

College Readiness and the Postsecondary Outcomes of Illinois High School Students

Eric Lichtenberger

Wednesday, April 25, 2012

Illinois P-20 Council

Chicago, Illinois



Illinois High School Class of 2003

- Includes 115,677 public high school students
 - Took the ACT in spring of 2002
 - Graduated high school in spring of 2003
- Does not include
 - Graduates of private high schools in Illinois
 - Students from other states who migrated to postsecondary institutions in Illinois
- Study period-fall of 2003 to spring of 2010

Sources of Data

- **ACT**-Prairie State Achievement Examination and the Student Interest Profiler
- **National Student Clearinghouse**-covers 92% of all postsecondary enrollment
 - Supplemented with information from the Illinois High School Report Card, Barron's, IPEDS, and the Illinois Board of Higher Education

Methods

- Census
- Descriptive statistics (SPSS)
 - Cross tabulations
 - Comparisons of means
 - Custom tables

Policy Context

- According to the U.S. Department of Education, states must develop their own definition of and metrics for college and career readiness in order to apply for a NCLB waiver.
- State and national goals of increasing the proportion of quality degree holders and eliminated completion gaps.

Research Questions

1. How is college readiness distributed among the Illinois high school class of 2003?
2. How is college readiness associated with gender, race, parental income, and region?
3. How do the college readiness benchmark patterns relate to bachelor's completion?
4. What happens when we explore bachelor's degree completion by looking at the interaction of college readiness and key demographic factors?

ACT College Readiness Benchmarks

Test	College Course or Course Area	ACT Score
English	English Composition	18
Reading	Social Sciences	21
Mathematics	College Algebra	22
Science	Biology	24

Why these courses?

They are the first credit-bearing courses most commonly taken by freshman.

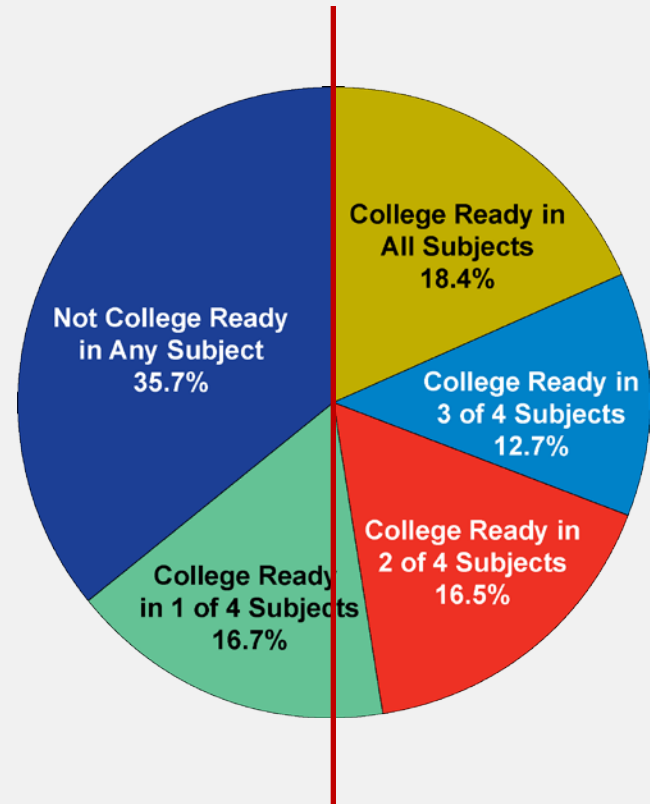
What is a high probability of success?

- 50 percent chance or better of earning a B or better; and
- 75 percent chance or better of earning at least a C.

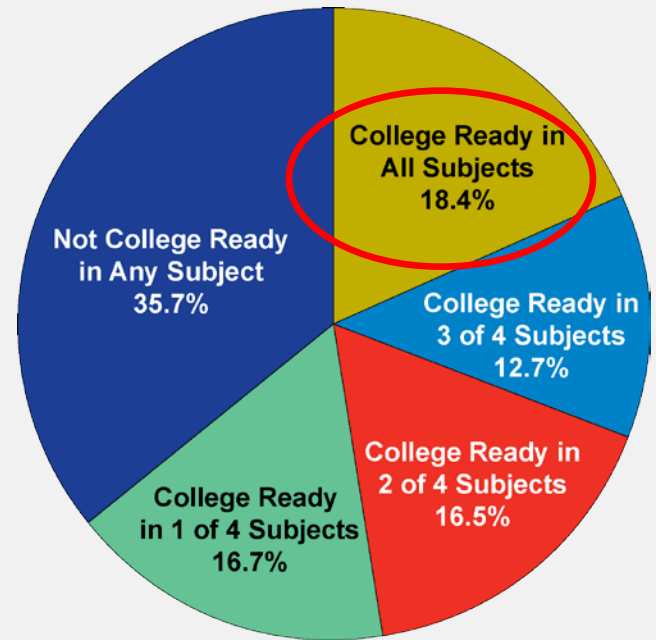
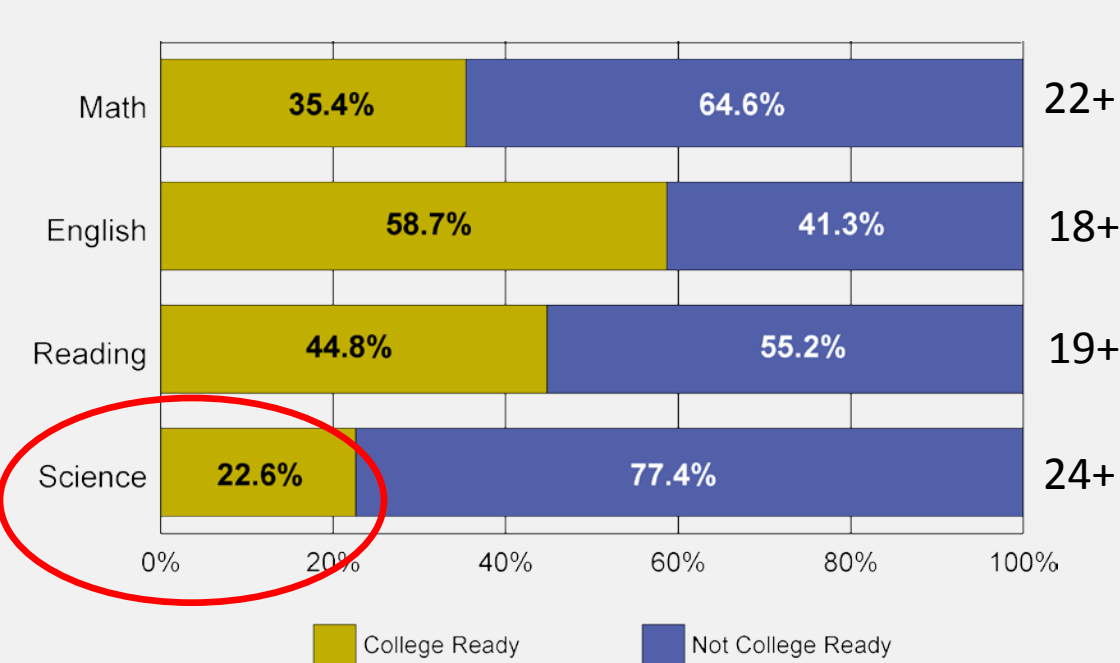
<http://www.act.org/research/policymakers/pdf/benchmarks.pdf>

How is college readiness distributed among the Class of 2003?

- The proportion of students missing all of the benchmarks was nearly twice that of students meeting all of the benchmarks.
- Nearly a third met at least three of the benchmarks.
- Roughly half met at least two and the other half met one or none.



How is college readiness distributed among the Class of 2003?



- Lower benchmarks are associated with higher rates of meeting the benchmark
- Overall college readiness (meeting all four) is almost entirely predicated on the test with the highest benchmark-Science
- 80% of the students meeting the science benchmark, met all of the benchmarks

ACT College Readiness

	Math	English	Reading	Science	n	% of Total Enrolled
	≥22	≥18	≥21	≥24	115,677	100.0%
All Subjects	✓	✓	✓	✓	21,246	18.4%
3 of 4 Subjects	✓	✓	✓	⊘	10,743	9.3%
2 of 4 Subjects	✓	✓	⊘	⊘	4,798	4.1%
	⊘	✓	✓	⊘	13,123	11.3%
1 of 4 Subjects	⊘	✓	⊘	⊘	13,709	11.9%
	⊘	⊘	✓	⊘	3633	3.1%
None	⊘	⊘	⊘	⊘	41,256	35.7%

✓ = met the benchmark ⊘ = missed the benchmark

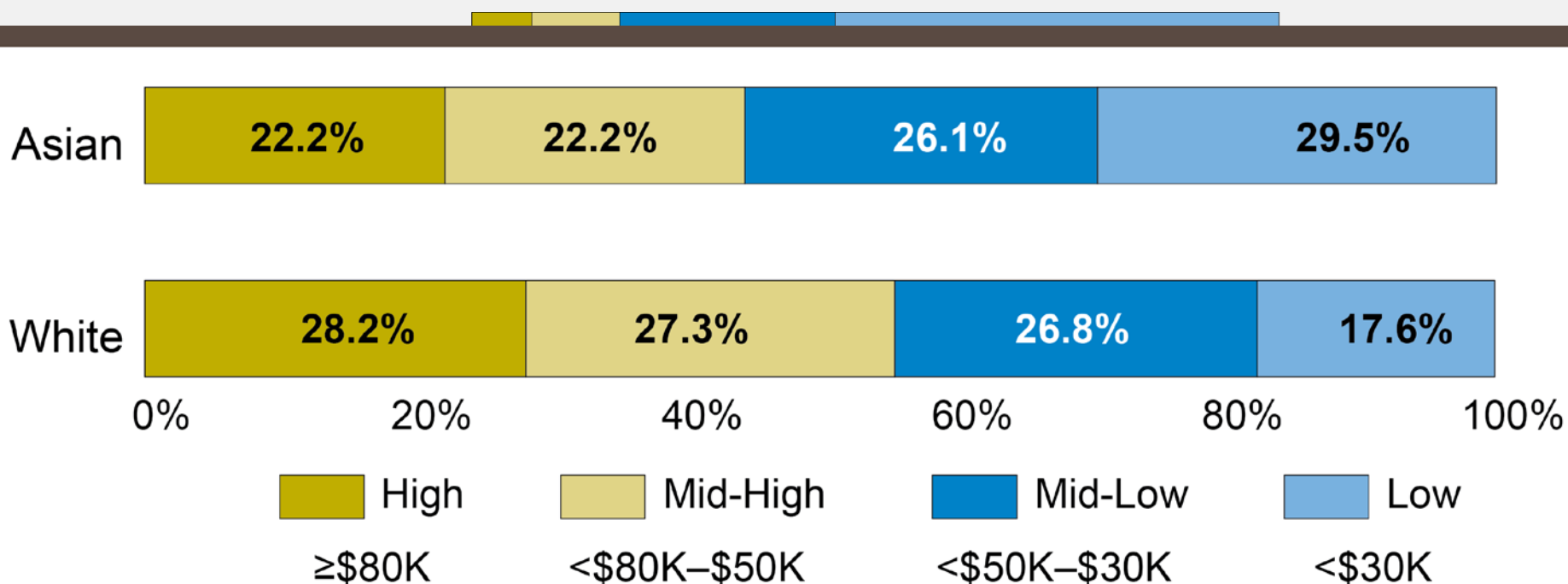
⊘ ⊘ ⊘ ⊘ 41,256 35.7%

How is college readiness associated with gender, parental income, and race?

ACT College Readiness Category	M-E-R-S ✓-✓-✓-✓	M-E-R-S ✓-✓-✓-○	M-E-R-S ✓-✓-○-○	M-E-R-S ○-✓-✓-○	M-E-R-S ○-✓-○-○	M-E-R-S ○-○-✓-○	M-E-R-S ○-○-○-○
Race							
African-American	3%	4%	2%	10%	15%	3%	61%
Hispanic	5%	6%	3%	10%	12%	4%	57%
Asian	29%	12%	8%	8%	8%	2%	23%
White	24%	12%	5%	13%	12%	3%	24%

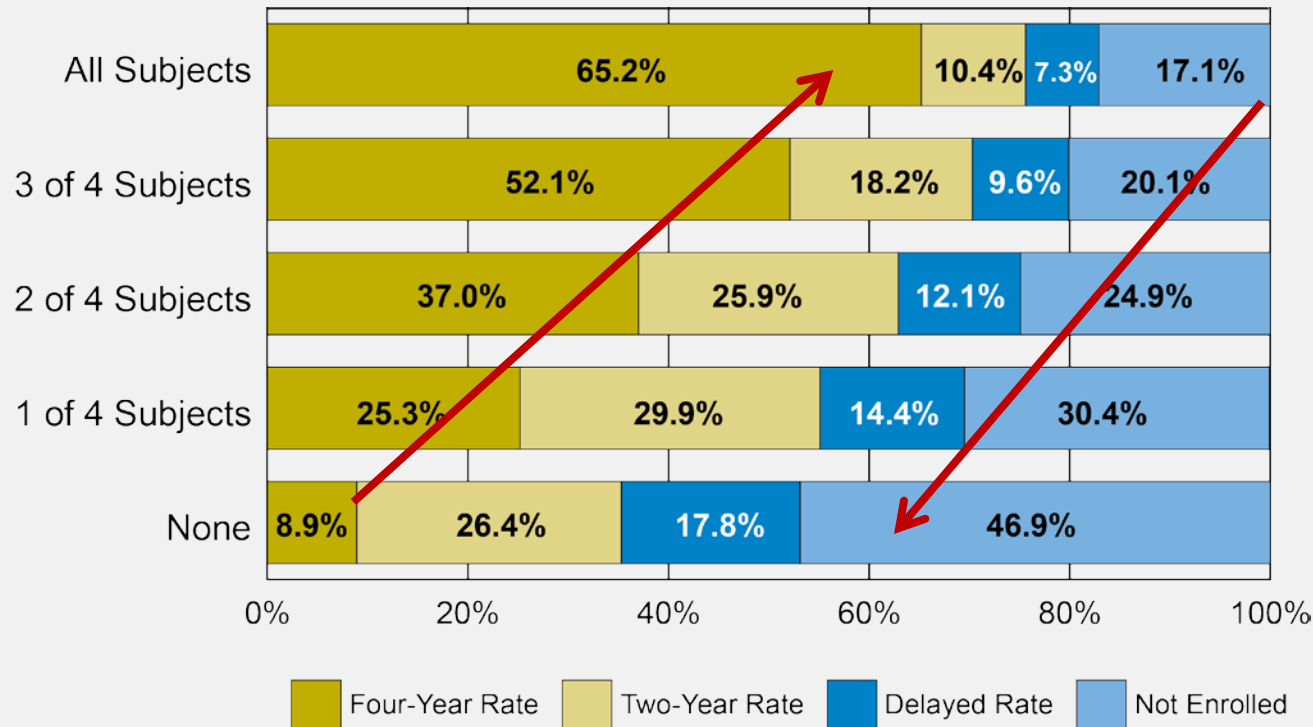
M = Math E = English R = Reading S = Science

Race and Parental Income



- A disproportionately high number of non-Asian minority students fell into the lower income categories (roughly 80%)
- White and Asian students had a more equal income distribution. Slightly more white students fell in the upper income categories
- When looking at educational outcomes and race, one must also consider the concentration of poverty.

Enrollment Patterns by the Number of ACT Benchmarks Met

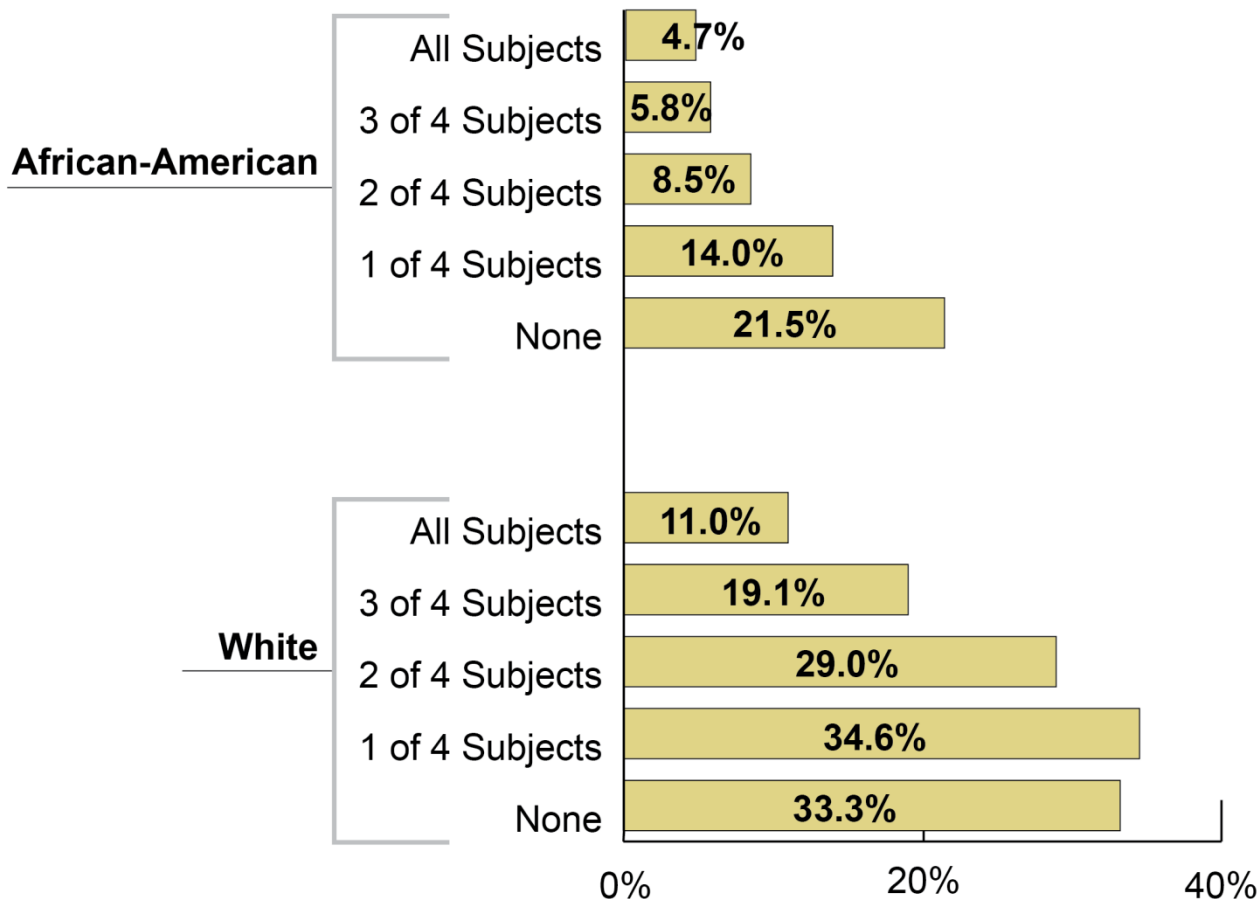


- The greater the number of benchmarks met, the higher the rate of initial four-year enrollment and the lower the rate of not enrolling or delaying enrollment.
- Students meeting two or fewer benchmarks had a higher rate of initial community college enrollment.

Basic Enrollment Patterns by ACT College Readiness Category

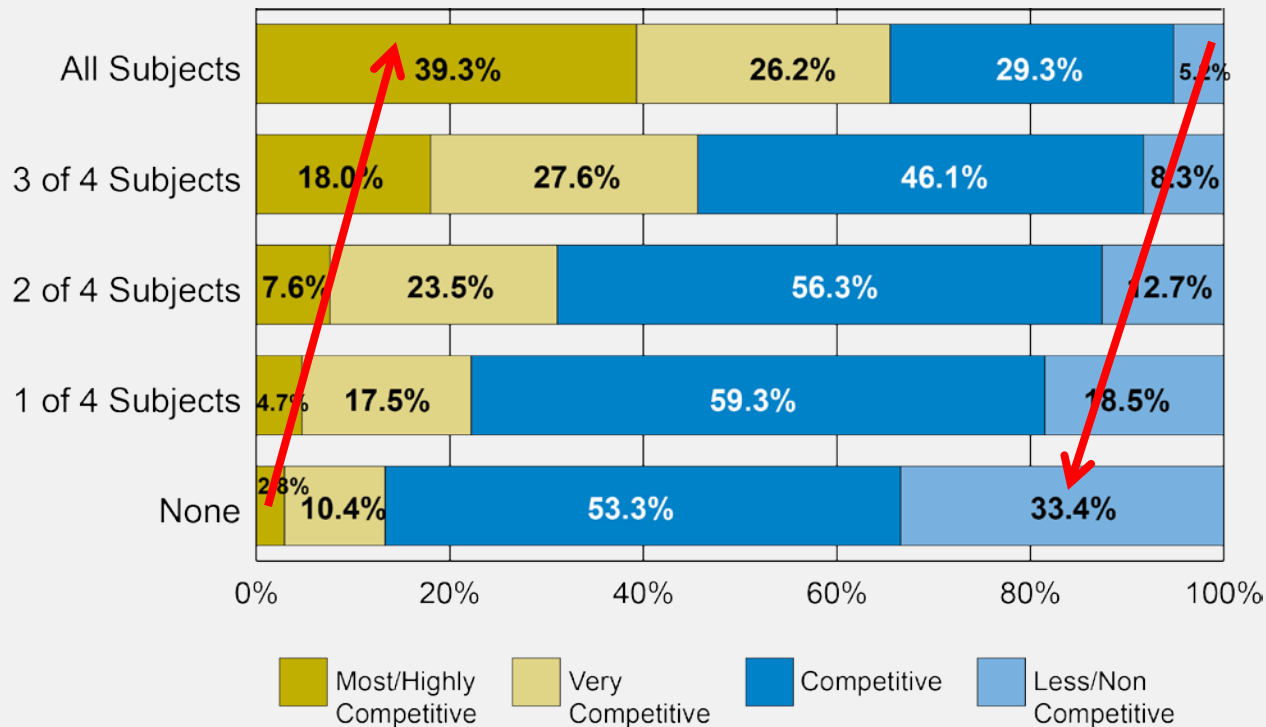
ACT College Readiness						Basic Enrollment Patterns			
ACT College Readiness						Basic Enrollment Patterns			
Math	English	Reading	Science	n	% of Total Enrolled	Four-Year Rate	Two-Year Rate	Delayed Rate	Not Enrolled
≥22	≥18	≥21	≥24	115,677	100.0%	32.1%	22.9%	13.3%	31.6%
✓	✓	⊖	⊖	4,798	4.1%	46.1%	22.3%	9.7%	21.9%
✓	⊖	✓	⊖	539	0.5%	30.6%	32.1%	12.2%	25.0%
✓	⊖	⊖	✓	143	0.1%	37.1%	25.9%	11.2%	25.9%
⊖	✓	✓	⊖	13,123	11.3%	34.1%	27.0%	13.0%	25.9%
⊖	✓	⊖	✓	479	0.4%	35.3%	25.9%	13.2%	25.7%
⊖	⊖	✓	✓	121	0.1%	28.1%	24.8%	14.0%	33.1%
✓	⊖	⊖	⊖	1,706	1.5%	25.1%	29.1%	13.4%	32.3%
⊖	✓	⊖	⊖	13,709	11.9%	27.3%	30.2%	13.8%	28.7%
⊖	⊖	✓	⊖	3633	3.1%	17.6%	29.6%	17.1%	35.6%
⊖	⊖	⊖	✓	182	0.2%	22.0%	24.7%	19.8%	33.5%
⊖	⊖	⊖	⊖	41,256	35.7%	8.9%	26.4%	17.8%	46.9%

Two-Year Rate



- Throughout all college readiness categories, African-American students maintained higher rates of initial four-year enrollment relative to similarly ready white students (parallels the results of the Class of 2002 study).
- White students generally had the highest rates of initial community college enrollment.

How is college readiness associated with selectivity?



Most/Highly Competitive

- Illinois Wesleyan
- Northwestern University
- University of Illinois at Urbana-Champaign
- University of Chicago

Very Competitive

- Bradley University
- DePaul University
- Loyola University
- University of Illinois at Chicago

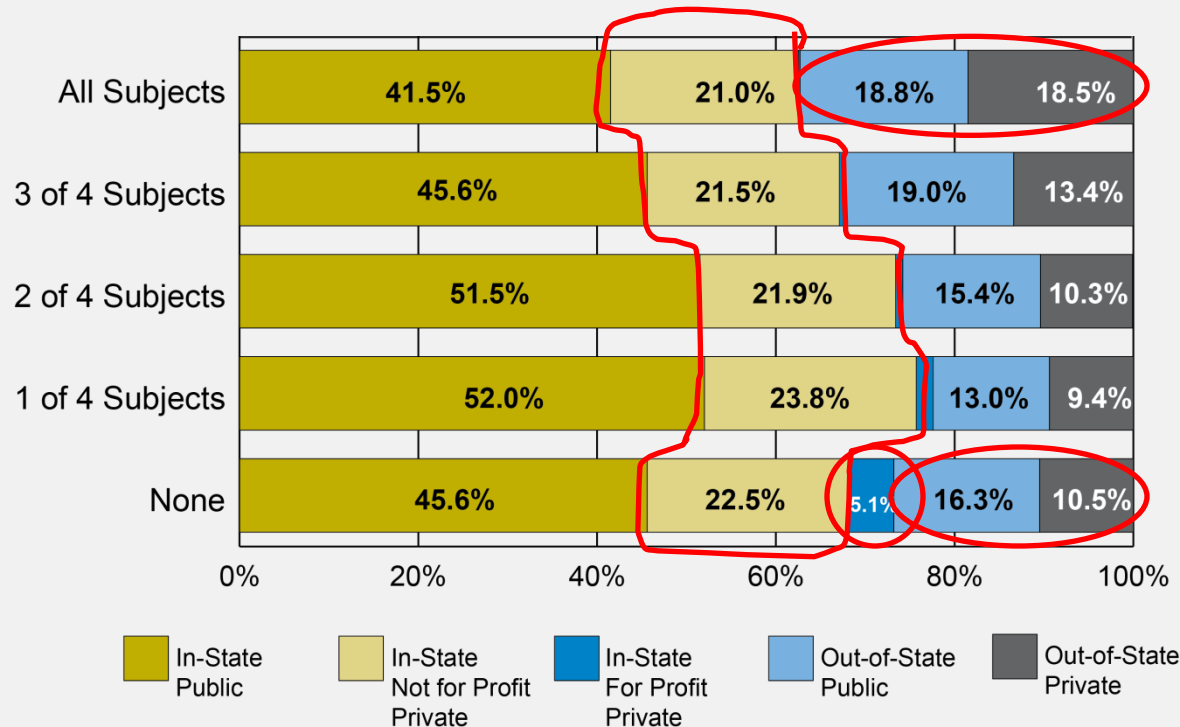
Competitive

- Illinois State University
- Northern Illinois University
- Southern Illinois University Carbondale
- Western Illinois University

Less/Non Competitive

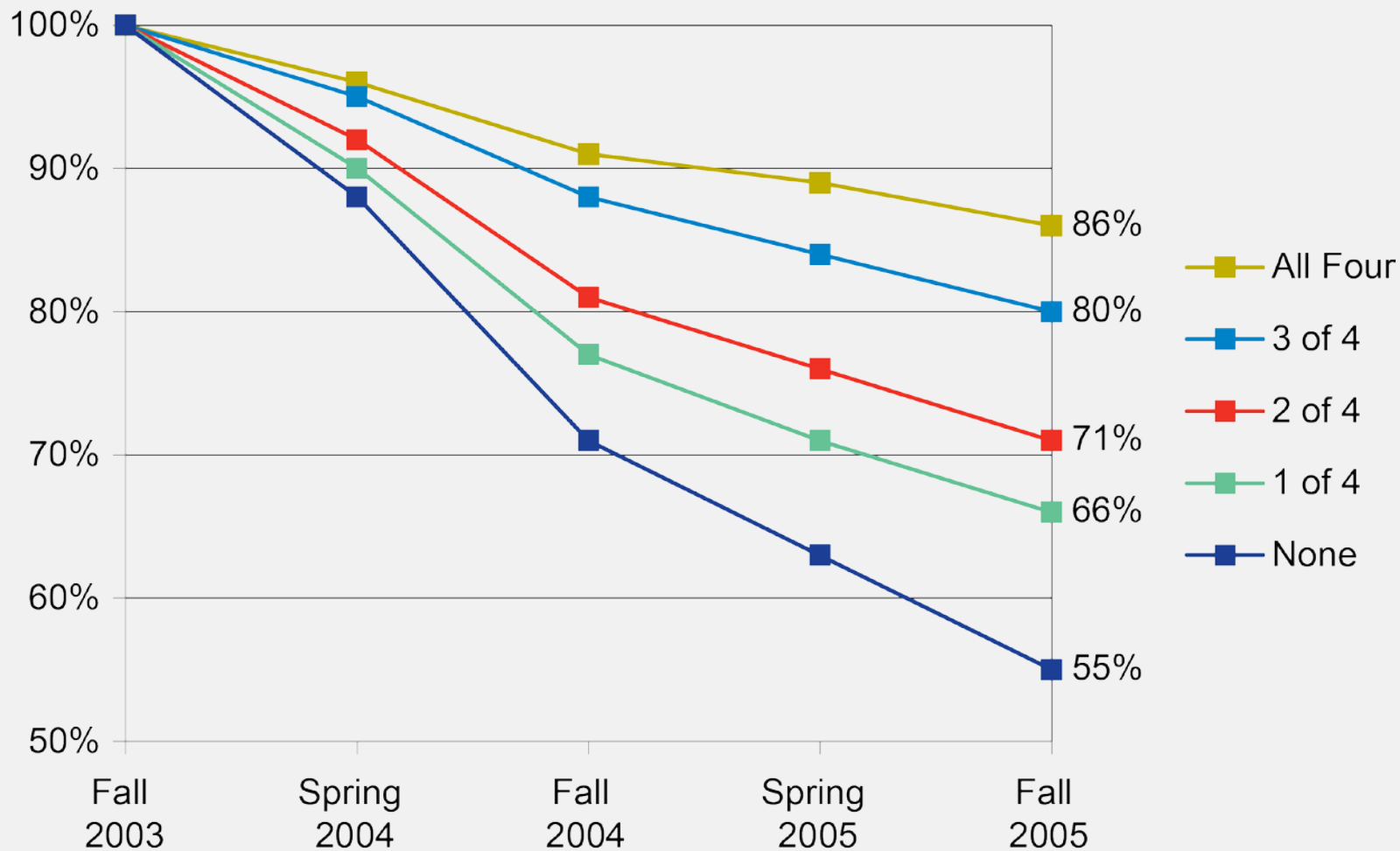
- Northeastern Illinois University
- Roosevelt University
- Southern Illinois University Edwardsville
- Columbia College Chicago

How is college readiness associated with sector?



- Students meeting all of the benchmarks had the highest out-of-state enrollment rates.
- A surprisingly high proportion of students missing all of the benchmarks enrolled out-of-state as well.
- Students meeting fewer benchmarks had higher rates of enrollment at for-profit institutions.
- The proportion of students enrolling at in-state NFP private institutions was fairly similar across the college readiness groups.

How is college readiness associated with persistence?



Persistence into Fall 2005 by ACT College Readiness Readiness Category

ACT College Readiness

Persistence Among 4-Year Starters

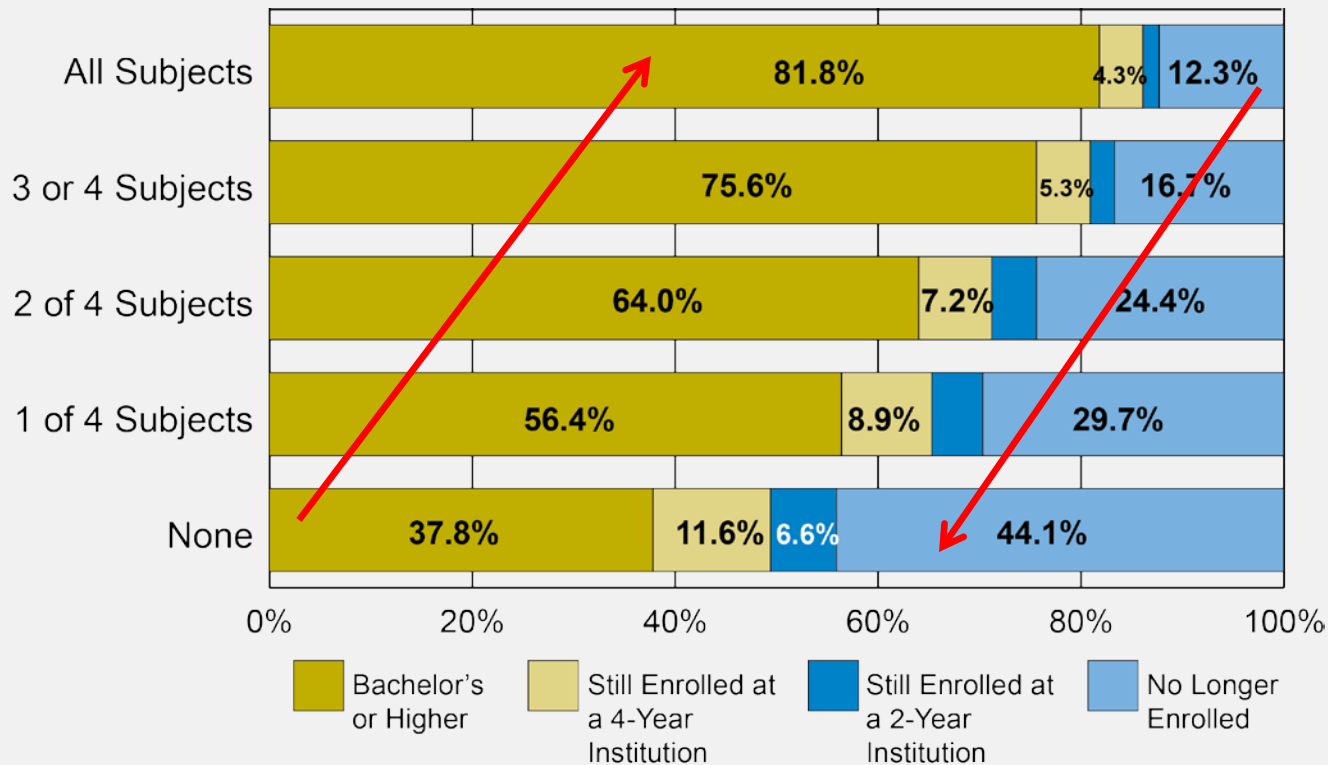
ACT College Readiness

Persistence Among 4-Year Starters

Math	English	Reading	Science	Four-Year Starters (n)	% of Total Enrolled	Persisted Spring 2004	Persisted Fall 2004	Persisted Spring 2005	Persisted Fall 2005
≥22	≥18	≥21	≥24	37,165	100%	93.8%	84.6%	80.3%	76.1%
✓	⊗	⊗	⊗	429	1.2%	91.6%	79.5%	73.9%	68.8%
⊗	✓	⊗	⊗	3,747	10.1%	91.0%	78.0%	72.4%	67.3%
⊗	⊗	✓	⊗	641	1.7%	87.8%	73.3%	63.8%	58.2%
⊗	⊗	⊗	✓	40	0.1%	75.0%	65.0%	55.0%	52.5%

⊗	⊗	✓	⊗	33	0.1%	93.8%	84.6%	80.3%	76.1%
✓	✓	⊗	⊗	4,479	12.1%	91.5%	78.3%	73.1%	67.6%
⊗	✓	⊗	✓	169	0.5%	94.1%	85.3%	70.6%	64.7%
⊗	⊗	✓	✓	34	0.1%	94.1%	80.5%	72.2%	68.0%
✓	⊗	⊗	⊗	429	1.2%	91.6%	79.5%	73.9%	68.8%
⊗	✓	⊗	⊗	3,747	10.1%	91.0%	78.0%	72.4%	67.3%
⊗	⊗	✓	⊗	641	1.7%	87.8%	73.3%	63.8%	58.2%
⊗	⊗	⊗	✓	40	0.1%	75.0%	65.0%	55.0%	52.5%
⊗	⊗	⊗	⊗	3,664	9.9%	87.6%	71.2%	62.5%	54.6%

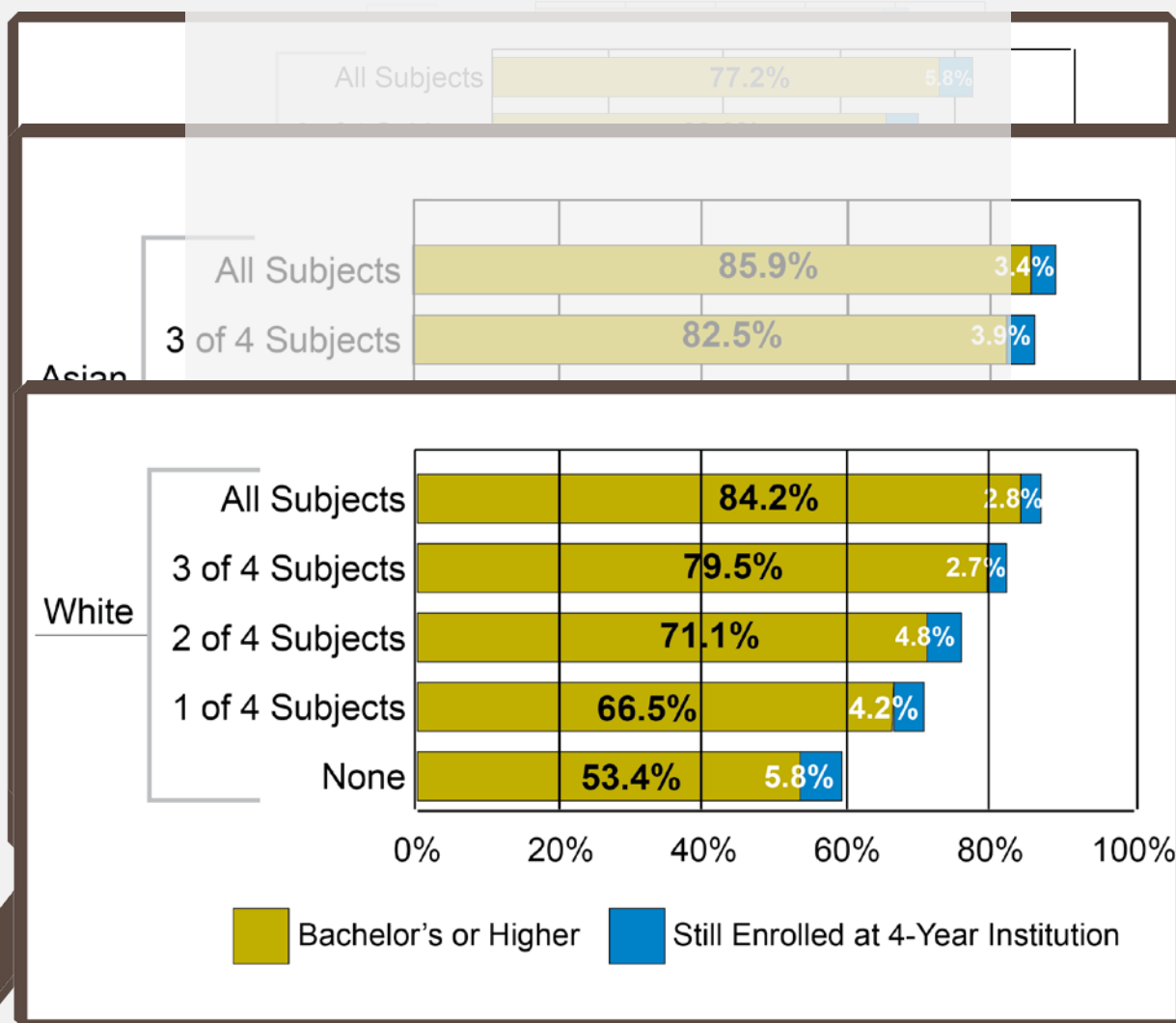
How is college readiness associated with bachelor's completion?



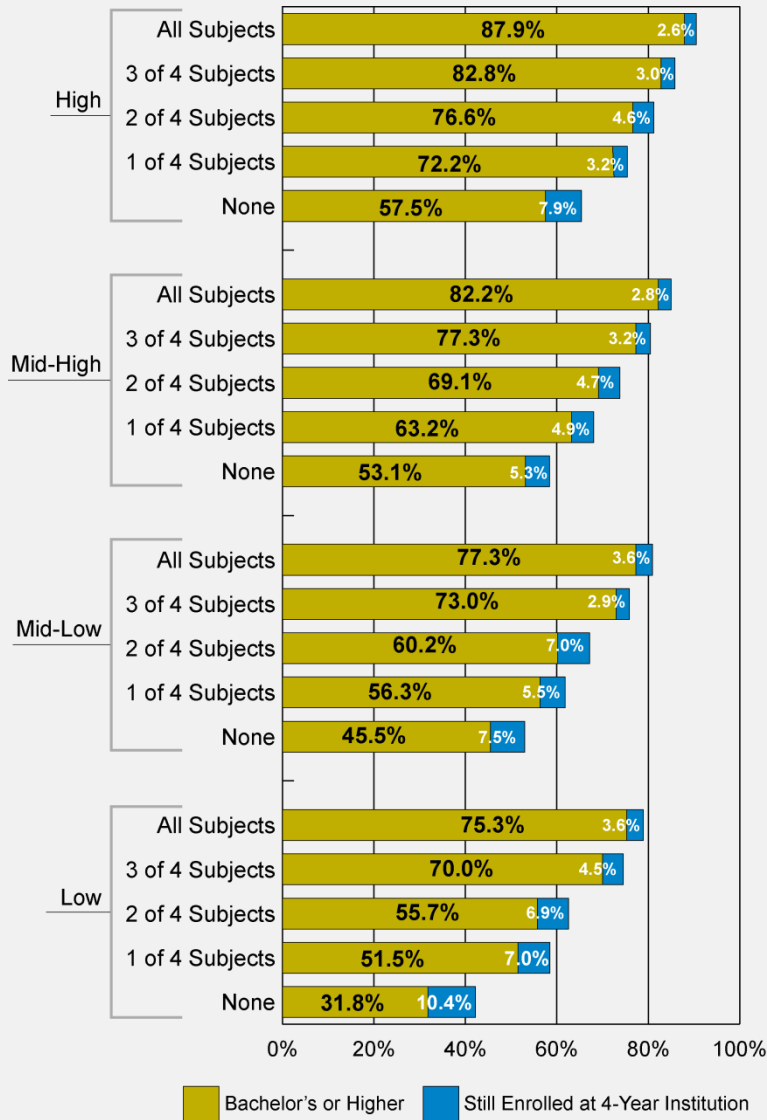
Within seven academic years of initial enrollment-fall of 2003 through spring of 2010.

Interaction of Race & College Readiness and Bachelor's Completion

- Non-Asian minority students had lower rates of degree completion throughout all readiness categories and a higher proportion still in the educational pipeline.
- Asian students completed bachelor's degrees at higher rates than similarly prepared white students in all but one category
- White students missing all of the benchmarks had a degree completion rate over 53%. This is higher than African-American students meeting one to two of the benchmarks.



Interaction of Parental Income & College Readiness and Bachelor's Completion



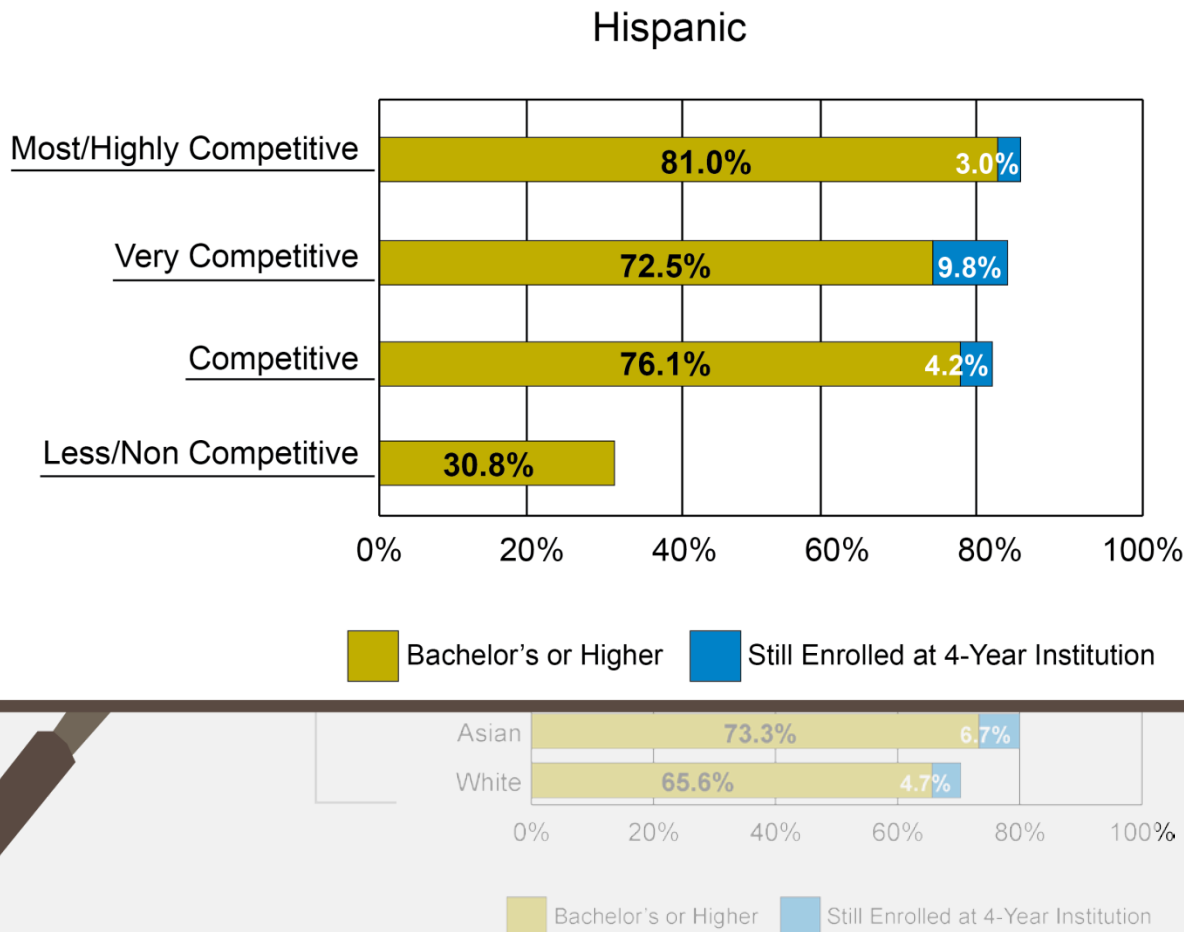
- Students from wealthier families had higher rates of bachelor's completion throughout all college-readiness categories.
- High income students meeting two benchmarks had a similar bachelor's completion rate as lower income students meeting all of the benchmarks.
- Keep in mind that students from wealthier families enrolled at more competitive institutions at higher rates.

Interaction of Selectivity & College Readiness on 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.

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.

Key Findings

- College readiness, as measured by the ACT benchmarks, was not evenly distributed across the demographic factors we explored.
 - The uneven distribution of poverty (as proxied by family income) was probably the driving factor behind the racial gaps and partially explains the regional differences.
- Meeting three or more of the benchmarks was related to an increased rate of bachelor's completion, particularly for higher income students and those enrolling at more selective institutions.
 - In terms of bachelor's completion the importance of college readiness varied across demographic groups.

Key Findings (cont.)

- When we looked at the more nuanced readiness patterns, meeting the English and/or Math benchmarks appeared to have more of a positive impact on the postsecondary outcomes than meeting the Science or Reading benchmarks.
 - *Bettinger, Evans, and Pope (2011)*
 - *Lichtenberger (2011)*
- Missing the Math benchmark had a negative impact on persisting into one's third year in college.

Future Work

- Exploring employment outcomes for all members of the class of 2003.
- Examining college readiness and postsecondary outcomes for the graduates of private high schools in Illinois.

For additional copies of the report or presentation contact:

Eric J. Lichtenberger, Ph.D.

Associate Director for Research

Illinois Education Research Council

Assistant Research Professor

Southern Illinois University Edwardsville

(618)650-3017

elichte@siue.edu

Or visit:

<http://ierc.siue.edu/>