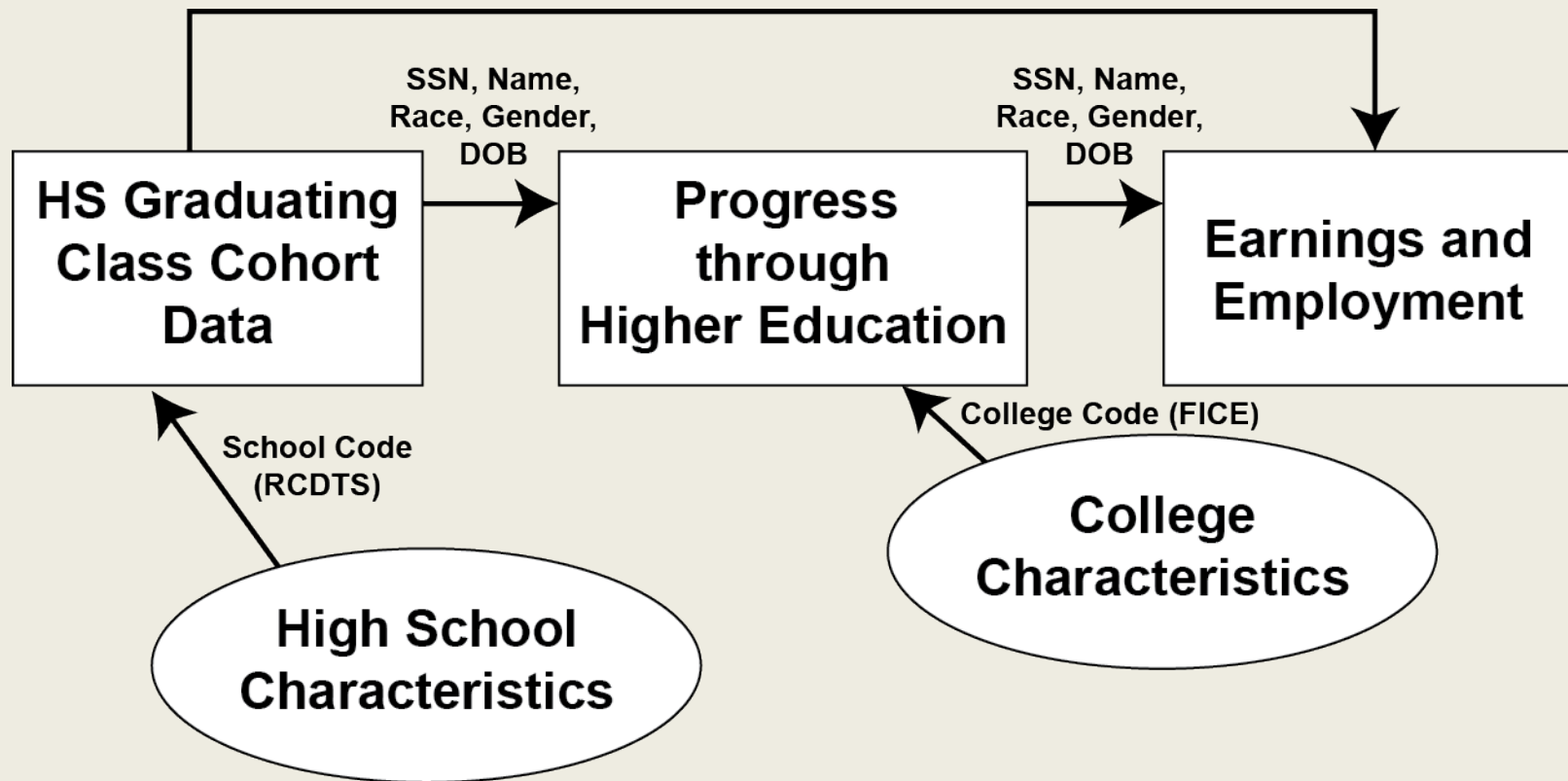
How well did the pipeline information match to the institutional data?

Native Students

IERC & DePaul
N=1,458

IERC & NSC
N=1,208

259

1,199

9

Transfer Students

IERC & DePaul
N=875

IERC & NSC
N=704

171

704

NSC takes a conservative approach in their matching that virtually eliminates Type I error but introduces Type II error.

Research Questions

- What were the predominant mobility patterns among the transfer students?
  - How did those patterns factor into bachelor's degree completion?

- What were the predominate mobility patterns among the native students?
  - How did those patterns factor into bachelor's degree completion?

- What were the differences between the native and transfer students in terms of bachelor's degree completion?

Analyses

- Descriptive statistics

- Chi-Square Automatic Interaction Detection (CHAID)
  - Predicting and modeling technique similar to regression
  - Form of decision tree
  - Produces graphical tree to visually depict the relationship

- Survival analysis
  - Life Tables (1-survival)

Profile of the Two Groups
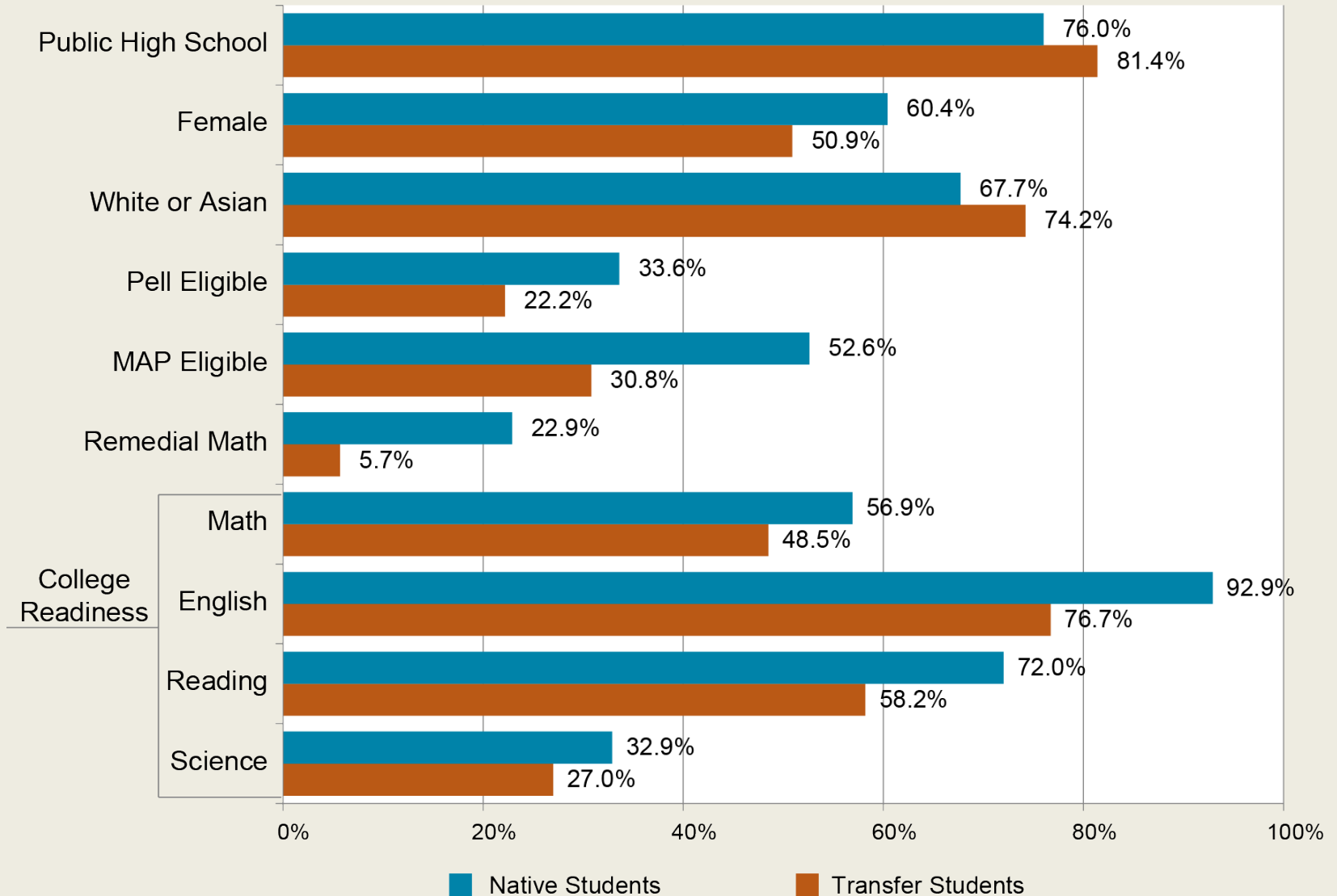
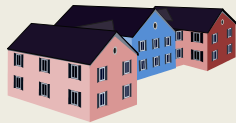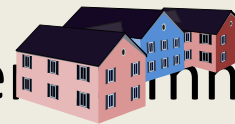# The Transfer Subgroups (N=704)

- Vertical Transfer (community college to DePaul)-42.2%

- Lateral Transfer (other four-year to DePaul)-26.7%

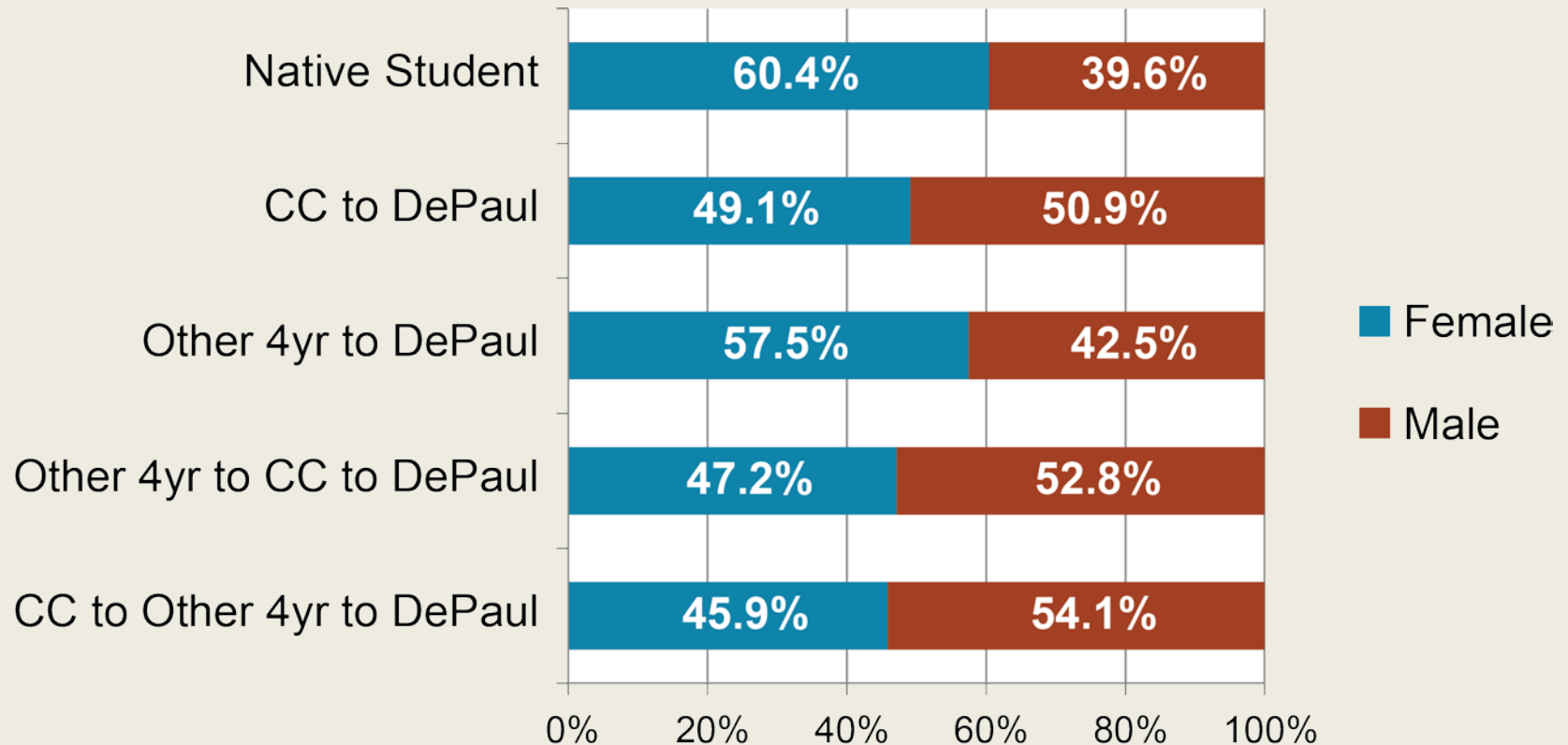- Reverse to Vertical (other four-year to community college to DePaul)-24.0%

- Vertical to Lateral Transfer (community college to other four-year to DePaul)-7.1%
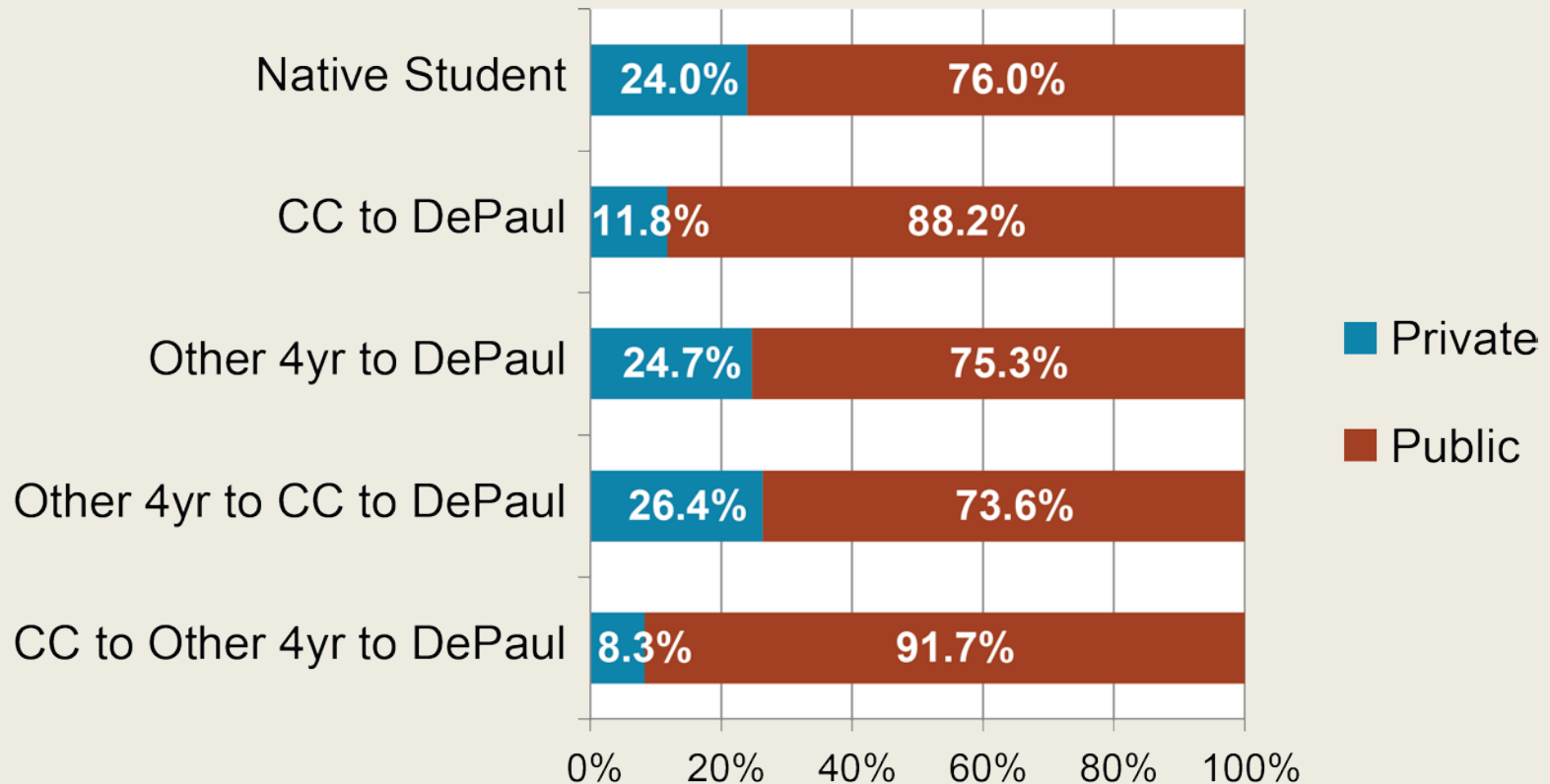
ACT Scores (Native vs. Transfer Subgroups)

Transfer Status	ACT English	ACT Math	ACT Reading	ACT Science	ACT Composite
Native Student	23.3	22.5	23.6	22.1	23.0
CC to DePaul	20.0	20.4	20.5	20.2	20.4
Other 4yr to DePaul	23.6	23.2	24.2	22.4	23.5
Other 4yr to CC to DePaul	22.7	22.6	23.1	22.8	22.9
CC to Other 4yr to DePaul	19.4	19.9	19.6	20.1	19.9

Gender and Transfer Status

School Type and Transfer Status

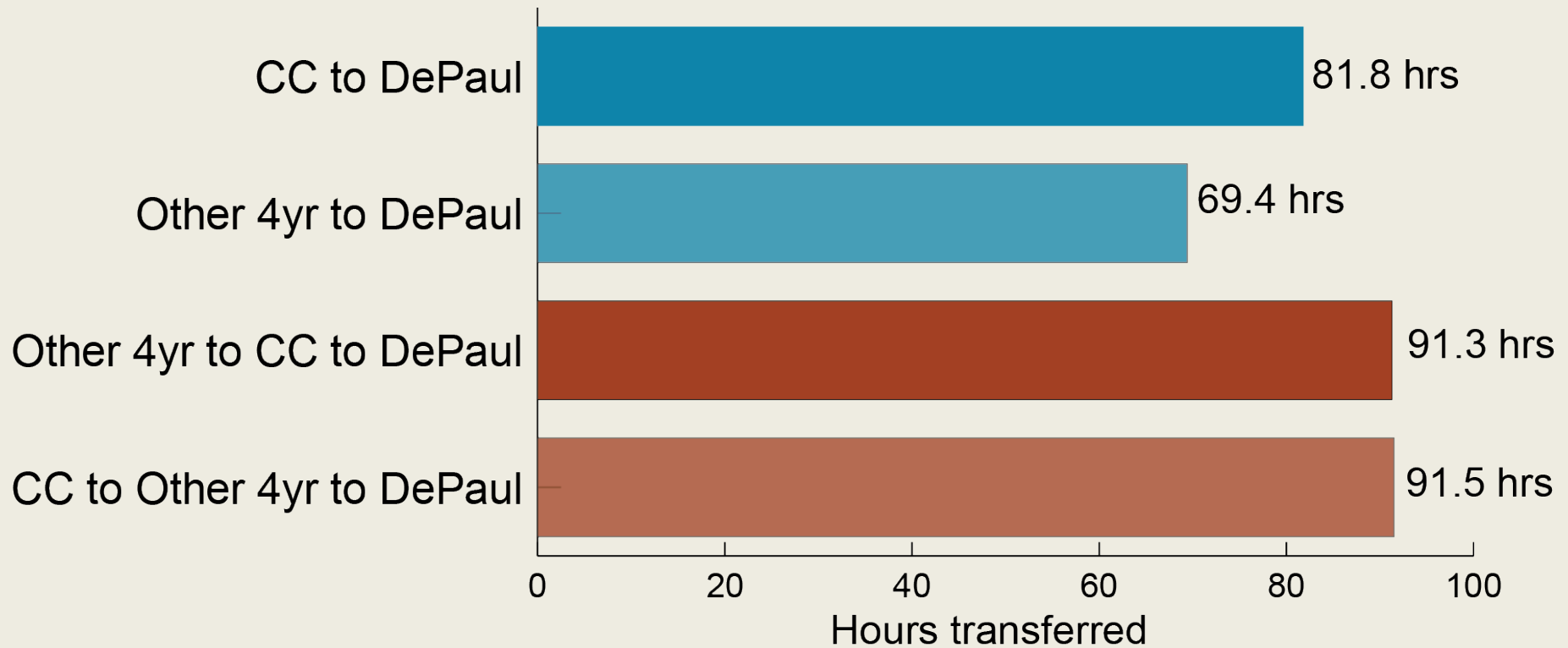|	Private	Public
Native Student	24.0%	76.0%
CC to DePaul	11.8%	88.2%
Other 4yr to DePaul	24.7%	75.3%
Other 4yr to CC to DePaul	26.4%	73.6%
CC to Other 4yr to DePaul	8.3%	91.7%

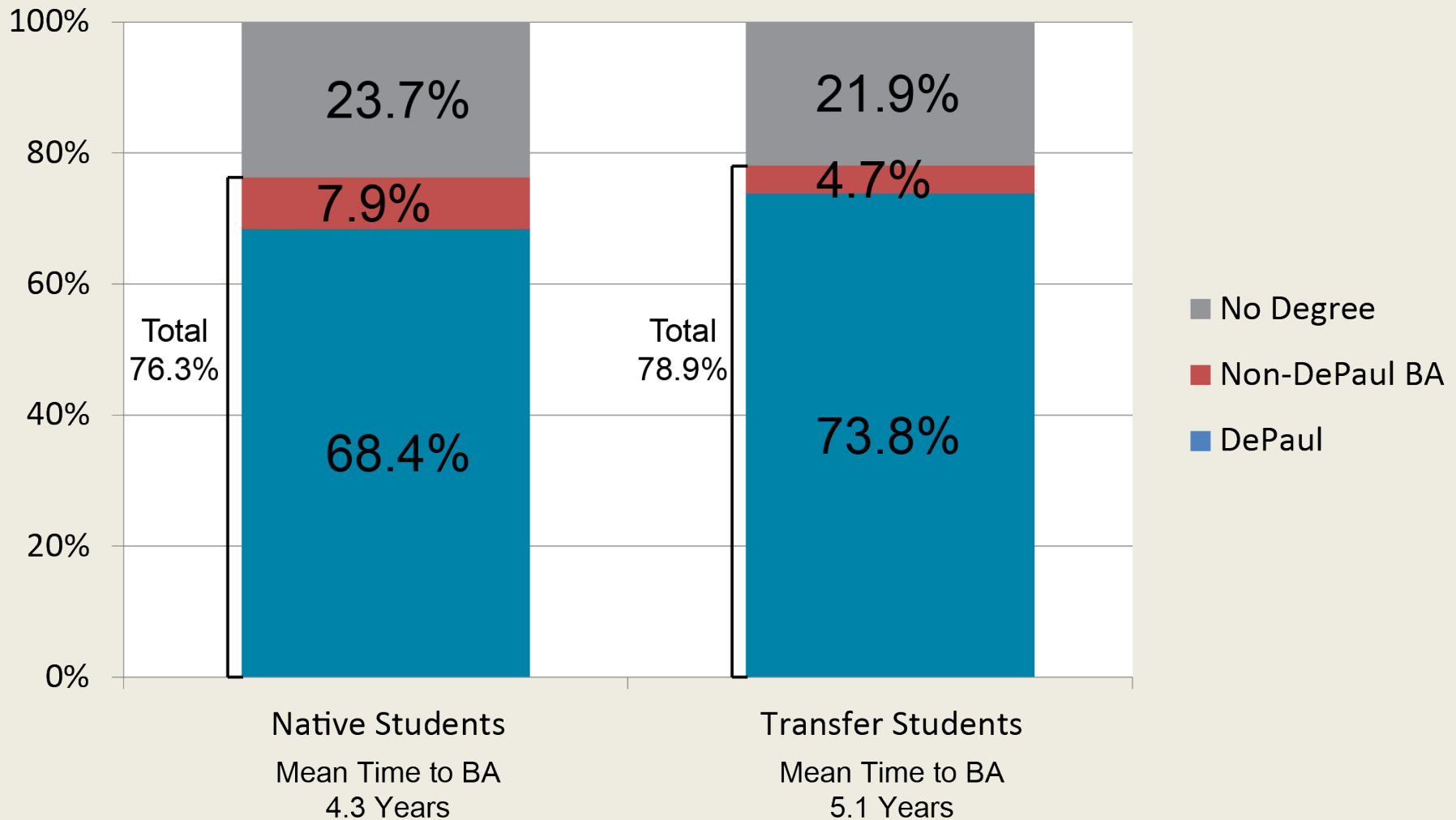# Race/Ethnicity and Transfer Status
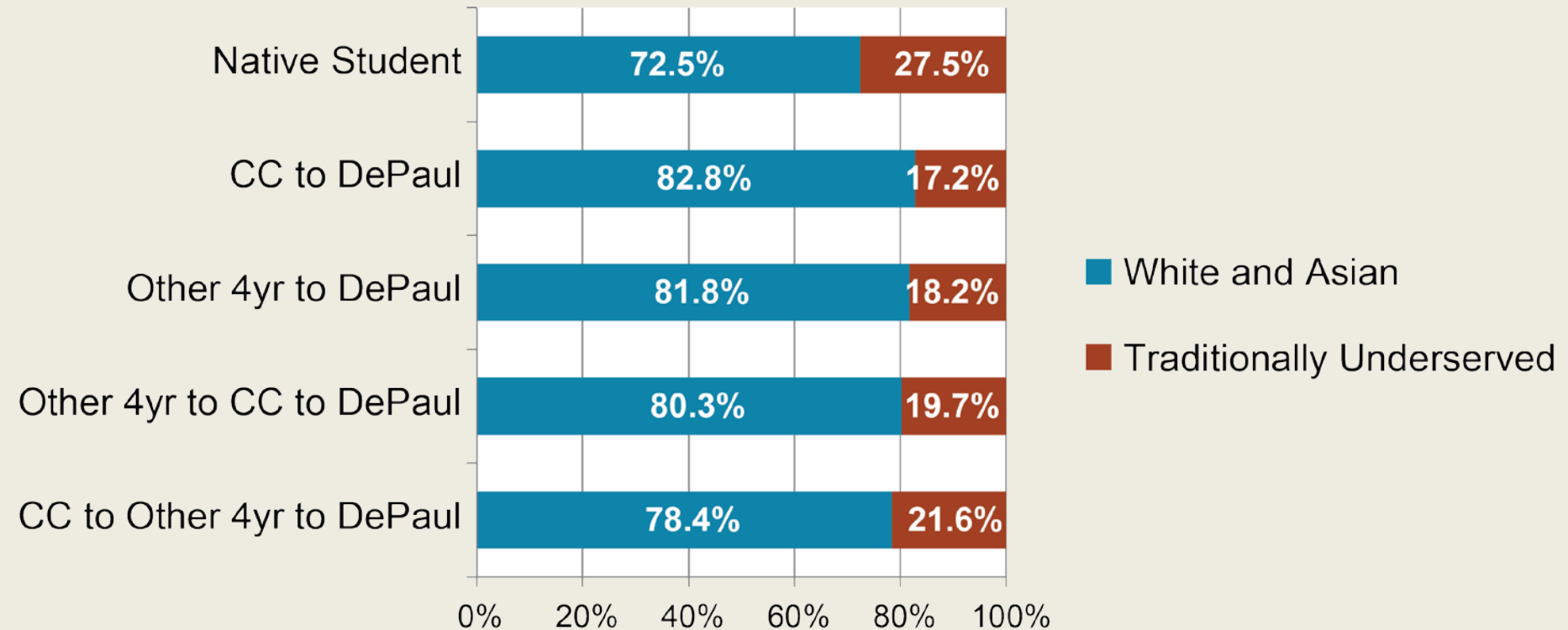
High School GPA
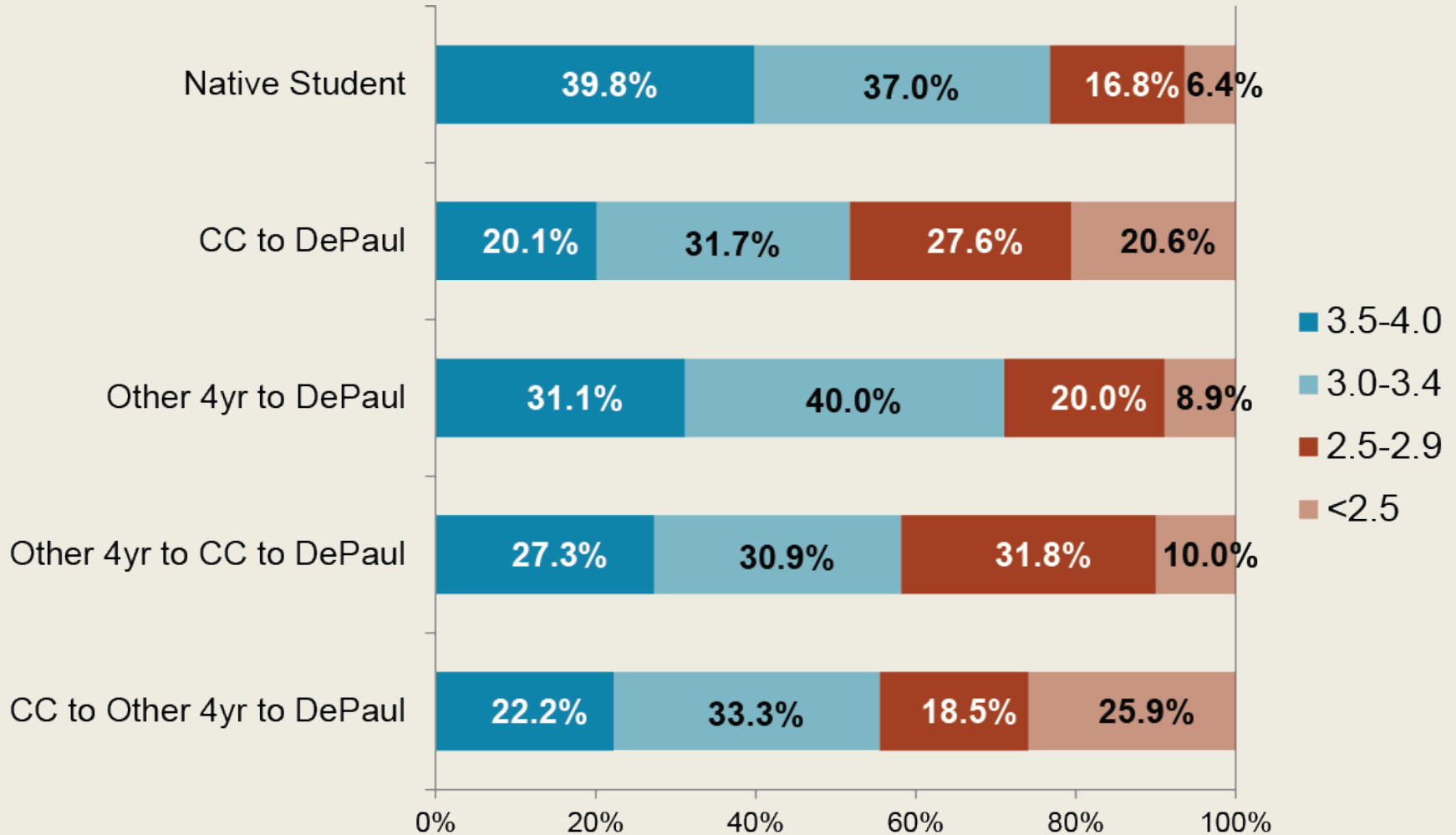
Hours Transferred to DePaul

Bachelor's Degree Completion

Transfer Students Degree Completion
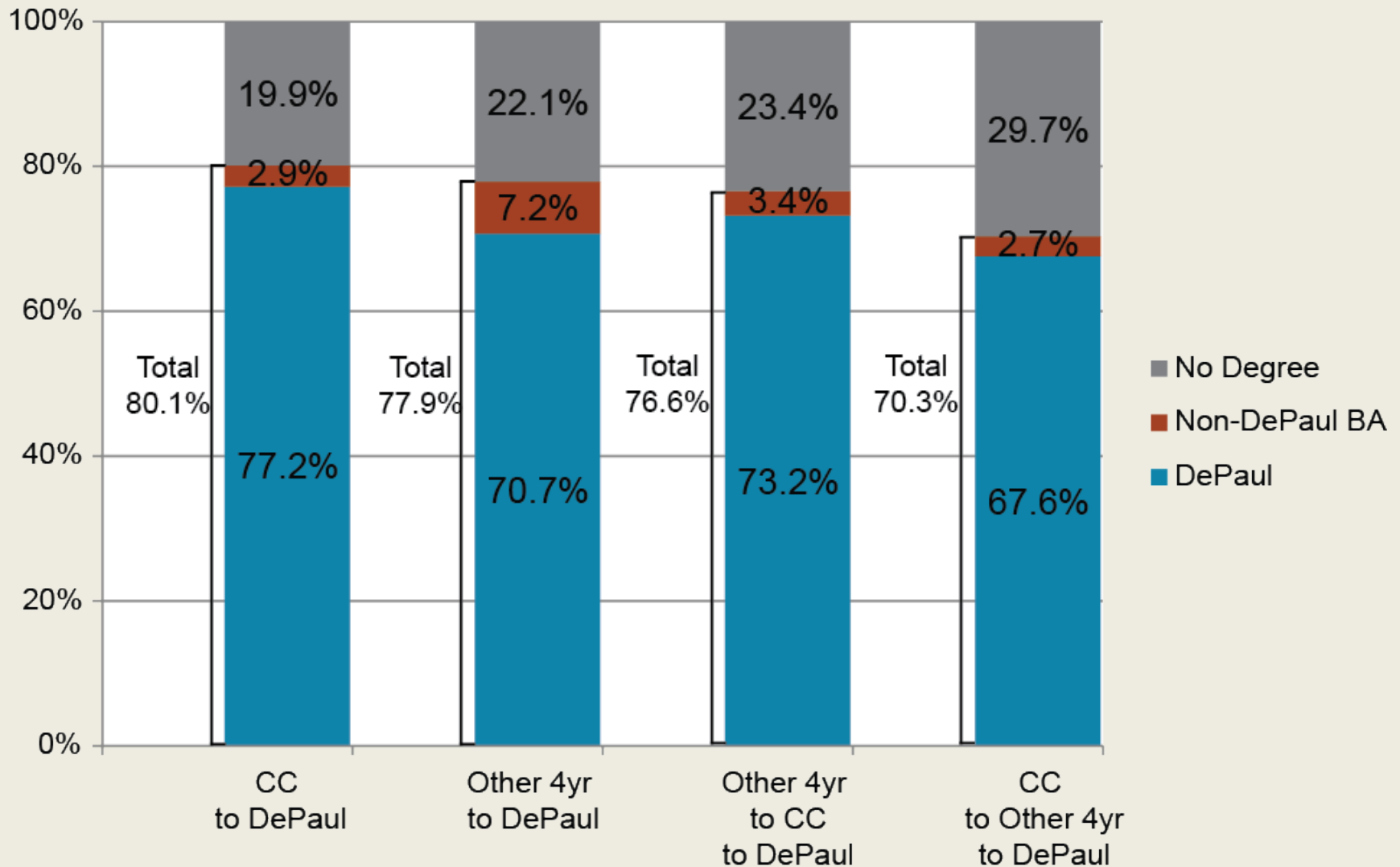
Transfer Hour Categories

Pie chart:
- 14.6% Less than a Year
- 49.1% One Year to less than Two Years
- 36.2% Two or more Years
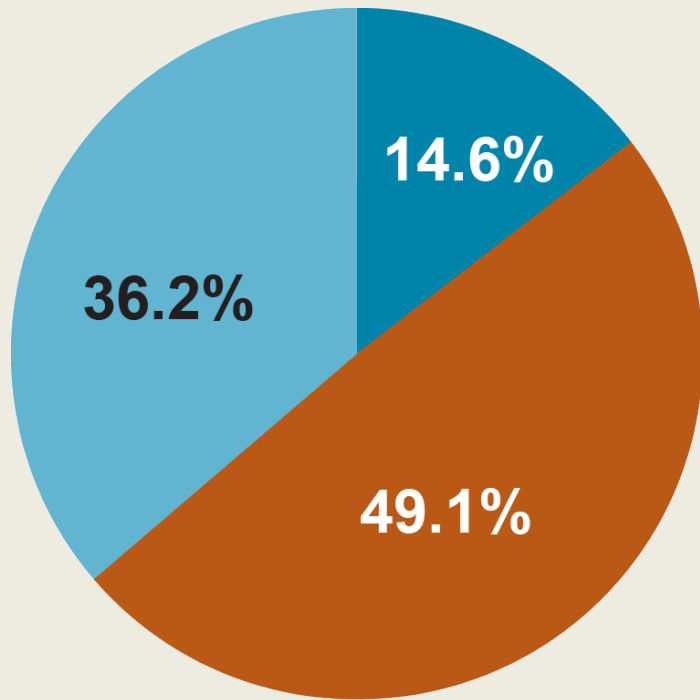
Legend:
- Less than a Year
- One Year to less than Two Years
- Two or more Years

Bachelor's Completion

- Less than a Year: 65%
- One Year to less than Two Years: 77%
- Two or more Years: 86%

(0% 20% 40% 60% 80% 100%)
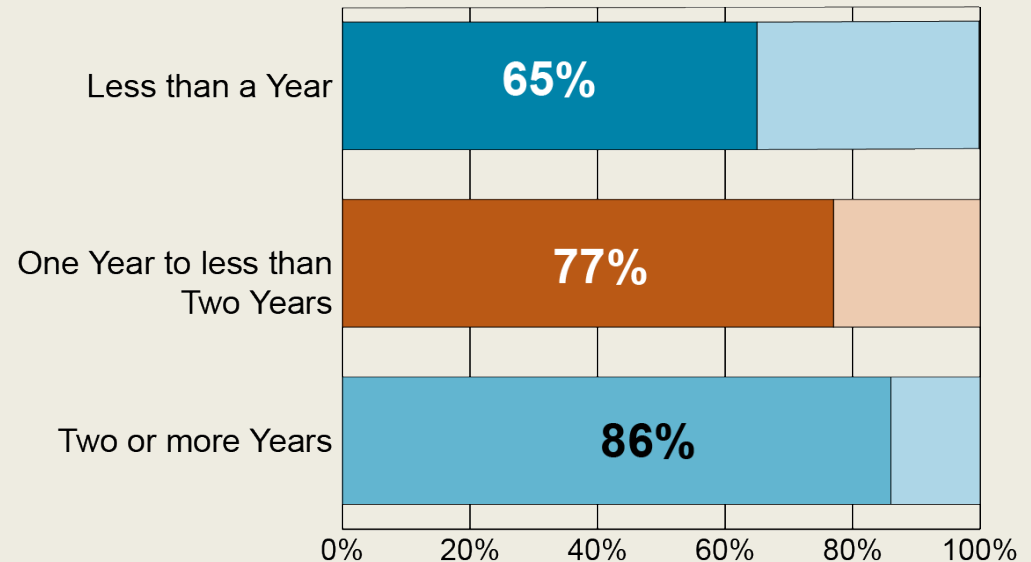
College Readiness in Mathematics and Bachelor's Degree Completion

Transfer Hours Category

1 year to less than 2 Years; Less than a Year; <missing>

Node 3

Category	%	n
■ No BA	31.2	230
■ BA from any institution	68.8	508
Total	40.4	738

2 or more years

Node 4

Category	%	n
■ No BA	12.7	13
■ BA from any institution	87.3	89
Total	5.6	102

Public High School Students Outperformed their Similarly Ready Peers from Private High Schools

High School Type

Public; <missing>

Node 3

Category	%	n
■ No BA	16.3	131
■ BA from any institution	83.7	673
Total	44.0	804

Private

Node 4

Category	%	n
■ No BA	25.8	47
■ BA from any institution	74.2	135
Total	10.0	182

Category	%	n
■ No BA	16.3	131
■ BA from any institution	83.7	673
	44.0	804

Category	%	n
■ No BA	25.8	47
■ BA from any institution	74.2	135
Total	10.0	182

Category	%	n
■ No BA	31.2	230
■ BA from any institution	68.8	508
Total	40.4	738

Category	%	n
■ No BA	12.7	13
■ BA from any institution	87.3	89
Total	5.6	102

Churn among the Native Students

- Undergraduate reverse transfer-15.8%

- Summer sessioners-15.5%

- Concurrent enrollment-3.1%

- Lateral transfers (prior to BA completion)-15.3%

- Post-Bac reverse transfers-6.0%

Churn among the Native Students
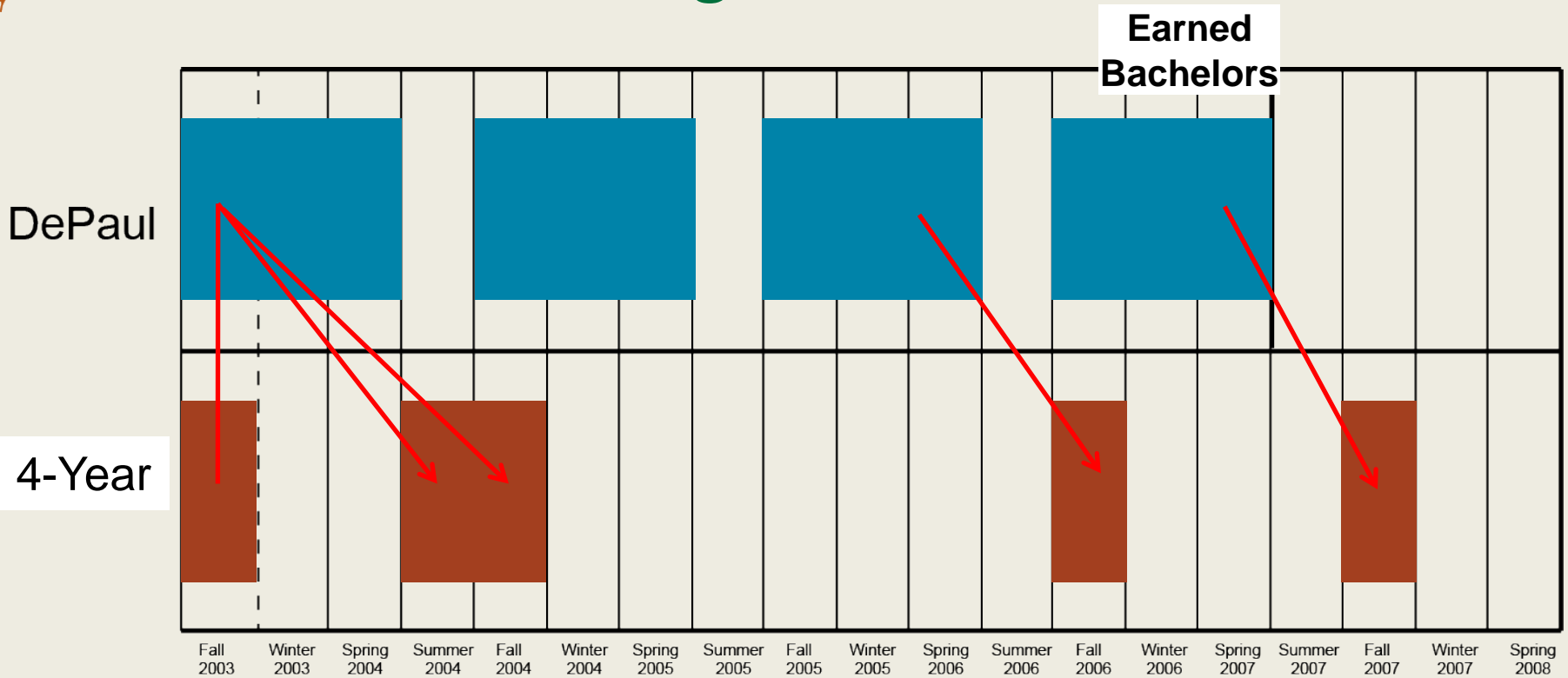
- Concurrent Enrollment – 3.1%
  - Summer Session – 15.5%
    - Undergraduate Reverse Transfer – 15.8%
      - Post-Bachelors Reverse Transfers – 6.0%
        - Lateral Transfers (prior to BA completion) – 15.3%

Churn Among Native Students

Did Not Reverse Transfer

Node 3

Category	%	n
■ No BA	12.7	115
■ BA from any institution	87.3	792
Total	75.6	907

Native CC Summer Sessioner

Not Summer Sessioner

Node 7

Category	%	n
■ No BA	13.9	107
■ BA from any institution	86.1	662
Total	64.1	769

CC Summer Sessioner

Node 8

Category	%	n
■ No BA	5.8	8
■ BA from any institution	94.2	130
Total	11.5	138

Time to Degree Completion
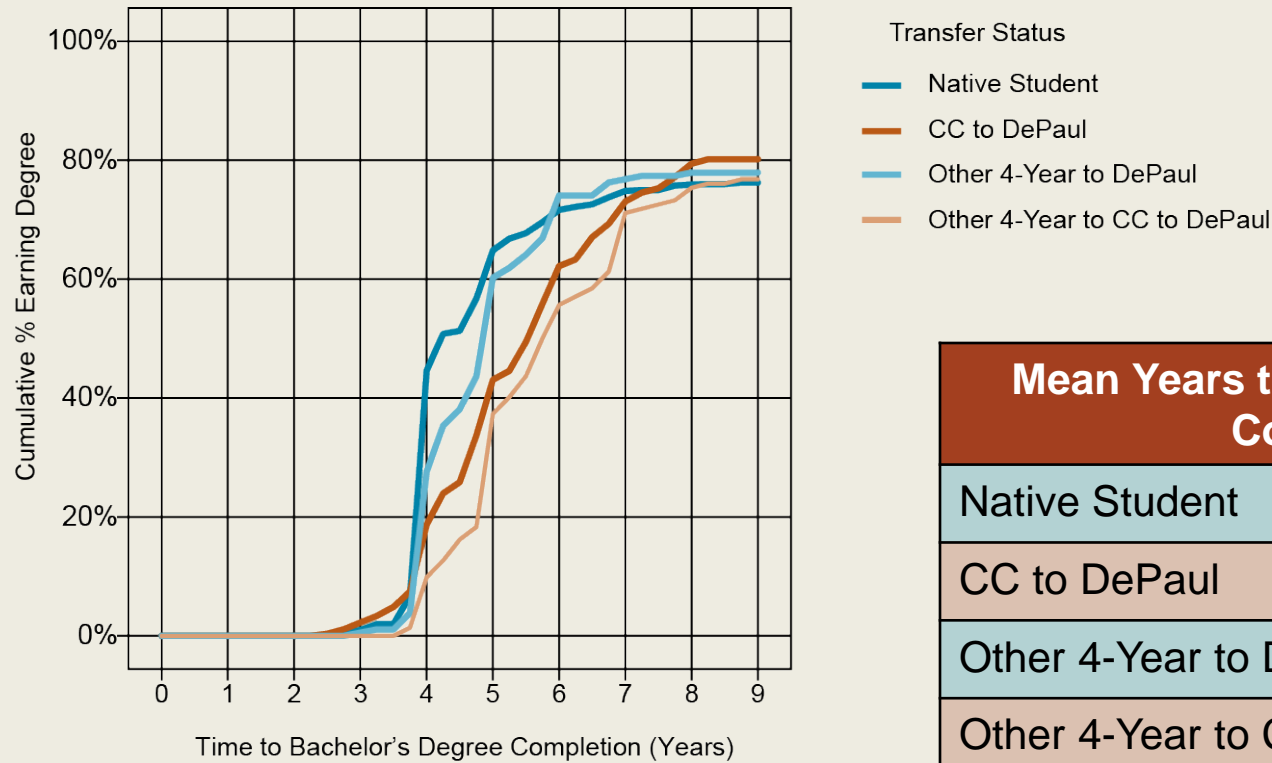
Mean Years to Bachelor's Degree Completion	
Native Student	4.2179
CC to DePaul	5.5221
Other 4-Year to DePaul	4.8458
Other 4-Year to CC to DePaul	5.7500

Time to Degree Completion
Transfer Students Only

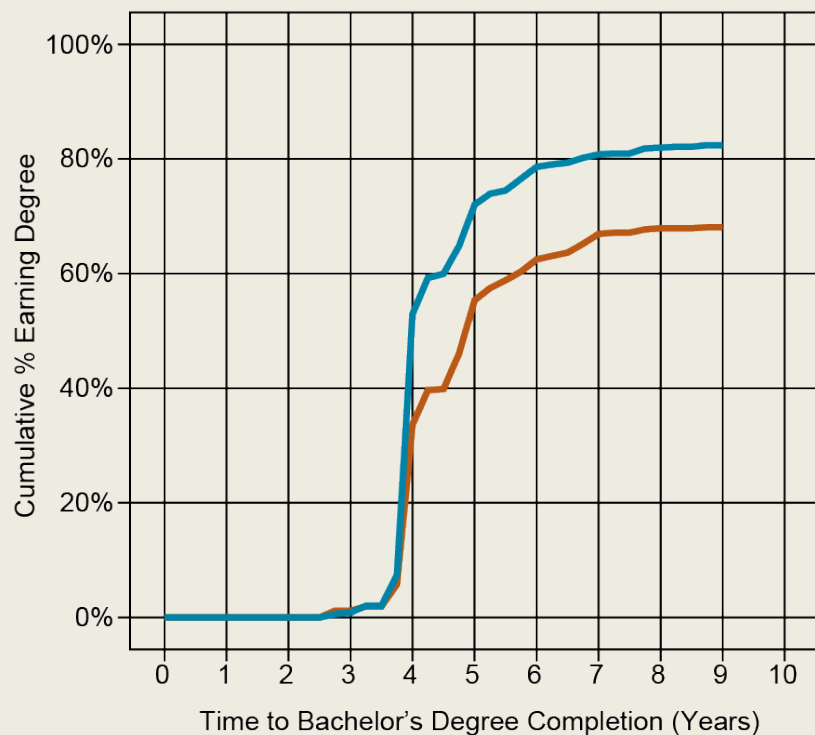

Transfer Hours
- Less than a Year
- 1 Year to Less than 2 Years
- 2 or More Years
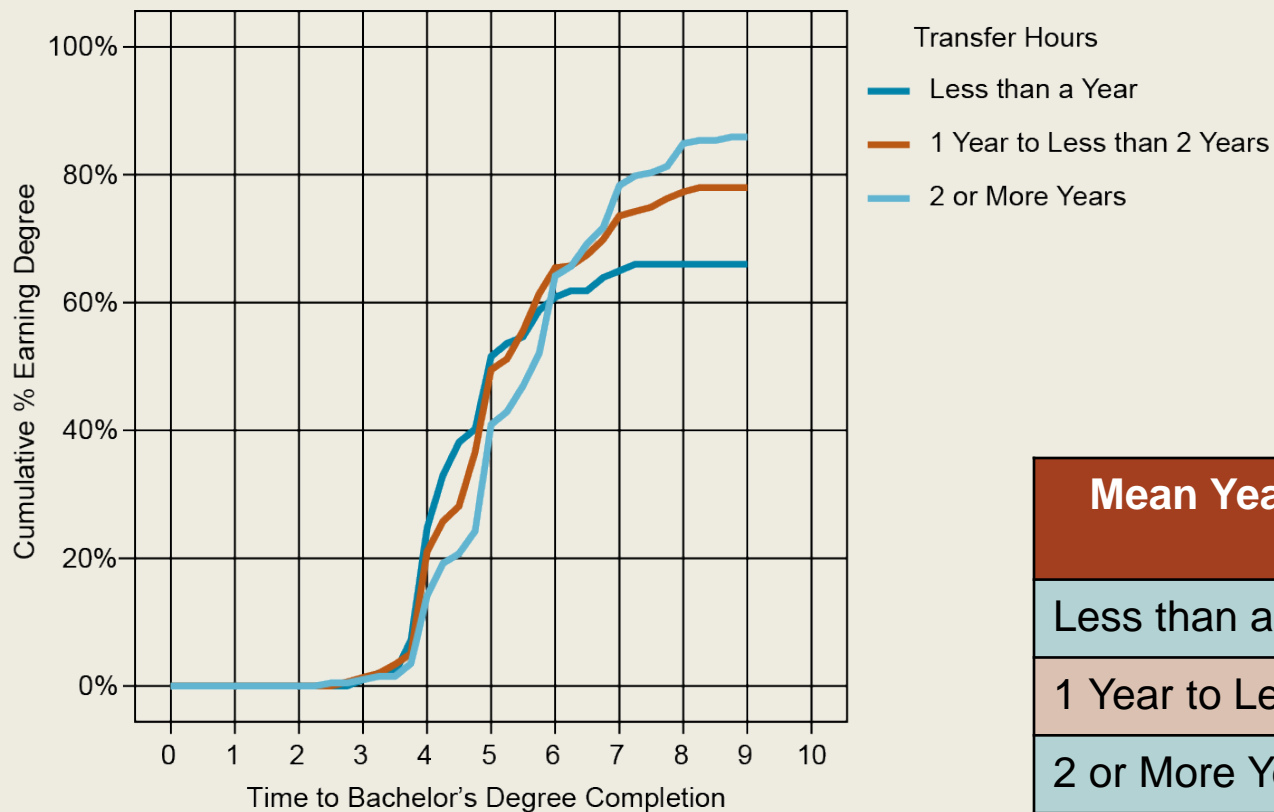
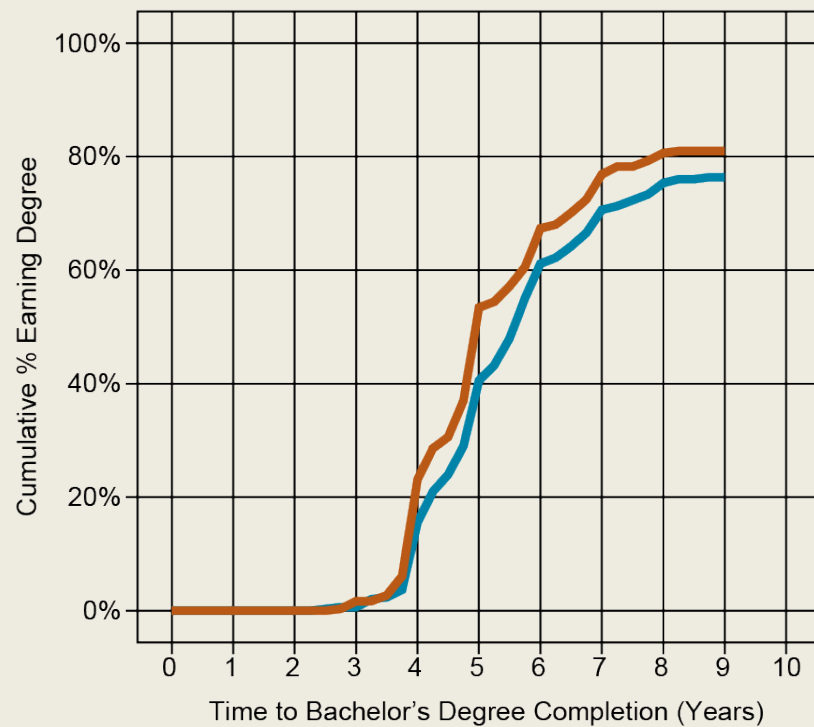| Mean Years to Bachelor's Degree Completion	
Less than a Year	4.9659
1 Year to Less than 2 Years	5.0750
2 or More Years	5.6500

College Readiness in Math and time to Bachelor's Degree Completion

Native Student

Transfer Student

Legend:
— College Ready
— Not College Ready

Majors among DePaul Bachelor's Degree Earners: General Patterns

- The greatest number of degrees was in Business/Accounting (40%).

- Communications/Journalism was next following by Psychology, Social Sciences, and then Education.

- Those five instructional areas covered more than 70% of all degrees awarded by DePaul.

- There weren't many STEM majors (9%).

Majors among DePaul Bachelor's Degree Earners: Native Students

- There were more Native Students with Degrees in:
  - Education
  - Visual and Performing Arts
  - Biological Science
  - Physical Science
  - Social Science
  - Public Administration

Majors among DePaul Bachelor's Degree Earners: Transfer Students

- There were more Transfer Students with Degrees in:

    - Communication/Journalism

    - English

    - Business/Accounting

    - History

Majors among DePaul Bachelor's Degree Earners: Math Ready

- There were more Math Ready with Degrees in:
  - Business/Accounting
  - CIS
  - Physical and Biological Sciences
  - Visual and Performing Arts

Majors among DePaul Bachelor's Degree Earners: Not Math Ready

- There were more missing the Math Benchmark with Degrees in:

  – Communication/Journalism

  – Psychology

Future Work

- Integrate parallel information for a Illinois public four-year institution

- Explore employment outcomes (IDES)
  - By major
  - By enrollment type (native v. transfer)

- Utilize more recent institutional cohorts
  - High school course-taking patterns
  - More detailed financial aid information

Questions

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