Using Longitudinal Research to Guide Policy

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Southern Illinois University Edwardsville

College Changes Everything
Tinley Park, IL
July 2013

Illinois Education Research Council

- Founded in 2000
- Housed within the Graduate School at Southern Illinois University Edwardsville
- Research arm of the Illinois P-20 Council
- Advisory Board with wide representation
- Bringing research to both policy and practice
- Annual research symposium

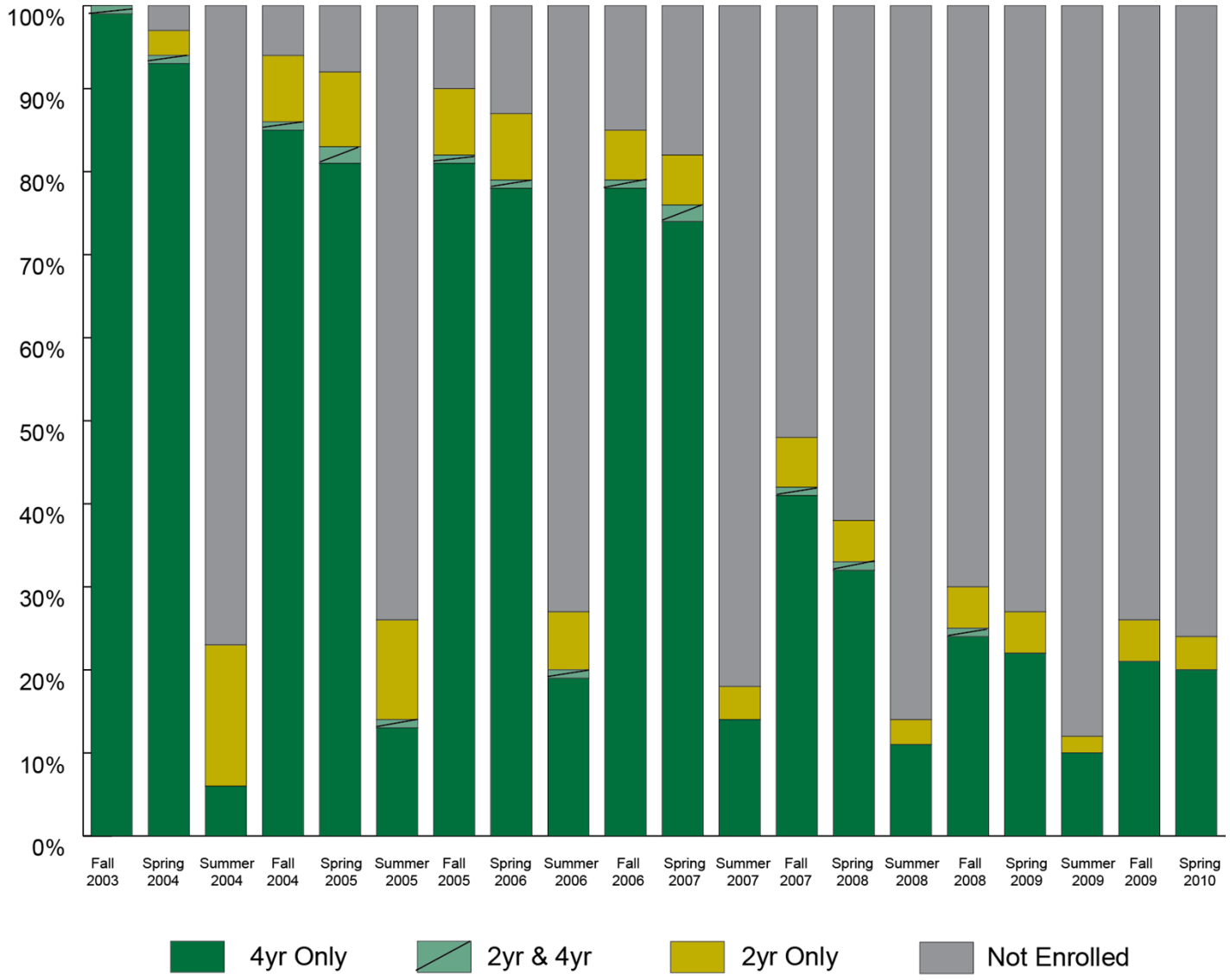
Overview of Presentation

- Describe longitudinal data sources
  - Present
  - Future (ILDS)
- Synopsis of recent IERC studies
  - Adaptive transfer/enrollment patterns
  - Maladaptive transfer/enrollment patterns
- Policy Implications

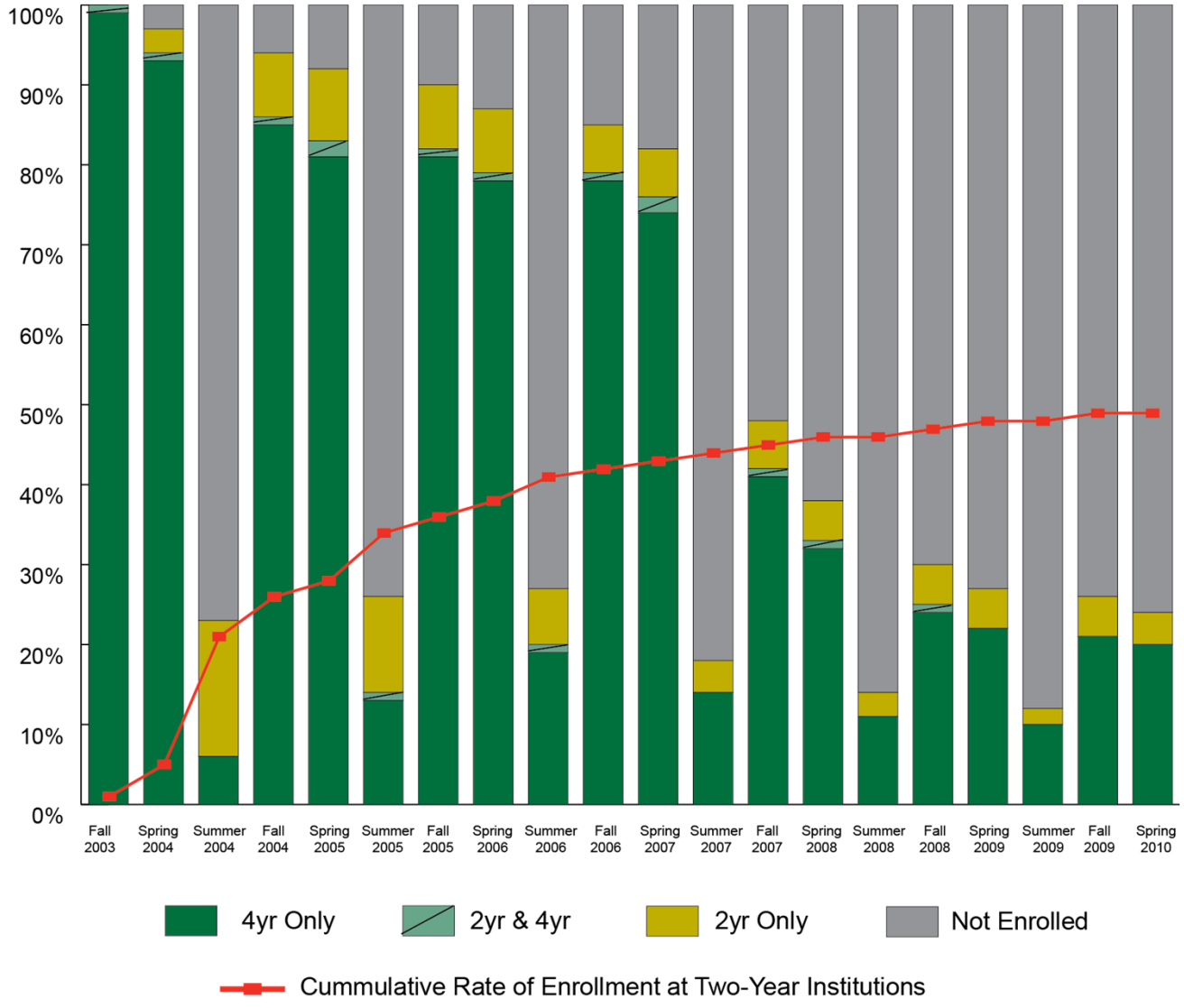
Issues with Current Reporting Requirements

- Centered on institutions reporting information in isolation
- Does not take into consideration the outcomes of transfer students, nor does it treat transferring as an outcome
- Cohort approach-first-time/ full-time
- IERC longitudinal studies track students
  - Allow for higher education to be viewed more systemically, rather than in isolation

Enrollment at 4yr and 2yr Institutions



Enrollment Trends for Four-Year Starters



Current Sources of Data for IERC Enrollment/Transfer Studies

- **ACT**-PSAE and the Student Interest Profiler
- **National Student Clearinghouse-**covers 92% of all postsecondary enrollment
- **Illinois Interactive High School Report Card-** institutional characteristics of the high schools
- **IPEDS and IBHE-**sector of the postsecondary institutions
- **IDES-**earnings and employment
- **Institutional Sources**

Future Data Sources

- Once ILDS comes on line may be able to get course-level information,
  - high school math ladder
  - # of high school courses
  - honors/AP/IB track
  - high school GPA

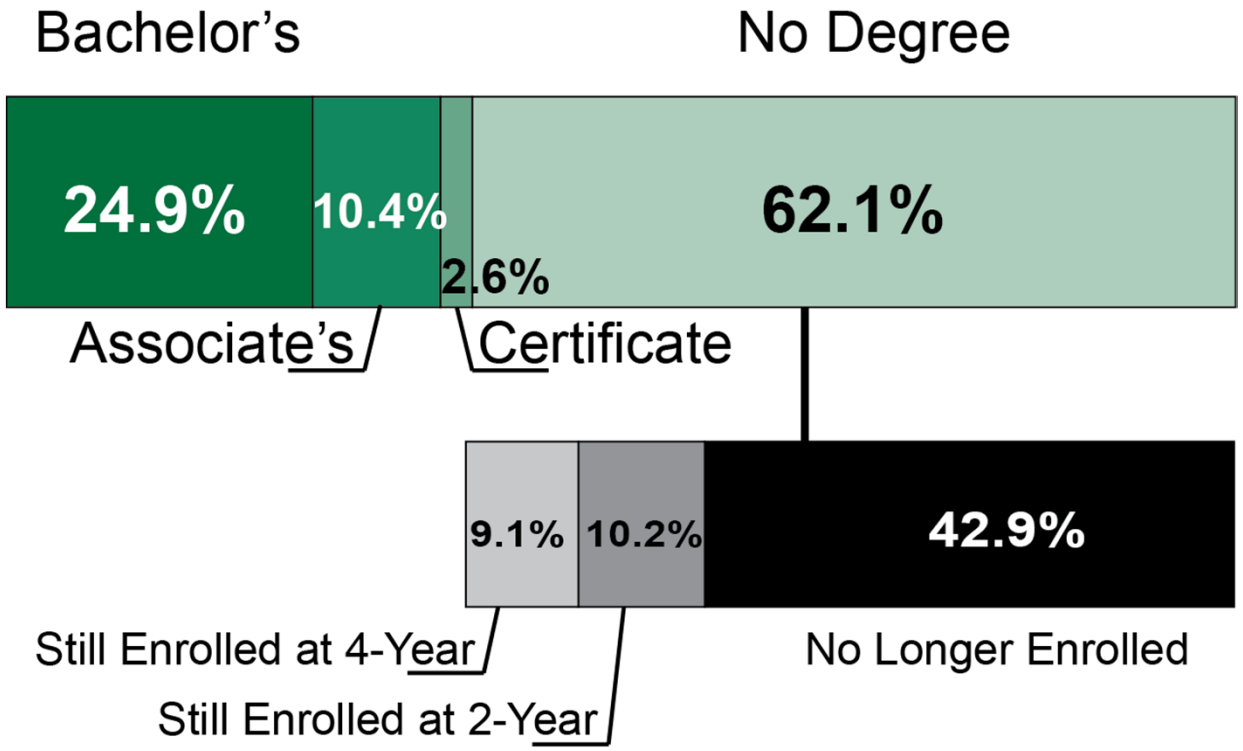
Maladaptive Enrollment/Transfer Patterns

- For four-year college students
  - Reverse transferring, undermatching
- For community college students
  - Transferring early, enrolling part-time, transferring without a degree

Reverse Transfer and End of Study Status

		End of Study Status				
			Non-Completers			
		Bachelor's Degree or Higher	Still Enrolled at 4-yr	Still Enrolled at 2-yr	No Longer Enrolled	Total
Reverse Transfer Students	Row %	24.9%	12.1%	12.4%	50.6%	100.0%
	Column %	7.2%	54.9%	100.0%	50.2%	20.7%
Other Four-Year Starters	Row %	84.3%	2.6%	0.0%	13.1%	100.0%
	Column %	92.8%	45.1%	0.0%	49.8%	79.3%
Total	Row %	72.0%	4.6%	2.6%	20.9%	100.0%
	Column %	100.0%	100.0%	100.0%	100.0%	100.0%

Highest Degree and End of Study Status for Reverse Transfer Students



College Readiness, Institutional Selectivity, and Bachelor's Completion

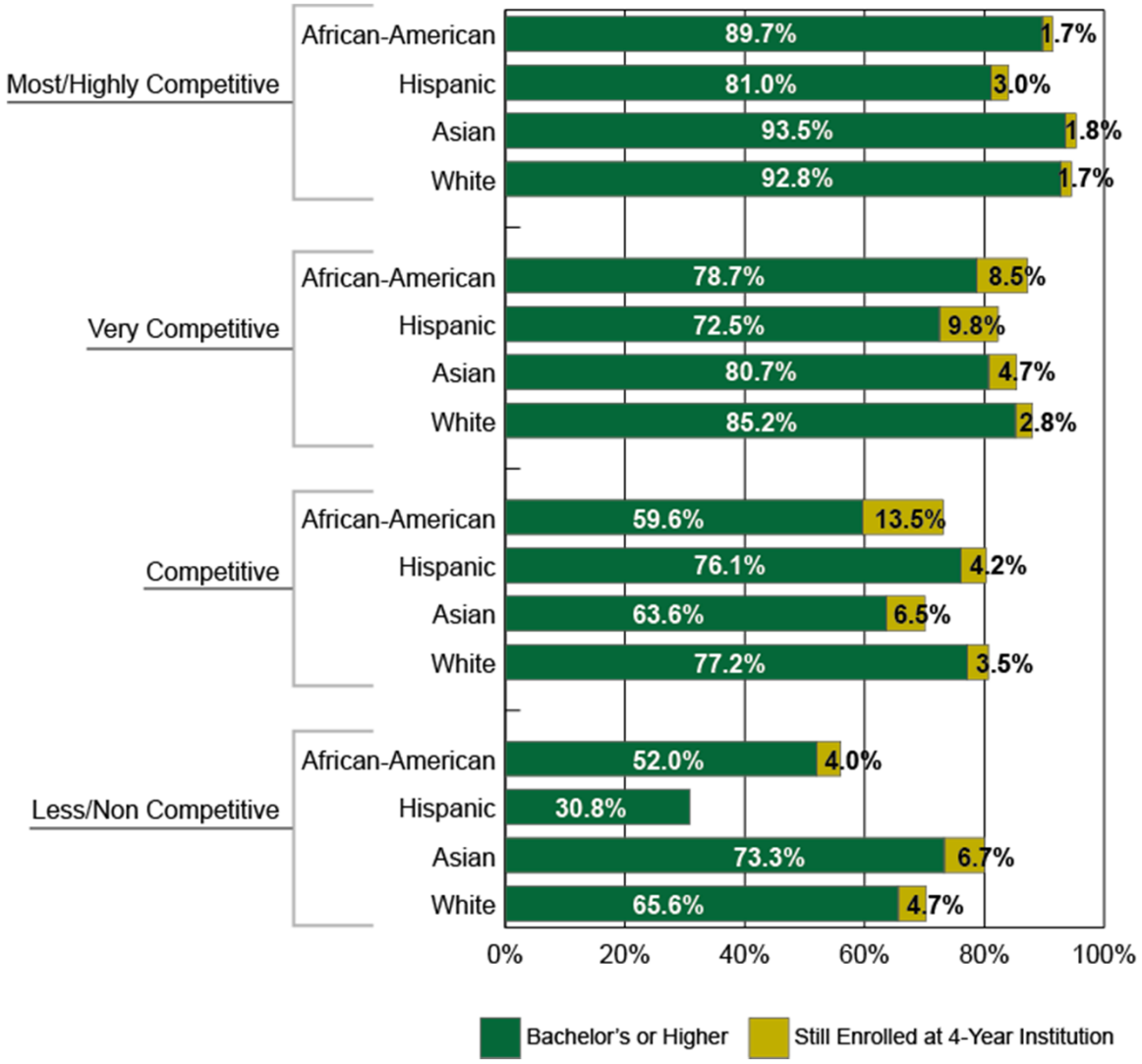
Selectivity	End of Study Status: Bachelor's or Higher	Still Enrolled at Four-Year	Still Enrolled at Two-Year	No Longer Enrolled
Most/Highly Competitive				
All Four	92.2%	1.7%	0.6%	5.5%
3 of 4	89.2%	2.1%	1.0%	7.7%
2 of 4	82.5%	4.2%	1.1%	12.3%
1 of 4	74.3%	2.3%	3.6%	19.8%
None	72.7%	7.1%	2.0%	18.2%
Very Competitive				
All Four	83.2%	3.4%	1.3%	12.1%
3 of 4	82.4%	3.5%	1.6%	12.4%
2 of 4	72.0%	5.7%	3.1%	19.2%
1 of 4	68.4%	5.6%	4.0%	22.0%
None	55.9%	8.7%	4.9%	30.5%
Competitive				
All Four	76.6%	3.8%	2.0%	17.6%
3 of 4	74.2%	3.1%	2.3%	20.4%
2 of 4	66.4%	5.4%	3.4%	24.9%
1 of 4	62.2%	5.6%	4.4%	27.8%
None	46.7%	8.2%	4.7%	40.4%
Less/Non Competitive				
All Four	63.6%	4.7%	2.5%	29.2%
3 of 4	60.3%	4.5%	3.7%	31.5%
2 of 4	49.8%	9.3%	4.2%	36.8%
1 of 4	42.8%	9.3%	4.2%	43.7%
None	27.5%	10.9%	6.6%	55.0%

- Students meeting two of four benchmarks from the most competitive institutions had similar rates of bachelor's completion as students meeting all four benchmarks enrolling at very competitive institutions.
- The least prepared students enrolling at the most competitive institutions outperformed the best prepared students at less competitive institutions.

Adaptive Transfer and Enrollment Patterns

- Four-year college students
  - Enrolling at more selective institutions, taking summer courses, having participated in dual-credit
- Community college students
  - Consistent full-time enrollment, transferring with an associate degree, having participated in dual-credit

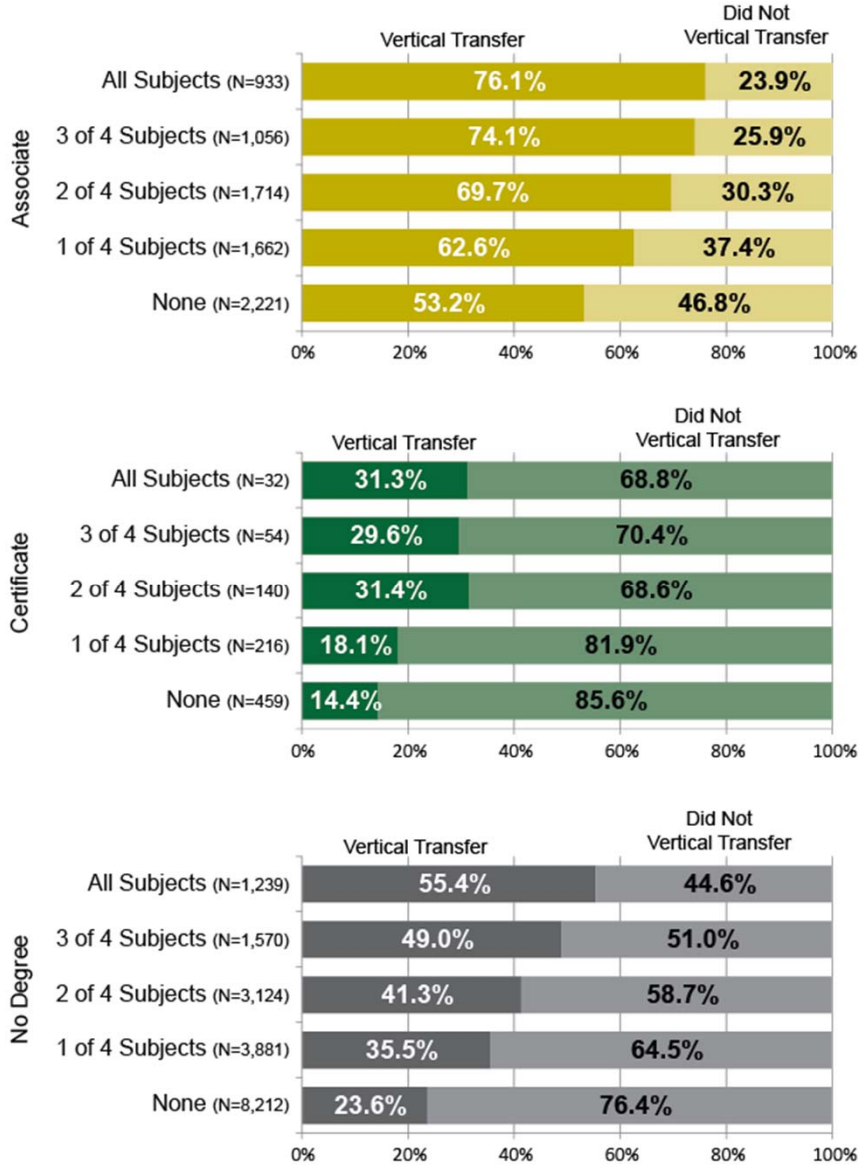
The Interaction of Institutional Selectivity & Race and Bachelor's Completion



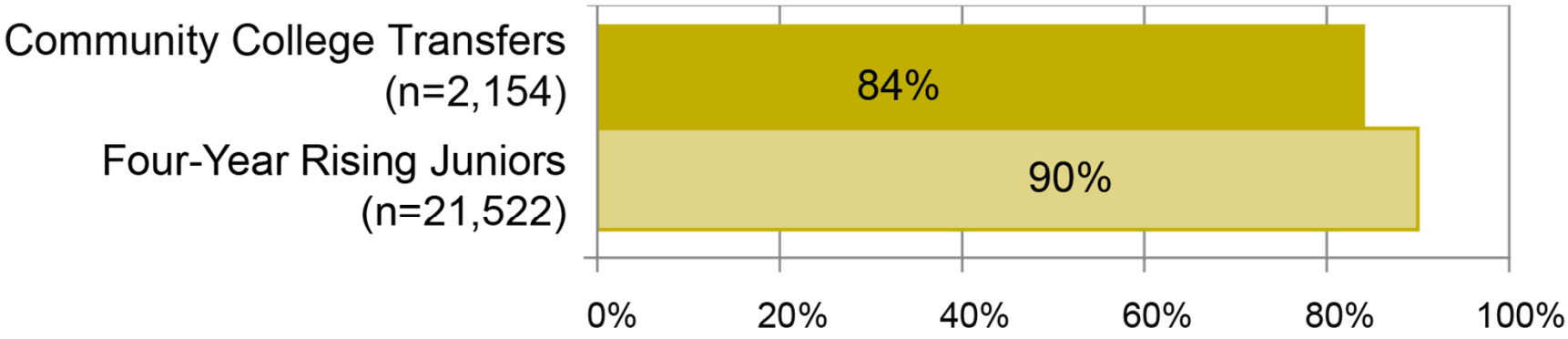
- For the most-ready Hispanic students, there was only a moderate difference between those enrolling at competitive or better institutions.
- However, among the most-ready Hispanic students there was a sharp decline in BA completion at non-competitive institutions.

- Enrolling at a highly selective institution narrows the racial gap for African-American students.

Highest Community College Degree, College Readiness, and Vertical Transfer Rates

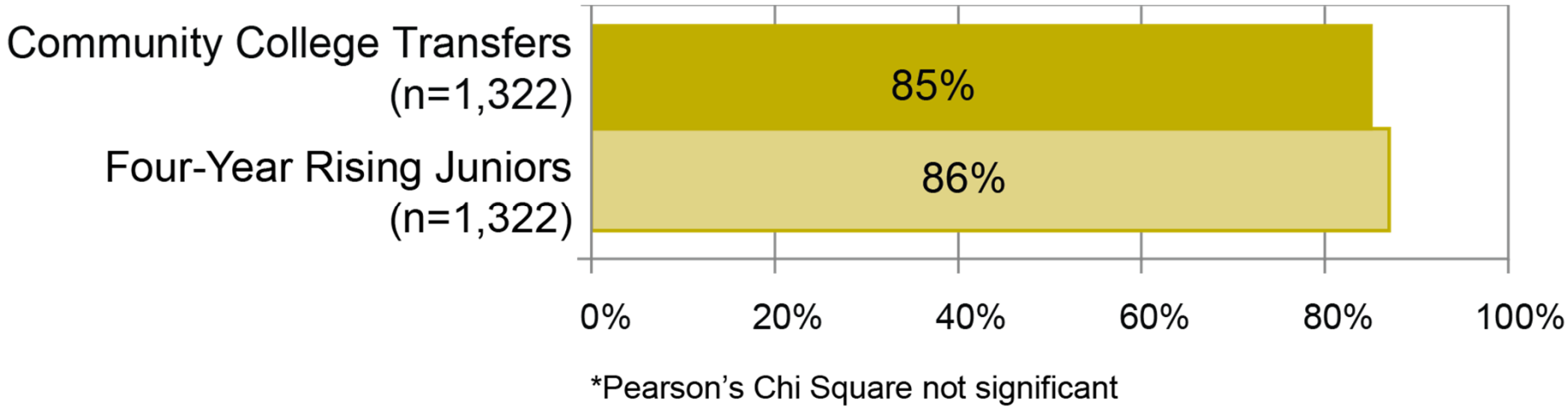


Bachelor's Completion Rates Prior to Matching



* Statistically significant based on Pearson's Chi Square

Bachelor's Completion Rates after Propensity Score Matching and Post-Treatment Adjustment



- After matching on key factors, *no community college penalty was evident.*

Dual Credit Dual Enrollment

Witt, A., Lichtenberger, E., Blankenberger, B. & Franklin, D. (2012). *Dual credit/dual enrollment and data-driven policy implementation: Reform initiatives and postsecondary credential attainment.* Paper presented at the Association for Institutional Research's Annual Forum: New Orleans, LA.

- DCDE for students that graduated high school in 2003
- 16% of students participated
- Wide variation depending on geographical region

Dual Credit and Enrollment*

	High Income Model		Mid-High Income Model		Mid-Low Income Model		Low Income Model	
	Four-Year Odds Ratio	Two-Year Odds Ratio	Four-Year Odds Ratio	Two-Year Odds Ratio	Four-Year Odds Ratio	Two-Year Odds Ratio	Four-Year Odds Ratio	Two-Year Odds Ratio
Semesters Dually Enrolled 2-yr	4.1	5.3	3.3	4.0	3.0	3.6	2.5	3.0
Semesters Dually Enrolled 4-yr	9.1	4.2			10.9	2.4	13.8	5.8
	.9	.9		.9	1.0	.9	1.0	.9
AP Math	.9	.9	.9	.8	1.0	.9	.9	1.0
AP Science		.9	1.0	.9	1.0	1.0	1.2	1.0
AP Social Studies	.9	.7	.9	.8	.9	.8	1.0	.8
AP Foreign Language	1.0	.8	1.0	.9	1.1	1.0	1.1	1.2
Gender (Male)	.8	.9	.9	.9	.9	.8	.9	.8
Race (African-American to White)	1.6	.7	2.5	.6	3.2	1.0	3.1	1.0
(Hispanic to White)	1.8	1.0	1.0	.8	.8	.8	.9	.7
(Asian to White)	1.0	1.2	1.0	.7	1.2	1.1	1.5	1.2
HS GPA (2.5-2.9 to ≤2.4)	2.8	1.3	2.8	1.5	2.7	1.3	2.7	1.2
(3.0-3.4 to ≤2.4)	3.5	1.2	3.7	1.4	3.9	1.5	3.7	1.5
(3.5-4.0 to ≤2.4)	3.6	.7	4.0	1.0	4.5	1.1	4.0	1.1
ACT English	1.1	1.0	1.1	1.0	1.1	1.0	1.2	1.0
ACT Math	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ACT Reading	1.1	1.0	1.0	1.0	1.0	1.0		1.0
ACT Science	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0
Completed ACT Core	1.4	1.1	1.5	1.2	1.4	1.1	1.5	1.1
HS Program (CTE to College Prep)	.5	1.1	.4	.7	.5	.8	.7	.8
(General to College Prep)	.7	1.1	.6	.9	.6	.9	.6	.8
Expecting to Work While Enrolled	.9	1.3	.9	1.0	.9	.8	.8	.9
Expecting to Receive Financial Aid	1.1	1.2	1.3	1.0	1.5	1.1	1.7	1.3
Number of Siblings	.9	1.0	.9	1.0	.9	1.0	.9	.9
Region (Northeast to Chicago)	.9	2.1	.9	1.4	.8	2.0	.7	1.5
(Northwest to Chicago)	.5	2.2	.6	1.5	.5	2.2	.4	1.4
(East Central to Chicago)	.6	2.1	.5	1.2	.5	1.4	.4	1.1
(West Central to Chicago)	.6	2.0	.7	1.6	.5	2.1	.3	1.4
(Southwest to Chicago)	.7	1.5	.6	1.0	.5	1.5	.4	1.0
(Southeast to Chicago)	.4	2.0	.3	1.2	.3	1.7	.2	1.2
High School Mean Composite ACT	1.1	.9	1.1	1.0	1.1	1.0	1.1	1.0

*Shaded cells indicate statistical significance at the ≤ .001 level.

Dual Credit and Bachelor's Degree Completion

	High Income	Mid-High Income	Mid-Low Income	Low Income
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Semesters Dually Enrolled ICCB	1.034	1.014	1.046	1.098
Semesters Dually Enrolled 4-yr	1.027		1.123	1.173
AP English	.959	1.002	.990	.999
AP Math	1.011	1.030	1.030	.967
AP Science	.987	.934	.965	.929
AP Social Studies	1.052	1.065	1.069	1.067
AP Foreign Language	1.077	1.048	1.033	1.008
Gender (Male)	.808	.843	.831	.825
Race (African-American to White)	.840	.830	.834	.708
(Hispanic to White)	.804	.767	.828	.705
(Asian to White)	.942	.925	.941	1.109
HS GPA (2.5-2.9 to ≤2.4)	1.518	1.531	1.249	1.420
(3.0-3.4 to ≤2.4)	1.998	2.177	1.829	2.067
(3.5-4.0 to ≤2.4)	2.593	2.981	2.528	2.902
ACT English	1.011	1.003	1.014	1.010
ACT Math	1.009	1.016	1.018	1.022
ACT Reading	1.004	.999	.998	1.013
ACT Science	.994	.991	.996	.995
Completed ACT Core	1.030	1.052	1.102	1.148
High School Program (CTE to College Prep)	1.015	.900	.897	.966
(General to College Prep)	.970	.892	.985	.950
Expecting to Work While Enrolled	.968	.962	.895	.955
Expecting to Receive Financial Aid	.988	.929	.994	.776
Number of Siblings	.969	.973	.975	.910
Region (Northwest to Chicago)	1.051	.971	.846	1.007
(Northwest to Chicago)	.995	1.035	.910	.884
(East Central to Chicago)	1.028	.972	.977	.984
(West Central to Chicago)	.973	.891	.844	.837
(Southwest to Chicago)	.968	.848	.979	.910
(Southeast to Chicago)	.739	.941	.814	1.050
High School Mean Composite ACT	1.042	1.049	1.046	1.050
Distance between HS and College (>30-74 to <30)	1.047	1.059	1.142	1.222
(75-174 to <30)	1.101	1.175	1.166	1.385
(175+ to <30)	1.113	1.074	1.106	1.296
Sector (Public)	1.040	.980	1.014	.964
Selectivity (Highly Selective)	1.068	1.134	1.122	1.161
Selectivity/ College Readiness Alignment (Undermatched to Aligned)	.920	.984	.868	.850
Overmatched to Aligned	1.130	1.161	1.139	1.322

*Shaded cells indicate statistical significance at the ≤ .001 level.

Summary of Findings

Maladaptive Patterns

- RT students much lower BS completion rates
- Students undermatched had lower Bachelor's completion rates
- Hispanic students had much reduced Bachelor's completion rates if attending non-competitive institutions

Summary of Findings

Adaptive Patterns

- Enrolling at more selective institutions
- African Americans closed the completion gap when overmatched
- Community College students who enrolled FT for 4 terms and then transferred
- DCDE increased enrollment
- DCDE increased completion for low income students

Policy Implications

- Continue to develop baseline information about statewide enrollment/transfer performance.
- Set goals for institutional performance related to vertical transfer.
- Importance of tracking transfer patterns, ILDS will be beneficial for this
- Expanding articulation initiatives to give credit to student after transferring

Policy Implications (2)

- Providing academic & financial advisement regarding attending appropriate-level institution
- Help students face their financial aid future by developing information and incentives spanning undergraduate enrollment.
- Preliminary evidence (supported elsewhere) suggests the importance of FT, continuous enrollment toward degree completion

References

Lichtenberger, Eric J. (2011). *Reverse transfer students and postsecondary outcomes: A potential opportunity* (IERC 2011-5). Edwardsville, IL: Illinois Education Research Council.

Lichtenberger, Eric J. & Dietrich, Cecile. (2012). *College readiness and the potentially overlapping outcomes of community college entrants* (IERC 2012-3). Edwardsville, IL: Illinois Education Research Council at Southern Illinois University Edwardsville.

Lichtenberger, Eric J. & Dietrich, Cecile. (2013). *The community college penalty and bachelor's degree completion: Fact of fiction?* (IERC 2013-1). Edwardsville, IL: Illinois Education Research Council at Southern Illinois University Edwardsville.

Witt, A., Lichtenberger, E., Blankenberger, B. & Franklin, D. (2012). *Dual credit/dual enrollment and data-driven policy implementation: Reform initiatives and postsecondary credential attainment.* Paper presented at the Association for Institutional Research's Annual Forum: New Orleans, LA.

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