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 ILDS Grant

- Funded by IBHE, managed by DePaul, implemented by IERC

- Part of the p-20 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 ILDS (parallels IHEC reporting requirements)
  - Enrollment
  - Degree Completion
  - Demographics
  - Financial Aid Markers and Transfer Hours

- Illinois High School Class of 2003 (source IBHE and ACT)
  - PSAE/ACT
    - Student Information
    - College Readiness Measures
  - National Student Clearinghouse (approximates full ILDS database)
    - Enrollment/Transfer Patterns
    - Degree completion beyond DePaul
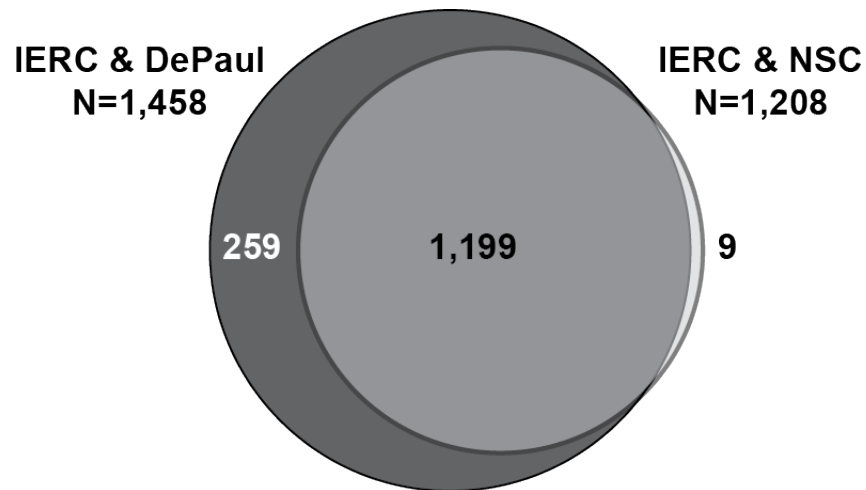
Benefits of the Approach

- Additional information on the transfer students that the institution does not collect.

- Explore churn among the native students, specifically how different enrollment 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
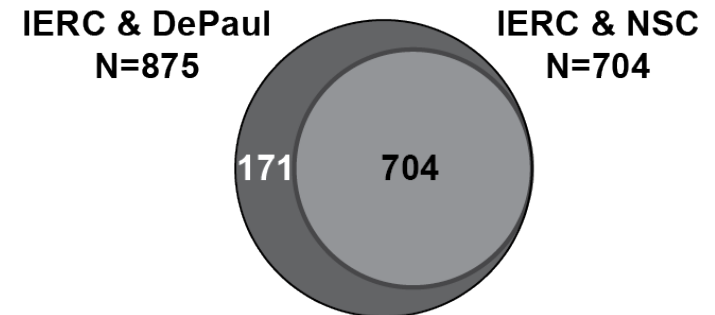
Conceptual Diagram of Full Study
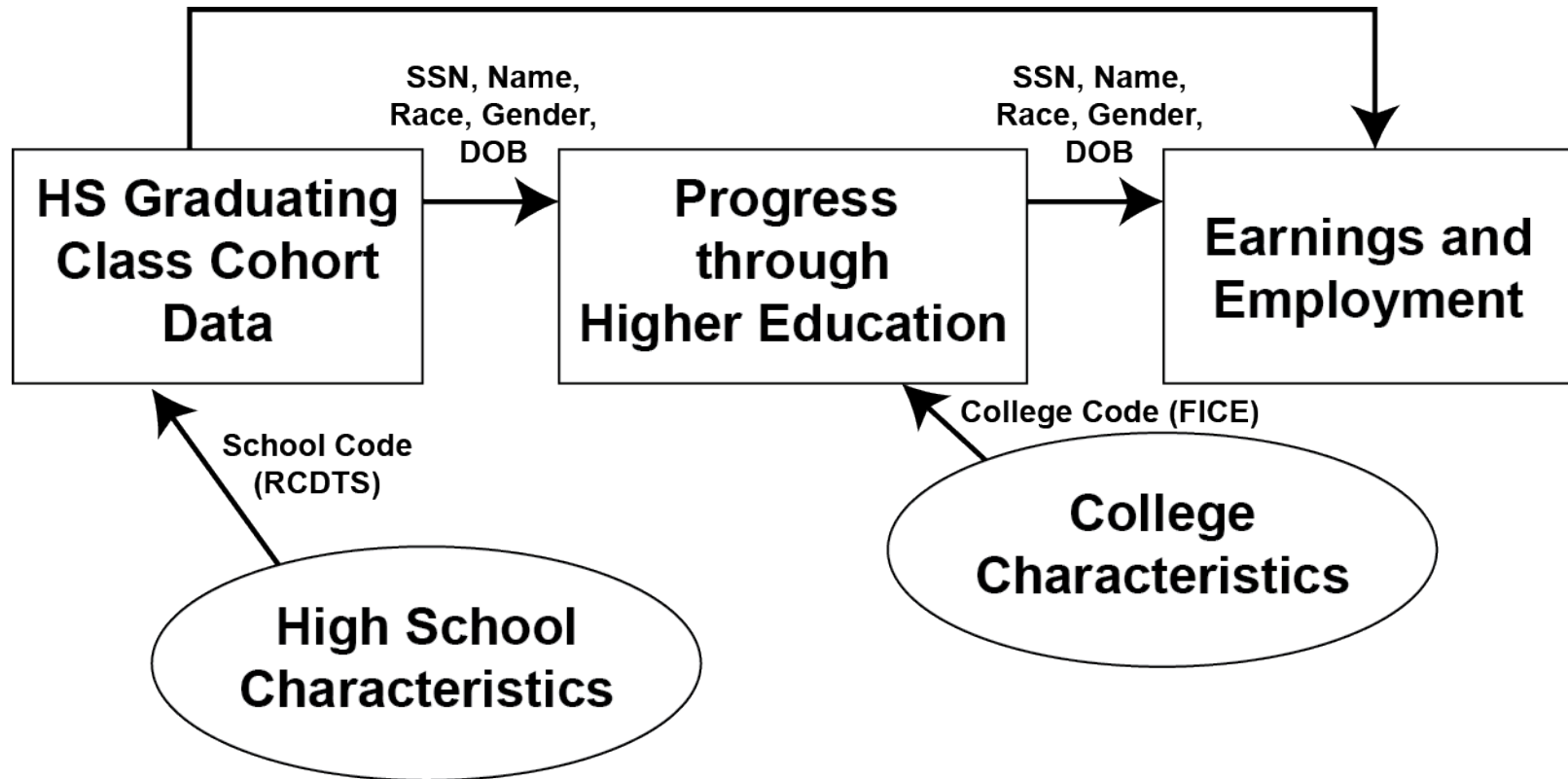
How well did the pipeline information match to the institutional data?

Native Students

Transfer Students

IERC & DePaul
N=1,458

IERC & NSC
N=1,208

259   1,199   9

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.
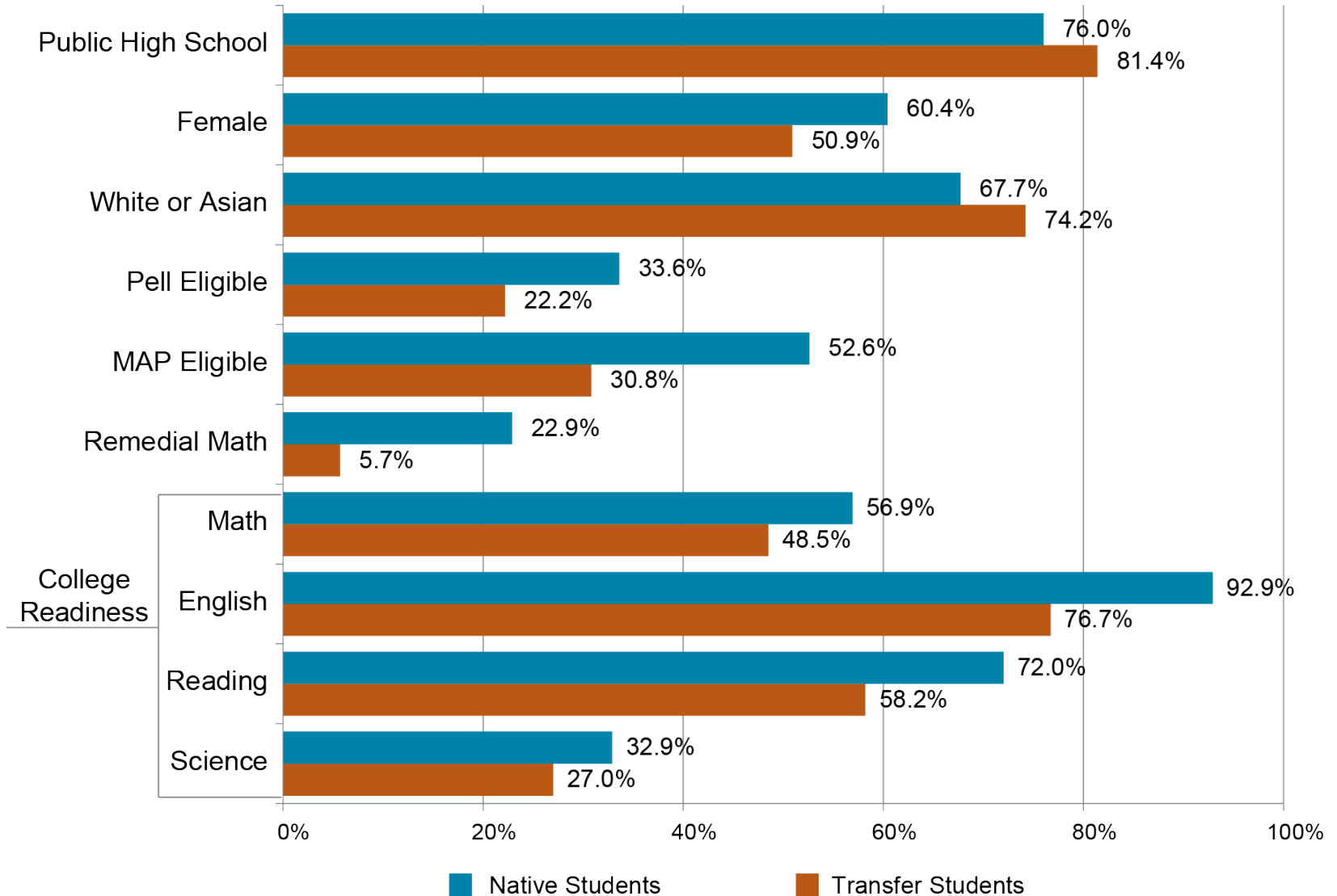
Research Questions

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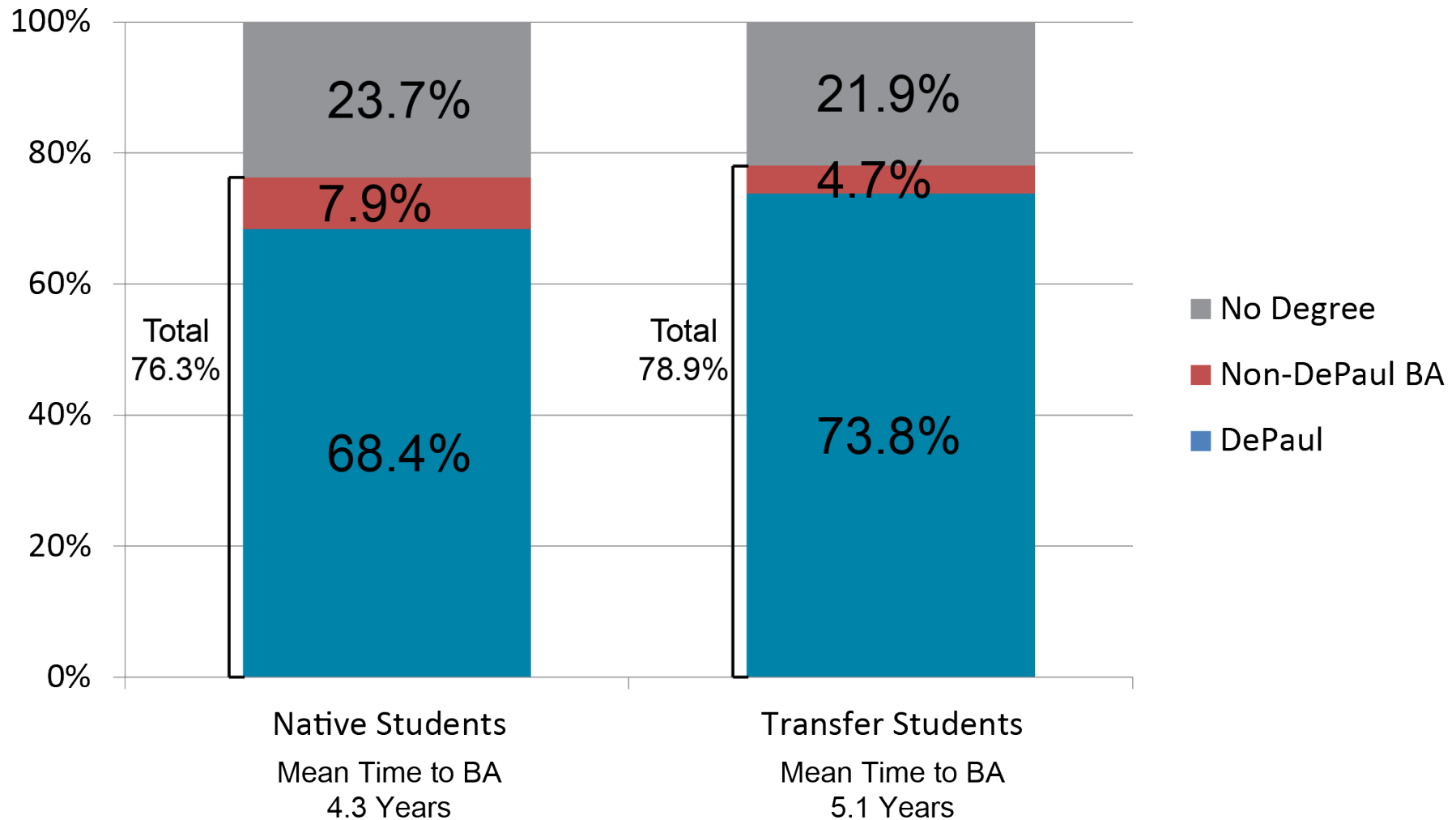
Analyses

- 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

Chart showing percentages for Native Students and Transfer Students across the following categories:

- Public High School: Native Students 76.0%, Transfer Students 81.4%
- Female: Native Students 60.4%, Transfer Students 50.9%
- White or Asian: Native Students 67.7%, Transfer Students 74.2%
- Pell Eligible: Native Students 33.6%, Transfer Students 22.2%
- MAP Eligible: Native Students 52.6%, Transfer Students 30.8%
- Remedial Math: Native Students 22.9%, Transfer Students 5.7%
- College Readiness
  - Math: Native Students 56.9%, Transfer Students 48.5%
  - English: Native Students 92.9%, Transfer Students 76.7%
  - Reading: Native Students 72.0%, Transfer Students 58.2%
  - Science: Native Students 32.9%, Transfer Students 27.0%
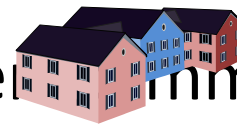
Legend: Native Students, Transfer Students
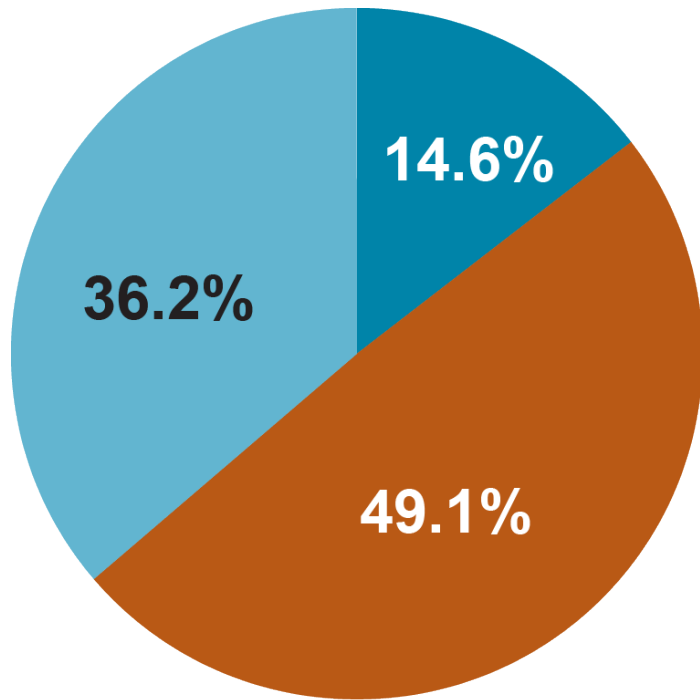
Bachelor's Degree Completion

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%

Transfer subgroups didn't matter as much as the number of credit hours transferred into DePaul. However, the more convoluted patterns were associated with lower BA completion rates.

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%
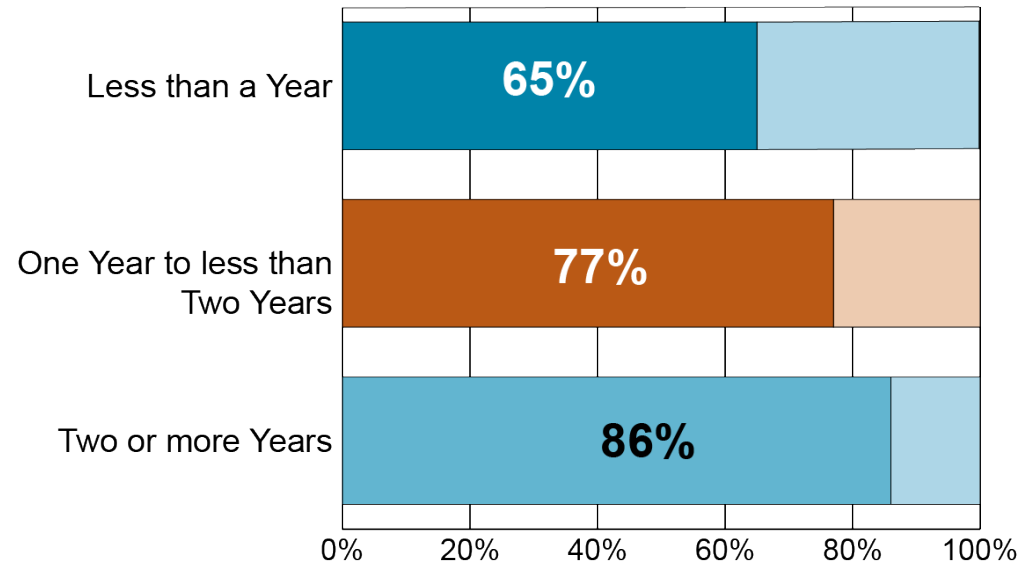
College Readiness in Mathematics and Bachelor's Degree Completion

Transfer Hours Category

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

2 or more years

Node 3

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

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>

Private

Node 3

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

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 (N=1,199)

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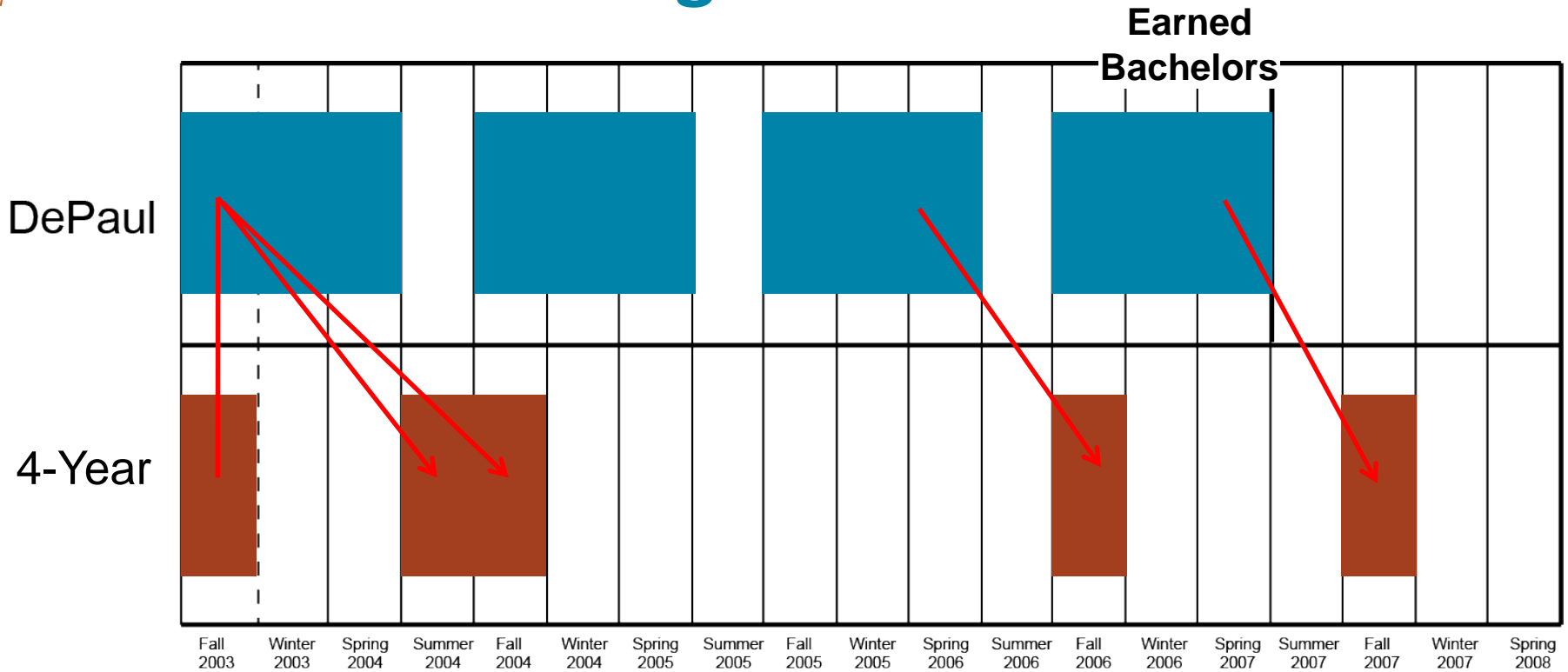
- Concurrent Enrollment – 3.1%
  - Summer Session – 15.5%
    - Undergraduate Reverse Transfer – 15.8%
      - Post-Bachelors Reverse Transfers – 6.0%
        - Lateral Transfers (prior to BA completion) – 15.3%

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

CC Summer Sessioner

Node 7

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

Node 8

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

Time to Degree Completion

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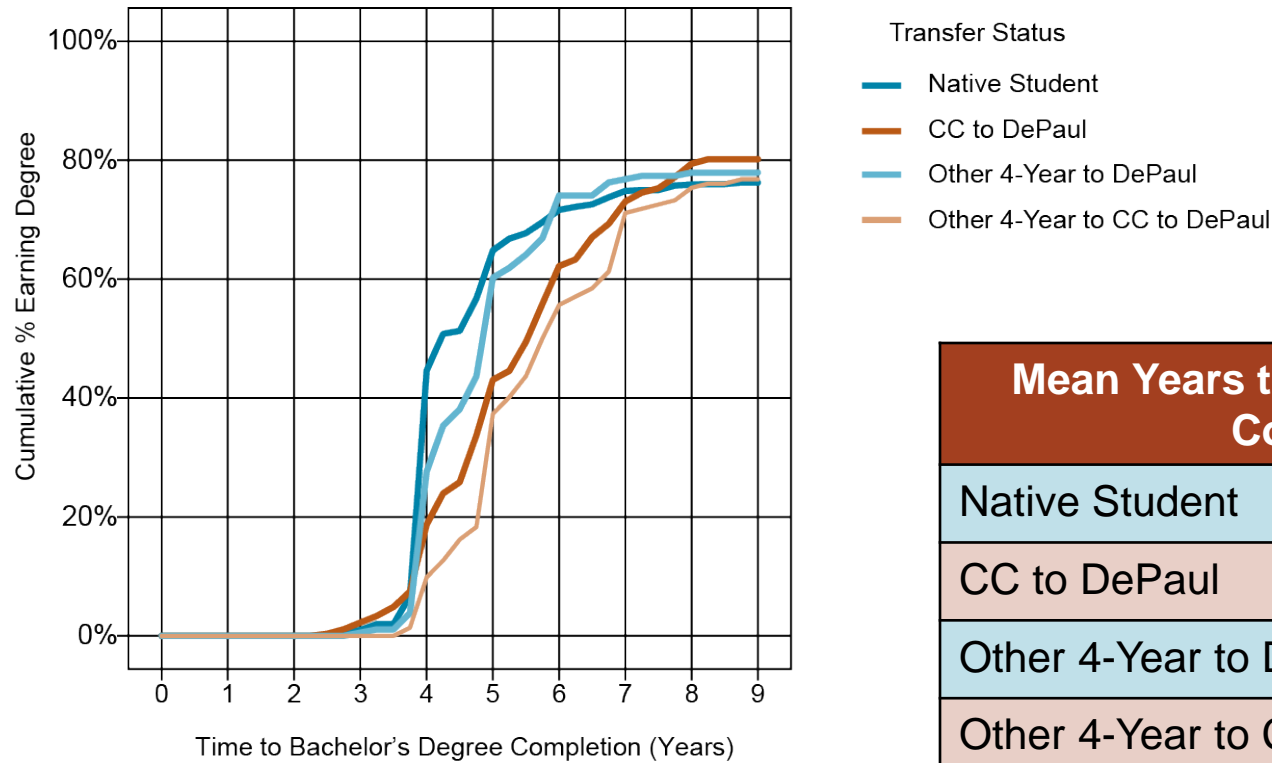
| Mean Years to Bachelor's Degree Completion	
Native Student	4.2179
CC to DePaul	5.5221
Other 4-Year to DePaul	4.8458
Other 4-Year to CC to DePaul	5.7500

Time to Degree Completion
Transfer Students Only
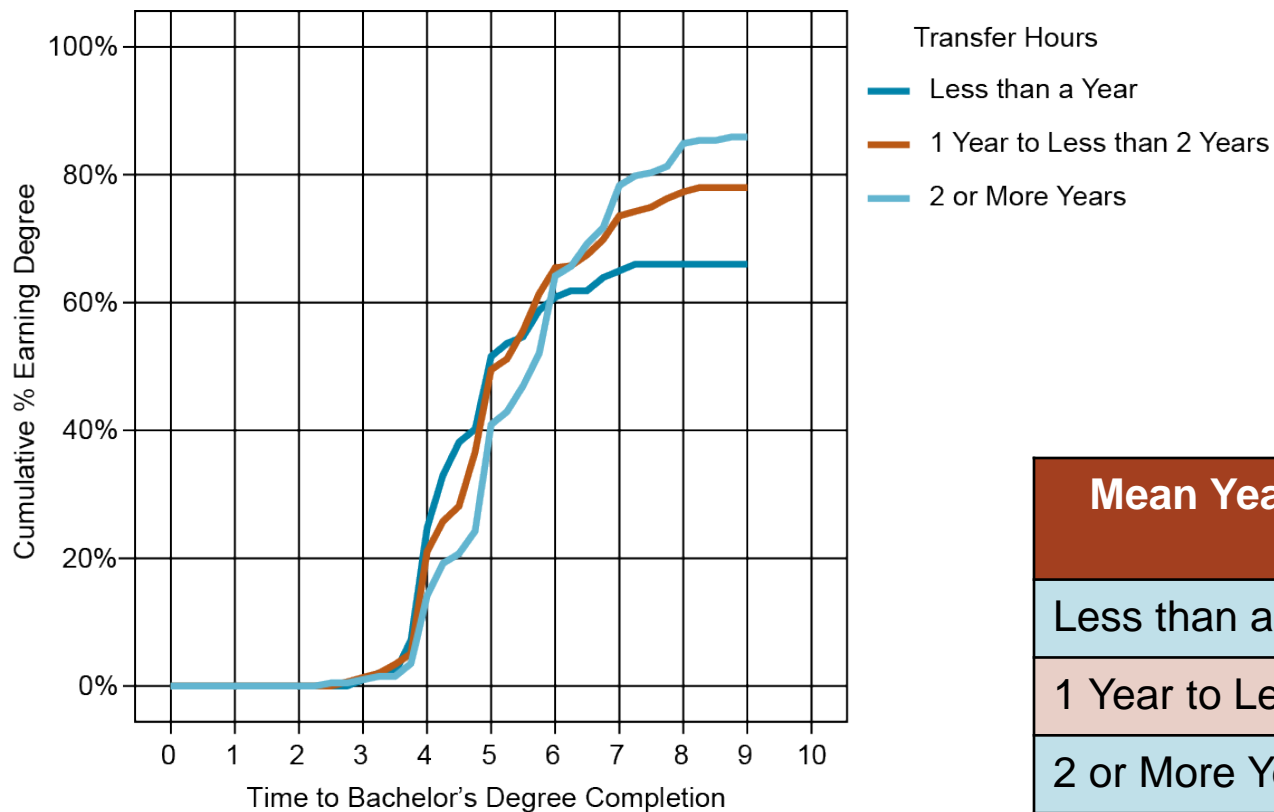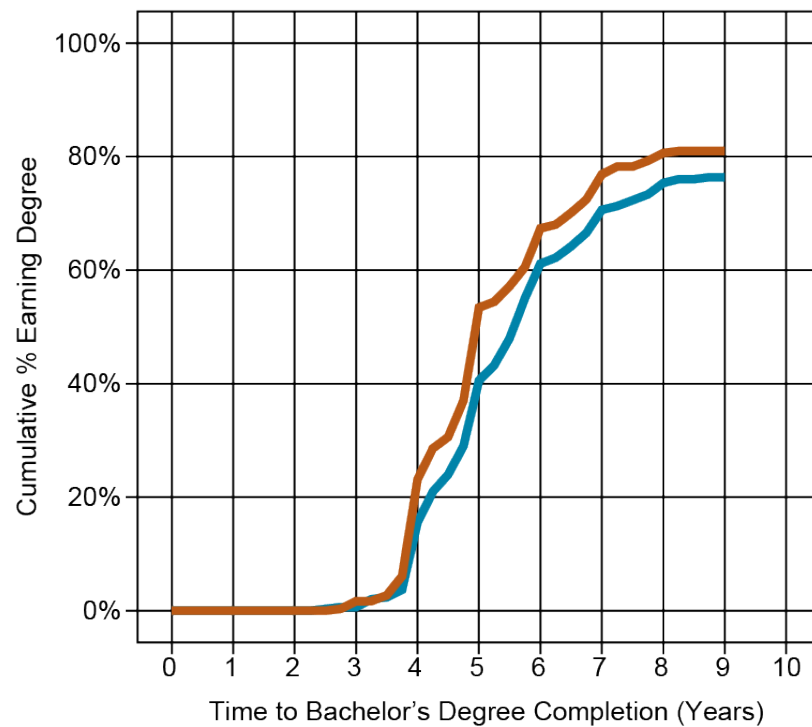

Mean Years to Bachelor's Degree Completion	
Less than a Year	4.9659
1 Year to Less than 2 Years	5.0750
2 or More Years	5.6500

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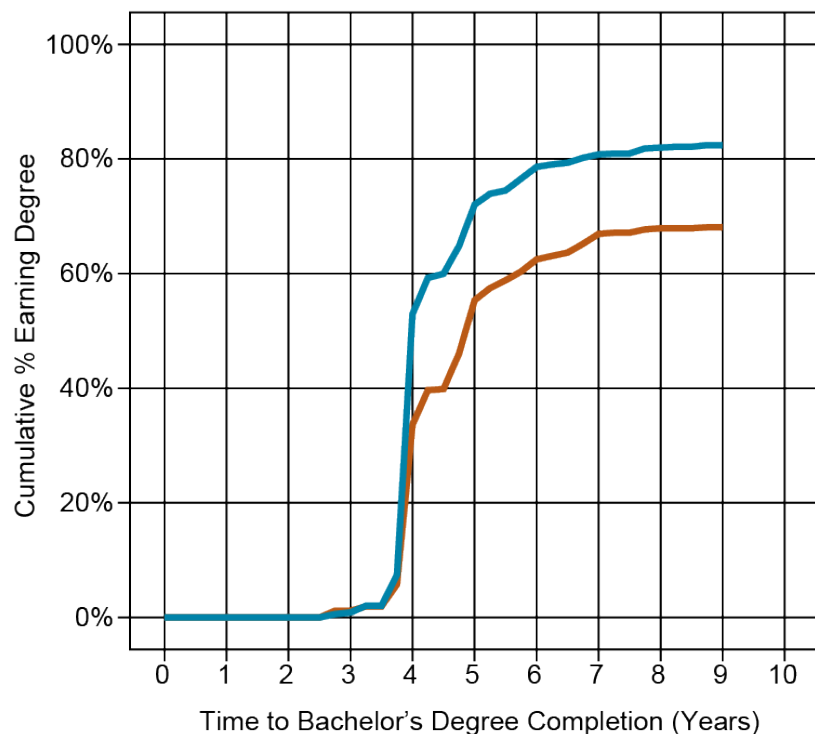
Native Student

Transfer Student

Future Work

- Integrate parallel information for the 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