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Issue Brief

Noncollege-Bound Students: A Closer Look

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It was estimated that 92% of 2004 high school graduates in the United States planned to continue their education after high school (Chen, X., Wu, J., Tasoff, S., Weko, T., 2010a). Why might students not plan to go to college? Common concerns include inadequate academic preparation, a lack of understanding of the enrollment process, and the perceived economic benefit of college attendance (Hahn & Price, 2008; Nagaoka, Roderick, & Coca, 2009; Paulson 1990). In this brief we examine the academic preparation of high school students who do not plan to go to college, hereafter referred to as *noncollege-bound* students.

Despite the overwhelming majority of high school graduates who plan on going to college, only 68% of the 2010 graduating cohort actually enrolled in a higher education institution after high school (United States Department of Education, 2011, Table 210). Of those that do enroll, many are underprepared for first-year college courses in English Composition, College Algebra, Biology, and social sciences. For example, among high school graduates meeting no College Readiness Benchmarks, about 50% still enrolled in college the fall after high school (ACT, 2012).

Noncollege-bound students are less likely to take the practical steps needed for college admissions and enrollment, and thus are potentially closing the door on future opportunities including the *possibility* of a higher education. For example, while almost 82% of all 2004 graduates took or planned to take a college entrance exam, only about 33% of noncollege-bound students took either the ACT or SAT (Chen, X., Wu, J., Tasoff, S., Weko, T., 2010b).

The information gleaned from noncollege-bound students presents an opportunity to identify issues related to enrollment and success in college. This brief reports on a longitudinal study of noncollege-bound students who nevertheless enrolled in college and documents their outcomes. We examined students who participated in ACT statewide adoption programs in Colorado and Illinois where all public high school students took the ACT regardless of their post-high school plans.

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Statewide adoption programs provide an opportunity to identify noncollege-bound students and compare them with their college-bound peers.¹

How do noncollege-bound students compare to college-bound students?

As might be expected, college-bound students had higher levels of academic readiness than noncollege-bound students. Average ACT subject and Composite scores of noncollege-bound students were lower than those of college-bound students by at least 4.2 score points, with differences in average English scores being the largest (5.7 score points). The average ACT scores for noncollege-bound students were also well below national averages for the same years.

These score differences corresponded to large differences in the percentages of students meeting the ACT College Readiness Benchmarks for the two groups. Benchmark attainment in Science for noncollege-bound students was lower than that of college-bound students by 20 percentage points. English benchmark attainment differed between the two groups by 39 percentage points.

What do noncollege-bound students look like?

About 453,000 Colorado and Illinois 11th grade students took the ACT between 2002 and 2004 as part of the Colorado Student Assessment Program (CSAP) and the Prairie State Achievement Examination (PSAE) program. Of these students, 4% (15,986) reported not planning to attend a postsecondary institution after graduating from high school. The majority of noncollege-bound students were male (70%) and about half were White (53%). Eighty-four percent (13,381) of noncollege-bound students had no record of enrollment in any postsecondary institution within five years of graduation from high school.

Among the noncollege-bound students, 16% (2,605) went on to enroll in a postsecondary institution (Table 1). Postsecondary enrollment and degree and certificate outcomes (hereafter referred to as “degrees”) were tracked for five years after high school graduation. There were substantive differences in the level of academic readiness between noncollege-bound students who did not enroll in a postsecondary institution, those who enrolled but did not complete a degree, and those who enrolled and completed a degree. The average ACT subject and Composite scores of students who completed a postsecondary degree were 2.6 to 3.8 score points higher than those of students who did not enroll in a postsecondary institution, and 1.8 to 2.5 score points higher than those of students who enrolled but did not complete a postsecondary degree.

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¹ See the Appendix for additional technical notes about the research.

Table 1: Average ACT Scores of Noncollege-Bound Students by Postsecondary Outcome

Characteristic	Did not enroll in a postsecondary institution	Enrolled in a postsecondary institution/ no degree completed	Postsecondary degree completed
English	13.7	15.0	17.5
Math	15.7	16.5	18.3
Reading	15.2	16.4	18.7
Science	15.8	16.6	18.6
Composite	15.2	16.3	18.4
Total number of students	13,381	2,047	558

Among noncollege-bound students, those who met the ACT College Readiness Benchmarks were also more likely to earn a degree (see Table 2). Students who did not enroll in a postsecondary institution had the lowest percentage meeting each benchmark, followed by those who enrolled but did not graduate. Almost one quarter of noncollege-bound students who did not enroll in a postsecondary institution met at least one of the ACT Benchmarks while the remaining three quarters attained none of the four benchmarks.

Table 2: Percentage of Noncollege-Bound Students Meeting the College Readiness Benchmarks by Postsecondary Outcome

Characteristic	Did not enroll in a postsecondary institution	Enrolled in a postsecondary institution/ no degree completed	Postsecondary degree completed	Total Percentage
ACT Subject Benchmark Attainment				
English	20	29	45	22
Math	5	9	21	6
Reading	13	21	36	15
Science	3	6	13	4
Number of Benchmarks Met				
None met	75	64	45	73
1 to 3 met	23	33	46	25
All met	1	3	9	2

Note: Total N=15,986

What happened to the noncollege-bound students who enrolled?

Of the 2,605 noncollege-bound students who enrolled in a postsecondary institution, 77% enrolled in a postsecondary institution in the fall or spring semester following high school graduation, while the remainder enrolled at a later time (see Table 3). Additionally, 58% (1,172) of those who enrolled in college within one year of high school graduation re-enrolled in the same institution the following fall semester. Twenty-one percent of the original 2,605 enrolled students completed a postsecondary degree, (i.e., 3% of the noncollege-bound students).

Table 3: Enrollment and Retention Rates

	Noncollege-bound	Enrolled in postsecondary institution	Enrolled in the fall or spring after graduation	One-year retention ²	Completed degree
Number of students	15,986	2,605	2,015	1,172	558
Percentage of noncollege-bound students		16	13		3
Percentage of enrolled students			77	58	21

The enrollment patterns of noncollege-bound students varied. Nine percent of enrolled students were simultaneously enrolled at more than one institution at some time during their postsecondary career. Many of these concurrently enrolled students (47%) attended more than two institutions during their postsecondary career.

Of the 2,605 enrolled students, the majority (65%) attended a single two- or four-year institution (see Table 4), 25% sequentially enrolled in two institutions, and the remaining 9% enrolled sequentially in more than two institutions. Fifty-eight percent of enrolled students attended a single two-year institution. The next largest group of students attended two, two-year institutions (12%). Students who transferred from a two-year institution to a four-year institution and students who attended more than two institutions had the highest graduation rates but, on average, required more semesters to complete their degree.

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² Retention rate calculation was limited to students that entered a postsecondary institution within one year of high school graduation.

Table 4: Enrollment and Graduation Characteristics

Institution type(s)	Number of students	Percentage of all enrolled students	College graduates		Highest degree completion rate				Typical number of semesters to graduation ^b
			Number	Rate	Unknown ^a	Cert.	Assoc.	BA	
All students	2,605	100	558	21	3	4	7	7	8
Single 2-year	1,522	58	184	12	4	4	5		6
Single 4-year	183	7	55	30		1	2	27	9
2- to 4-year transfer	243	9	109	45	4	3	17	21	9
4- to 2-year transfer	64	2	15	23		6	3	14 ^c	8
4- to 4-year transfer	43	2	16	37				37	9
2- to 2-year transfer	303	12	66	22	6	7	9		7
Attended more than two institutions	247	9	113	46	2	3	13	28	10

Note: Percentages may not sum to 100% due to omitted groups and rounding. Groups with less than 30 students are omitted. Individual degree completion rates may not sum to overall college graduation rate due to rounding.

^a The National Student Clearinghouse data did not always specify the type of degree completed.

^b Average number of semesters was calculated for the students who completed an associate's or bachelor's degree, certificate program, and/or an unknown two-year program/degree.

^c These students attended a two-year institution after completing at least a bachelor's degree.

For about 7% of enrolled students, their highest degree earned was a bachelor's degree, typically completed in about 10 semesters (approximately 5 years). Of those completing bachelor's degrees, 28% completed their degree within 4 years, 40% within 5 years, and 32% in over 5 years.³

For about 7% of enrolled students, their highest degree earned was an associate's degree, typically attained in about 8 semesters (approximately 4 years). Of this group, 43% completed their degrees within 3 years; an additional 27% completed their degrees within 4 years. The remaining 30% completed their degrees in over 4 years.

Approximately 4% of enrolled students' highest degree completed was a certificate at a 2-year institution, typically in 5 semesters (about 2.5 years). The types of certificates completed by these students varied considerably, as did the time required to complete their programs. Of these students, 34% completed their programs within 1 year, 23% completed within 2 years, and the remaining 43% completed their programs in over 2 years.

³ The number of semesters needed for graduation represents the time elapsed since entry into any postsecondary institution and graduation. It may not represent the number of semesters a student was enrolled in any given postsecondary institution because of stopouts.

Approximately 3% of all enrolled students only completed an unspecified two-year degree/certificate, typically in 7 semesters (about 3.5 years). Among these graduates, 33% completed their degree within 2 years, 39% within 4 years, and the remaining 28% took over 4 years to complete their degree.

What do we know about noncollege-bound students?

Noncollege-bound students' academic preparation lags behind those of traditional college-bound students. Ensuring adequate educational preparation is particularly important for noncollege-bound students, who generally tend to be lower achieving.

- Additionally, students who did not enroll in a postsecondary institution achieved lower average ACT scores than students who enrolled but did not complete a degree, and both of these groups achieved lower average scores than students who enrolled and completed a degree.
- Regardless of what noncollege-bound students do after high school graduation, they are underprepared, as indicated by benchmark attainment. In fact, among noncollege-bound students who met none of the benchmarks (73% of noncollege-bound students), 87% did not enroll in a postsecondary institution, 11% enrolled but did not complete a degree, and only 2% completed a degree.

While it is true that, as a group, noncollege-bound students are less academically prepared, there is a segment of this group that is more likely to be accepted into college, as demonstrated by their higher ACT Composite scores and benchmark attainment.

- About 22% of noncollege-bound students earned an ACT Composite score of 18 or higher. The typical average ACT Composite scores for students at institutions with traditional, liberal, and open admissions policies range from 18–24, 17–22, and 16–21, respectively. Additionally, of noncollege-bound students who did not enroll in a postsecondary institution, 25% met at least one of the readiness Benchmarks. Clearly there are some students who scored high enough to be considered at these types of institutions.

Noncollege-bound students who enroll in college but who are not college ready, as measured by benchmark attainment, may struggle in their postsecondary programs.

- College readiness is directly related to persistence in college and a smaller likelihood of needing remediation in English or mathematics (ACT, 2008). Additionally, college readiness is associated with a greater likelihood of achieving a grade of B or higher in specific

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courses, achieving a first year GPA of 2.0 or higher, and completing an associate's or bachelor's degree (ACT, 2008; Radunzel & Noble, 2012).

- Of noncollege-bound students who completed a postsecondary degree or certificate program, 53% achieved an ACT Composite score of 18 or higher.

What can we do to help noncollege-bound students?

There is still much work that needs to be done to help students plan for at least some postsecondary education. This is important because these students need to find meaningful employment that provides a wage sufficient to meet basic needs such as food, housing, utilities, clothing, child care, and health care. Carnevale, Smith, and Strohl (2010) found that between 1973 and 2007 the percentage of jobs that required some postsecondary education increased from 28% to 59%, and they further project that by 2018 that percentage will increase to 63%. Given this reality and the findings of this brief, we have two recommendations for helping these students realize their postsecondary opportunities.

1. Identify noncollege-bound students early and broaden post-high school opportunities to include entry to the college-going process

- It is important that schools and districts use their data to identify noncollege-bound students as early as possible. For example, of this sample of noncollege-bound students, almost 6,000 also took ACT Plan® in 10th grade, at which time only 34% indicated they planned to attend a 2- or 4-year college after high school. This information could have been used at that time to counsel the students about postsecondary options, which could in turn inform their remaining coursework plans and needs for addressing gaps in college readiness.
- Taking a college entrance exam can provide entry into the college search and application process and help students pinpoint areas where academic readiness is lacking. Participation allows students to send their scores to colleges of their choice, thereby helping them connect with postsecondary institutions and facilitating the application process. Test takers can also elect to participate in services that further connect themselves with institutions they may not have originally considered. For a smaller number of noncollege-bound students, taking a college entrance test may help alleviate concerns of academic readiness and identify areas of academic strength.

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Given that noncollege-bound students are more likely to enroll at two-year institutions, efforts should be made to facilitate greater inclusion of these types of institutions in postsecondary awareness campaigns.

2. Provide stronger connections to postsecondary opportunities through partnerships with community colleges

- Given that noncollege-bound students are more likely to enroll at two-year institutions, efforts should be made to facilitate greater inclusion of these types of institutions in postsecondary awareness campaigns. It is possible that noncollege-bound students would benefit from knowing more about specific certificate or training programs that are linked to jobs; such programs are often provided by community colleges, technical, and proprietary colleges which may have a better understanding of the local economy and current labor market needs, and the identification of emerging workplace skills requirements. To the extent that student interest and local availability coincide, connecting local postsecondary educational institutions with interested students can prove beneficial to noncollege-bound students.
- School districts can create partnerships with community colleges to help students in preparing college and scholarship applications, familiarizing them with course placement procedures, and helping them make connections with college staff prior to enrollment. These steps are very important, given the many misconceptions about the knowledge and skills needed for success, course placement procedures, and student overestimation of tuition, as well as the general inequities in the dissemination of college information to parents of college-bound vs. noncollege-bound students (Venezia, Kirst, & Antonio, 2003). It is also important to help students understand the alignment of their individual interests with college programs and business demands. Such efforts need to be done in a manner that facilitates inclusion of all students, rather than a narrow focus on four-year college-bound students.

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Appendix

Technical Notes

The sample for this study was based on students who participated in the Colorado Student Assessment Program (CSAP) and the Illinois Prairie State Achievement Examination (PSAE) testing programs in 2002, 2003, and 2004. At the time of testing, students had the opportunity to indicate they did or did not intend to go to college. Students who indicated that they had no intention to go to college are the focus of this study.

College enrollment and retention, transfer, and degree completion information for five years after high school graduation for these students (through the fall of 2009) were obtained from the National Student Clearinghouse (NSC).⁴ Provided with this data were the start and end date for each enrollment term. Enrollment rates were calculated as the percentage of noncollege-bound students with a valid enrollment record for a given term or year.

Retention rates were based on students who enrolled in college the fall or spring semester following high school graduation. Retention was defined as re-enrolling in the same institution the subsequent fall semester.

Some students attended a single two- or four-year institution and others transferred. Transfer behavior was defined using students' term-by-term enrollment patterns. Students who attended two institutions were categorized as having enrolled their first term at a two-year institution and enrolling their last term at a four-year institution, or vice versa; transferring from one two-year institution to another two-year institution, or from one four-year institution to another four-year institution. The remaining students were categorized as sequentially attending more than two institutions.

Graduation rates were calculated as the percentage of noncollege-bound students with valid enrollment records who had a graduation record. Awards were categorized as bachelor's or higher degrees, associate's degrees, certificate programs, or two-year unspecified programs. Unidentified programs completed at a four-year institution

⁴ The college enrollment rates for these students could be underestimated due to non-participation in the NSC by institutions, particularly proprietary and technical schools (Roderick, M., Nagaoka, J., Coca, V., Moeller, E., 2008; Roderick, Nagaoka, & Allensworth, 2006), completeness of two- vs. four-year enrollment information (Buckley, 2009), and the completeness of graduation information (Allensworth, 2006). Researchers have determined that using NSC enrollment data for Illinois or Colorado could result in underestimated enrollment rates (Buckley, 2009; Roderick, M., Nagaoka, J., Coca, V., Moeller, E., 2008; Roderick, Nagaoka, & Allensworth, 2006).

were coded as associate's degrees if they were completed in less than 8 regular (fall and spring) semesters and bachelor's degrees if completed in 8 or more semesters.⁵ Completed programs at a two-year institution with no degree type specified were categorized as two-year unspecified programs.

Time to degree was calculated as the percentage of students completing a specific degree within a given number of years. The average number of semesters to degree completion was reported by the types of institutions students attended (e.g., single, two, or more than two institutions).

⁵ Summer and winter semesters were recorded as spring semesters.

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