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College Readiness and the Postsecondary Outcomes of Illinois High School Students

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Executive Summary

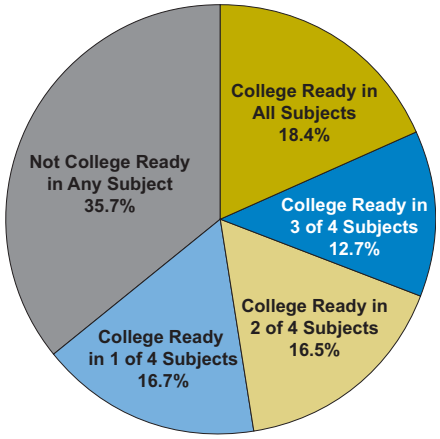
This study presents a longitudinal description of the association between college readiness—as measured by the college readiness benchmarks set by ACT—and a series of postsecondary outcomes of the Illinois High School Class of 2003. In addition to describing how college readiness is distributed among the cohort, this study establishes the college readiness of various groups based on select demographic characteristics such as gender, race, and family income. Finally, the relationships between college readiness, student characteristics, and postsecondary enrollment, persistence, and bachelor's degree completion measures are analyzed.

Defining college readiness and developing appropriate metrics have direct policy implications, particularly for states such as Illinois that are attempting to qualify for a No Child Left Behind (NCLB) waiver. The current study could inform the work of policymakers as they adapt measures of college readiness. 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 (U.S. Department of Education, 2011).

How is college readiness distributed among the Illinois High School Class of 2003?

Sixteen separate college readiness categories were developed using scores from the four subjects that comprise the ACT—Math, English, Reading, and Science—and determining whether students met ACT's college readiness benchmark in each. These categories ranged from meeting the college readiness benchmarks in all four subjects, to missing all of the benchmarks. Slightly less than one out of every five (18.4%) members of the Class of 2003 met all four of the college readiness benchmarks established by ACT. Nearly twice that proportion (35.7%) missed all of the benchmarks. On the positive side, an additional 12.7% met three of the benchmarks (usually meeting all except Science), and an additional 16.5% met two of the benchmarks (usually meeting English and Reading or English and Math); therefore slightly less than one-half of the class was adequately prepared to have a high probability of postsecondary success in at least two of the subject areas covered by the ACT (Figure I).

Figure I.
Illinois High School Class of 2003 and ACT's College Readiness Benchmarks: Overall Patterns



(N=115,677)

As previously stated, there were 16 categories based on the ACT college readiness benchmarks. As shown in Figure II, nearly all of the students (94%) fell into one of the following seven college readiness categories: missed all; met all; met all except Science; met Math and English; met English and Reading; met English only; met Reading only. The other nine categories only accounted for a combined 6% of the Illinois High School Class of 2003.

Figure II.
Illinois High School Class of 2003 and ACT's College Readiness Benchmarks: Specific Patterns

	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%
	✓	✓	⦸	✓	1,618	1.4%
	✓	⦸	✓	✓	146	0.1%
	⦸	✓	✓	✓	2,235	1.9%
2 of 4 Subjects	✓	✓	⦸	⦸	4,798	4.1%
	✓	⦸	✓	⦸	539	0.5%
	✓	⦸	⦸	✓	143	0.1%
	⦸	✓	✓	⦸	13,123	11.3%
	⦸	✓	⦸	✓	479	0.4%
	⦸	⦸	✓	✓	121	0.1%
1 of 4 Subjects	✓	⦸	⦸	⦸	1,706	1.5%
	⦸	✓	⦸	⦸	13,709	11.9%
	⦸	⦸	✓	⦸	3,633	3.1%
	⦸	⦸	⦸	✓	182	0.2%
None	⦸	⦸	⦸	⦸	41,256	35.7%

✓ = met the benchmark ⦸ = missed the benchmark

Interestingly, only one of the seven categories highlighted above included students meeting the Science benchmark. These were students who met all of the benchmarks. Among the four subjects covered by the ACT, Science has the highest benchmark at 24 and perhaps this is why college readiness in Science was a stumbling block for many students in the Class of 2003. Relatedly, the corresponding ACT score used to set the benchmark was negatively related to the proportion of students who were college ready in the specific subject area. For example, nearly 60% of the Class of 2003 was college ready in English, the subject with the lowest benchmark, while less than 23% was college ready in Science, the subject with the highest benchmark.

Major findings

College Enrollment

- Missing a single college readiness benchmark in either English or Math had a much more detrimental effect on the initial rate of enrollment at four-year institutions than missing a benchmark in Science or Reading.
- High income students had a relative advantage in terms of enrollment at four-year institutions when compared with similarly ready students in all other income categories.
- As income decreased, the rate of delayed enrollment typically increased.
- In terms of initial enrollment at four-year institutions, female students maintained a relative advantage over their male counterparts throughout all of the college readiness categories.
- Students from Chicago and the Northeast region had the highest rates of enrollment at four-year institutions, regardless of college readiness level.

Selectivity

- The greater the number of college readiness benchmarks met, the higher the rate of enrollment at more competitive institutions and the lower the rate of enrollment at less competitive institutions.
- Minority students meeting all four of the benchmarks had significantly higher rates of enrollment at the most competitive institutions relative to their white peers.
- Students from wealthier families who meet all of the benchmarks had the highest rate of enrollment at the most competitive four-year institutions.
- Across parallel readiness groups, students from the wealthiest families had the lowest rate of enrollment at non competitive institutions, while students in the mid-low and low income categories had the highest rates.
- Students from Chicago meeting all or most of the benchmarks had the highest rates of enrollment at highly competitive institutions.

Sector

- Students meeting all of the college readiness benchmarks had the highest out-of-state enrollment rates.
- The fewer the number of benchmarks met, the higher the rate of enrollment at for-profit institutions.

Persistence

- The greater the number of benchmarks met, the higher the rate of persisting into one's third year in college.
- Among the groups meeting three out of four benchmarks, missing the benchmark in Math appeared to have the most detrimental effect on persistence.
- In terms of the groups that only met one benchmark, meeting the benchmark in English or Math appeared to be related to higher rates of persistence.

Bachelor's Completion

- Among the students meeting three or fewer benchmarks, those ready in both Math and English had the highest rates of bachelor's completion.
- White and Asian students had higher rates of bachelor's completion relative to African-American and Hispanic students from parallel college readiness categories.
- Female students who met three benchmarks had a higher rate of bachelor's completion than male students who met all of the benchmarks.
- Among the students meeting all of the college readiness benchmarks, students from the Northeast region had the highest rate of bachelor's degree completion, followed by students from the East Central region.
- In general, students meeting fewer benchmarks who enrolled at institutions that were more competitive had higher rates of bachelor's completion than students meeting a greater number of benchmarks who enrolled at less competitive institutions.

Discussion

The unequal distribution of college readiness across demographic factors

In terms of college readiness and race, the gap between non-Asian minority (Hispanic and African-American) students and their Asian and white counterparts is quite alarming. Non-Asian minorities had the lowest proportions meeting all or most of the college readiness benchmarks and the highest proportions failing to meet any of the benchmarks. Around 60% of non-Asian minority students failed to meet any of the college readiness benchmarks, while only one-quarter of Asian and white students met that distinction. On the other end of the college readiness spectrum, only 3% of African-American students and 5% of Hispanic students were college ready in all subject areas; this was substantially lower than the proportions of Asian (29%) and white students (24%) college ready in all subjects.

There were also regional differences regarding college readiness, with the greatest disparity existing between Chicago and its suburbs (Northeast region). The proportion of students from the Northeast region meeting all of the college readiness benchmarks was nearly five times greater than that of the students from Chicago (24% to 5%). At the same time, the proportion of students from Chicago failing to meet any of the benchmarks was more than double that of the students from the Northeast region (62% to 29%). Of the remaining regions (Northwest, East Central, West Central, Southeast, Southwest), students from the East Central region tended to have slightly higher proportions meeting all or most of the college readiness benchmarks and a lower proportion failing to meet any of the benchmarks, while the opposite was true for students from the Southeast region.

The driving factor behind the racial and regional college readiness gaps may be associated with the unequal distribution of wealth (as proxied by family income) both geographically and across racial groups. For instance, roughly half of the Hispanic and African-American students fell into the low family income category (less than $30K), while only 30% of Asian students and roughly 18% of white students were within that same income group.

Also, while nearly a third of the students from the Northeast region were in the high income category, only 4.9% of students from Chicago and 10.7% of students from the Southeast region met that same distinction.

College readiness benchmarks and postsecondary success.

Meeting three or more—and in some cases two (Math and English)—of the benchmarks was related to increased rates of postsecondary success. This was particularly true for higher income students and those enrolling at more competitive institutions. However, differences in the importance of meeting the ACT benchmarks varied across demographic groups and the postsecondary outcome being measured. For example, in most cases, higher proportions of African-American and Hispanic students enrolled overall and at the most selective four-year colleges, relative to white students from parallel college readiness categories.

However, disparities were evident with respect to bachelor's degree completion. These differences are, in part, due to differences in college readiness that favor Asian-Americans, white students, and those from wealthier families. Still, readiness is only part of the story. For example, although a higher proportion of male students met all of the benchmarks, they lagged behind female students in terms of bachelor's degree completion. Perhaps females were more likely to meet the benchmarks that are most important to degree completion; this requires further study. Also, in some cases white students who were less ready for college completed bachelor's degrees at higher rates than better prepared African-American students. This also requires further investigation, namely examining how non-academic factors—such as first-generation status—could help explain the difference in bachelor's completion rates.

These findings suggest that access to four-year colleges is no longer the major issue for underrepresented minority students who are college ready. However, the completion of bachelor's degrees in a timely manner remains problematic. It should be noted that for the African-American students meeting all or most of the benchmarks, enrolling at a more competitive institution appeared to narrow the racial gap in terms of bachelor's degree completion, particularly for those enrolling in a highly competitive institution.

Assessing the relative impact of ACT subject tests

This study provided evidence that a student's likelihood of meeting all of the ACT college readiness benchmarks appeared to be driven by their performance on the Science test. Given the relatively high score required to meet the benchmark in Science, those who met this benchmark had a high probability of meeting all of the other benchmarks. In fact, for the students meeting the Science benchmark, the median ACT scores on the other three tests were well above the benchmarks set for each of those tests.

This study also revealed differences associated with the relative impact of each test with respect to postsecondary outcomes, thus substantiating earlier findings from Bettinger, Evans, and Pope (2011) as well as Lichtenberger (2011). For example, the study demonstrated the relative importance of meeting the English and Math benchmarks on the rates of initial enrollment, persistence, and bachelor's completion. Specifically, missing one of these benchmarks had a much more detrimental effect on postsecondary outcomes relative to missing either the Science or Reading benchmark.

Scientific/scholarly significance

Despite this study's limitations, it provides evidence to show that for college enrollment and bachelor's degree attainment, college readiness matters. The findings justify both the support of and creation of interventions implemented at the high school level that increase college readiness, particularly interventions targeted towards groups that are less ready for college.

The full report is available at http://ierc.siue.edu/iercpublication.asp

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