# Where are 2003 High School Graduates Seven Years Later?

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Justine Radunzel
ACT, Inc.

**Abstract - As pushes for increased accountability in higher education and higher graduation rates continue, several recent studies on college graduation rates emphasize the need to consider students still on track to graduate beyond 150% of normal time, especially given the complexity of students' attendance patterns. As a first look, we describe re-enrollment and degree completion over time through year 7 for a random sample of 24,850 ACT-tested 2003 high school graduates who immediately enrolled in college. Students are tracked using National Student Clearinghouse data. This study also evaluates the implications of persisting or of transferring to another institution for timely degree completion, and compares the pre-college academic achievement of students who persist and complete a degree with that of students who do not. Weighted descriptive statistics are used to summarize the results. Results are reported by institutional type (two- vs. four-year), and by race/ethnicity, gender, annual family income, ACT Composite score, and high school average. Findings from this study show that students who persist to the second year are more likely than those who do not to complete a degree, irrespective of initial institution type, emphasizing the importance of understanding what works in student persistence for improving degree completion rates.**

## Introduction

Over the past decade, there has been a push for increased accountability in higher education in order to justify the costs and benefits associated with postsecondary education. And, although heavily debated, graduation rates have been in the forefront as a possible outcome to measure institutional accountability (Cook & Pullaro, 2010; Gold & Albert, 2006). As a result, postsecondary institutions have been under considerable pressure to increase their degree completion rates while maintaining equal opportunity and diversity in student enrollments.

Today, many students are taking longer than "normal" to complete a college degree (Horn, 2010). Students' attendance patterns have become increasingly complex: It is common for students to transfer from one institution to another, swirl among multiple institutions, stop out for a period of time, or change to part-time status (Adelman, 2006; Hossler, et al., 2012). To account for these students, college graduation rates are typically reported at 150% of normal time (i.e., six-year bachelor's and three-year associate's degree completion rates). Several recent articles (Cook & Pullaro, 2010; Gold & Albert, 2006) have emphasized the need to distinguish the percentage of students still on track to graduate beyond this window from those who drop out. And, effective spring 2009, the time frame for evaluating graduation rates was extended even further: the Integrated Postsecondary Education Data System (IPEDS), as part of it's Graduation Rate Survey (GRS), now collects graduation rates from institutions at 100%, 150%, and 200% of normal time.

A 2010 study based on IPEDS GRS data in 2010 (Horn) found that, between 150% to 200% of normal time, there were relatively small increases in institutional graduation rates (by 2 to 4 percentage points and 4 to 6 percentage points for four- and two-year institutions, respectively), especially in comparison to the typical increases in rates between 150% and 100% of normal time. Here, as an initial look, we extend this research by examining degree completion beyond 150% of normal time where students could be tracked across institutions attended. Specifically, we describe re-enrollment and degree

completion over time through year 7 for a group of ACT-tested high school graduates who immediately enrolled in college. We also describe the share of students without a degree seven years later but who appear to be continuing on towards one, compare the pre-college academic achievement of students who persist and complete a degree with that of students who do not, and examine the relationship between second-year re-enrollment status and degree completion (since students are most likely to leave during their first year). Based on the results from this study, we discuss (1) the effect on degree completion rates of tracking students beyond 150% of normal time (through year 7), (2) whether the extended time span results in larger increases in degree completion rates for certain student demographic groups, and (3) the implications of persisting to year 2 or of transferring to another institution for timely degree completion.

## Data for the Study

The data for this study consisted of a random sample of 24,850 ACT-tested 2003 high school graduates who immediately enrolled in college in fall 2003. Using National Student Clearinghouse (NSC) data, we tracked the progress of these students towards degree completion through academic year 2009-2010.

Student demographic information (gender, race/ethnicity, and annual family income) and pre-college academic achievement measures (ACT Composite score and high school grade point average (HSGPA)) were obtained from the ACT student record. The ACT Composite score is the arithmetic average score of the four subject area scores in English, mathematics, reading, and science; scores range from 1 to 36. HSGPA was based on the self-reported grades earned in 23 specific courses in English, mathematics, social studies, and science. Annual family income was categorized into the following three groups: less than $30,000, $30,000 to $60,000, and more than $60,000. Given the small sample sizes for some racial/ethnic groups (American Indian/Alaska Native and Asian American/Other Pacific Islander), we report the results for African American, Hispanic, and White students only.

Primary outcomes for the study were degree completion rates over time and year 7 degree completion status. Degree completion could be from any institution. Due to the differences in the types of degrees that are awarded between two- and four-year institutions, results were disaggregated by institution type. Institution type was determined at the time of initial enrollment.[1] Students who initially enrolled in a four-year (two-year) institution in fall 2003 are referred to as four-year (two-year) students in this paper.

Categories for year 7 degree completion status were based on the highest degree credential completed (bachelor's or associate's) within 7 years of enrolling in college and, for those without a degree, whether the student was still enrolled in any postsecondary institution for at least one term during year 7. We also included a category to identify those who completed a bachelor's degree within 4 years of enrolling for four-year students, and a category to identify those who earned both an associate's and a bachelor's degree within 7 years of enrolling for two-year students. Certificate degrees were not considered in this study due to limitations in NSC data (Cook & Pullaro, 2010).[2] Year 2 re-enrollment status was based on comparing initial fall 2003 enrollment to fall 2004 enrollment.

## Method

Weighted descriptive statistics were used to summarize the results to adjust for the sampling methods used, and to ensure that the results would be representative of the nearly 600,000 ACT-tested 2003 high school graduates nationally who immediately enrolled in college. Degree completion results were examined for all students and by year 2 re-enrollment status. In addition, degree completion rates were

[1] For students enrolled in multiple institutions during their first term, only one institution was included in the analyses. The selection of the institution was based on the institution from which the highest degree was earned and the greatest number of fall terms enrolled at the institution. In the sample, less than 1% of the students were initially enrolled in more than one institution.

[2] Certificate completion rates were relatively low (3% overall) in this study, and many of the students who completed a certificate also completed an associate's or bachelor's degree by year 7.

evaluated over time from year 2 to year 7 for two-year students and from year 4 to year 7 for four-year students. Average pre-college academic achievement measures were evaluated by year 2 re-enrollment status and by year 7 degree completion status. Results were examined by race/ethnicity, gender, and annual family income. More detailed discussions concerning the sample and the methods used, including weighting the sample, imputing missing data, and identifying degree type, are available in Radunzel and Noble (2012).

## Results

### Descriptive Statistics

Seventy-six percent of the students in the sample initially enrolled in a four-year institution (18,860 students in 1,119 four-year institutions; 5,990 students in 603 two-year institutions). Compared to two-year institutions, a much higher percentage of four-year institutions were private institutions (58% vs. 4%) and had traditional or more selective admissions policies (82% vs. 1%).

For both institution types, over three-fourths of the students were White students, and over one-half were female. Four-year students were more likely than two-year students to come from a family with a higher annual family income (47% vs. 31%). Average ACT Composite scores and HSGPAs were also higher for four-year students than for two-year students (22.4 vs. 18.8 ACT Composite score and 3.37 vs. 2.96 HSGPA, respectively). The weighted gender percentages (55% and 58%) were similar to those for undergraduate enrollment totals in fall 2004 at two- and four-year postsecondary institutions (Knapp, Kelly-Reid, & Whitmore, 2006), but the weighted percentages of African American (11% and 10%) and Hispanic students (6% and 6%) were somewhat lower, especially for Hispanic students at two-year institutions.[3]

### Re-Enrollment Status at Year 2 (Fall 2004)

Over three-fourths of four-year students and 62% of two-year students returned to the same institution in fall 2004 (Table 1). For both institution types, a little more than one-tenth of the students enrolled at a different two- or four-year institution in the fall of year 2.

**Table 1.** ***Year 2 Re-Enrollment Status and Mean ACT Composite Score and HSGPA***

| | Four-year students | | | | Two-year students | | | |
|---|---|---|---|---|---|---|---|---|
| Year 2 (fall 2004) re-enrollment status | *n* | Wgt. Pct. | ACT Comp. score | HSGPA | *n* | Wgt. Pct. | ACT Comp. score | HSGPA |
| Returned to same institution | 14629 | 77 | 22.9 | 3.43 | 3695 | 62 | 19.0 | 3.02 |
| Enrolled in a different institution of same type | 1205 | 6 | 22.2 | 3.35 | 256 | 4 | 18.2 | 2.88 |
| Enrolled in an institution of a different type | 865 | 5 | 20.5 | 3.09 | 464 | 8 | 20.5 | 3.10 |
| Did not enroll | 2161 | 12 | 20.4 | 3.09 | 1575 | 26 | 18.1 | 2.81 |

*Note*. Wgt. = weighted; Pct. = percent; Comp. = Composite; HSGPA = high school grade point average.

The overall second year re-enrollment rate was 88% for four-year students and 74% for two-year students. Two-year students were twice as likely as four-year students not to re-enroll in any institution in the fall of year 2. For both institution types, average ACT Composite scores and HSGPAs were higher for students who re-enrolled in a four-year institution in fall 2004 than for either those who re-enrolled in any two-year institution or those who did not re-enroll in any institution in the fall of year 2 (Table 1).

[3] IPEDS enrollment total breakdowns by institution type were not readily available for fall 2003.

**Degree Completion through Year 7**

A little over one-third (35%) of four-year students completed a bachelor's degree within four years of enrolling in college (i.e., within 100% of normal time). This rate increased by 20 percentage points to 55% by year 5. The six-year bachelor's degree completion rate for four-year students (150% of normal time) was only slightly lower than the seven-year rate (62% vs. 65%, respectively). Annual increases in bachelor's degree completion rates beyond 100% of normal time for four-year students grew smaller over time (from 20 percentage points to 3 percentage points). By year 7, over one-third (35%) of all four-year students had not yet completed a bachelor's degree.

However, 4% of four-year students had completed an associate's degree as their highest earned credential within the seven-year period (Figure 1); one-half of these students were still enrolled at year 7, possibly continuing on towards a bachelor's degree. An additional 10% of four-year students were without a degree but were still enrolled for at least one term during year 7. Of those not enrolled in any institution during year 7 and without a degree (22% of all four-year students), more than one-third of these students had also not enrolled in any institution during years 3 to 6.

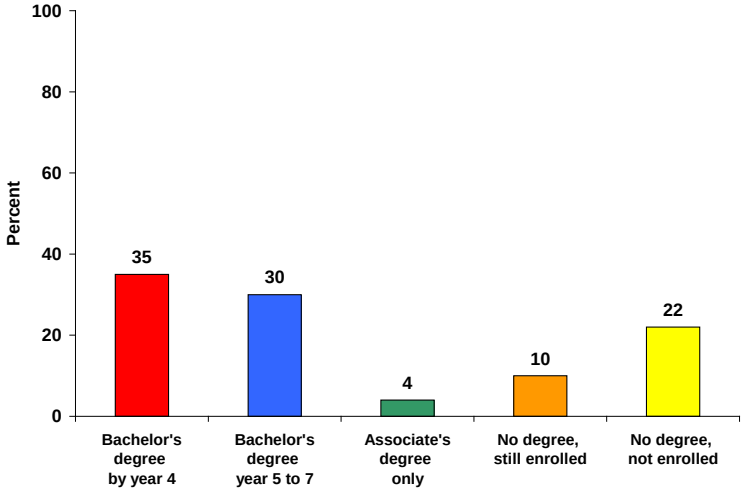


*Figure 1:* Year 7 degree completion status for four-year students. Percentages do not sum to 100 percent due to rounding.

The percentage of two-year students who completed an associate's degree (irrespective of whether a bachelor's degree was completed) increased from 8% by year 2 (100% of normal time) to 16% by year 3 (150% of normal time) to 20% by year 4 (200% of normal time). The associate's degree completion rate continued to increase slightly over time and reached 27% by year 7 (Figure 2); the increases beyond year 3 grew smaller over time (from 4 to 2 percentage points). The bachelor's degree completion rate for two-year students increased from 5% by year 4 to 20% by year 6 to 24% by year 7. Approximately three out of every five two-year students who eventually completed a bachelor's degree bypassed earning an associate's degree.

Altogether, the total completion rate for any degree for two-year students reached 41% by year 7 (17% had completed an associate's degree as their highest credential by year 7; the other 24% completed a bachelor's degree). The remaining 59% of students had not yet earned either an associate's or a bachelor's degree: 16% were enrolled for at least one term during year 7 and 43% were not enrolled in any institution in year 7. Over one-half of those not enrolled in year 7 and without a degree had also not enrolled in any institution during years 3 to 6.

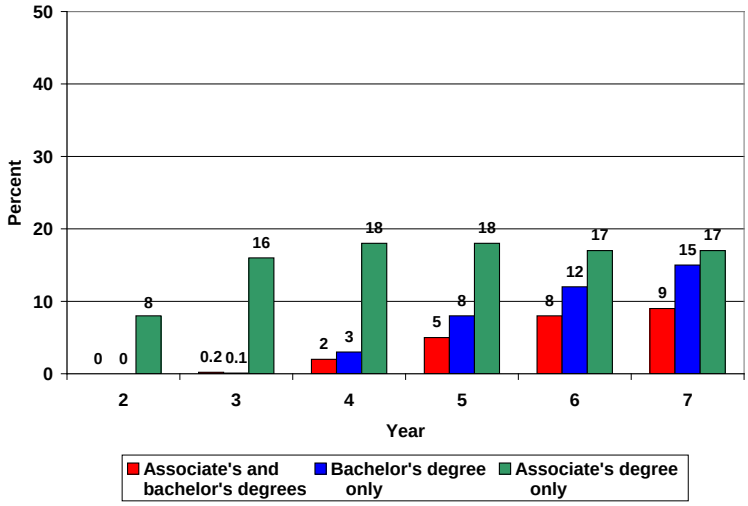


*Figure 2:* Degree completion rates over time for two-year students. Reported percentages in text do not always equal the sum of those shown in the figure due to rounding.

Average ACT Composite scores and HSGPAs were higher for four-year students who completed a bachelor's degree by year 4 than for those who took longer to complete a bachelor's degree (Table 2). And, students who completed a bachelor's degree by year 7 had higher ACT Composite scores and HSGPAs, on average, than either those whose highest credential was an associate's degree or those without any degree. These findings held for both two- and four-year students.

**Table 2.** ***Average ACT Composite Score and HSGPA by Year 7 Degree Completion Status***

| Four-year students | | | Two-year students | | |
|---|---|---|---|---|---|
| Year 7 degree completion status | ACT Comp. score | HSGPA | Year 7 degree completion status | ACT Comp. score | HSGPA |
| Bachelor's degree by year 4 | 24.5 | 3.59 | Associate's and bachelor's degrees | 20.2 | 3.29 |
| Bachelor's degree year 5 to 7 | 22.3 | 3.39 | Bachelor's degree only | 20.3 | 3.20 |
| Associate's degree only | 20.8 | 3.25 | Associate's degree only | 19.3 | 3.06 |
| No degree, still enrolled | 20.6 | 3.13 | No degree, still enrolled | 18.6 | 2.87 |
| No degree, not enrolled | 20.5 | 3.10 | No degree, not enrolled | 17.9 | 2.81 |

*Note*. Comp. = Composite; HSGPA = high school grade point average.

*Student Characteristics*

For both two- and four-year students, completion rates for any degree by year 7 were higher for females, higher-income students, and White students compared to the other demographic groups (Table 3). For four-year students, the percentage earning an associate's degree as their highest credential by year 7 ranged from 3% to 4% across student demographic groups. For most student groups, approximately 60% of two-year students who completed a degree by year 7 earned a bachelor's degree within this time period. For lower-income students and African American students the ratio of bachelor's degrees to associate's degrees as the highest credential was 1:1 (50-50 split).

**Table 3.** ***Year 7 Degree Completion Status by Student Demographics***

| Student characteristic | Four-year students | | | Two-year students | | |
|---|---|---|---|---|---|---|
| | Bachelor's or associate's degree | No degree, still enrolled | No degree, not enrolled | Bachelor's or associate's degree | No degree, still enrolled | No degree, not enrolled |
| Gender | | | | | | |
| Male | 66 | 10 | 24 | 38 | 15 | 47 |
| Female | 71 | 9 | 20 | 44 | 16 | 40 |
| Race/ethnicity | | | | | | |
| African American | 50 | 17 | 33 | 24 | 22 | 54 |
| Hispanic | 61 | 12 | 27 | 35 | 21 | 44 |
| White | 72 | 8 | 20 | 45 | 14 | 41 |
| Annual family income | | | | | | |
| < $30,000 | 54 | 14 | 32 | 33 | 17 | 50 |
| $30,000 to $60,000 | 65 | 11 | 24 | 42 | 15 | 43 |
| > $60,000 | 77 | 7 | 16 | 48 | 15 | 37 |

*Note*. Percentages may not sum to 100% due to rounding. In this table, some of the categories for year 7 degree completion status were collapsed into a single category for a total degree completion rate for any degree by year 7.

For four-year students, increases in degree completion rates (bachelor's or total) between years 6 and 7 (beyond 150% of normal time) were comparable across student demographic groups (ranging from 3 to 5 percentage points). A similar result was seen for increases in associate's degree completion rates for two-year students (irrespective of bachelor's degree completion) between years 3 and 4 and between years 4 and 7 (ranging from 3 to 6 percentage points between 150% and 200% of normal time and from 5 to 7 percentage points between year 7 and 200% of normal time). However, increases in bachelor's degree completion rates between years 6 and 7 for two-year students were greater for Hispanic students than for any other student demographic group (7 vs. 2 to 4 percentage points). In addition, the percentages of two- and four-year students who had not yet completed a degree but were still enrolled in college at year 7 were higher for African American and Hispanic students than for White students, and for lower-income students than for higher-income students (Table 3). These latter findings suggest that there may be additional increases in degree completion rates beyond year 7 for these student groups.

**Degree Completion by Year 2 (Fall 2004) Re-Enrollment Status**

Four-year students who returned to the same institution in fall 2004 were slightly more likely to complete a bachelor's degree by the end of year 7 than students who transferred to a different four-year institution in the fall of year 2 (75% vs. 68%), and they were considerably more likely to complete a degree by the end of year 4 (42% vs. 28%; Figure 3).[4] Four-year students who re-enrolled in any four-year institution in fall 2004 were about 3 times more likely to complete a bachelor's degree by year 7 than those who re-enrolled in a two-year institution, and 5 to 6 times more likely to do so than those who did not re-enroll in any institution in fall 2004. More than three-fourths of students from the latter two groups had not completed a bachelor's degree by year 7 (Figure 3).

[4] Transfer was only evaluated from initial fall 2003 enrollment to year 2 fall 2004 enrollment.

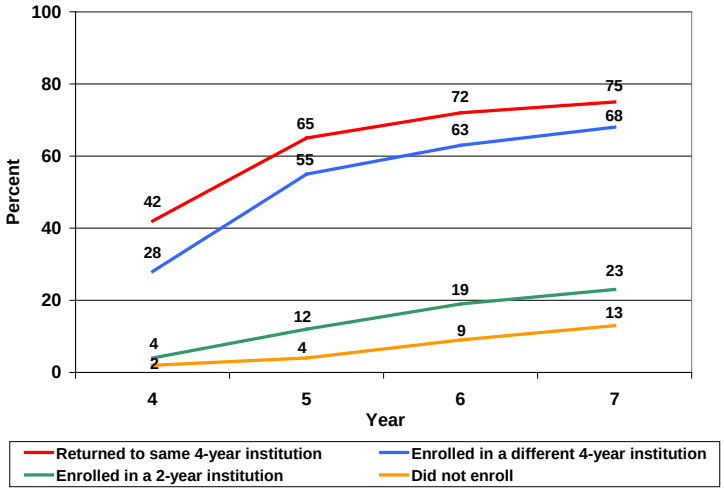


*Figure 3:* Bachelor's degree completion rates over time by year 2 (fall 2004) re-enrollment status for four-year students.

Four-year students who re-enrolled in a two-year institution in fall 2004 (i.e., reverse transfer) were more likely than students who did not re-enroll in any institution in fall 2004 to complete either an associate's or a bachelor's degree by year 7 (40% vs. 18%; Table 4). Associate's degree completion rates for the former group of students (irrespective of whether they completed a bachelor's degree) increased from 9% by year 3 to 23% by year 7. In addition, more than one-third of these students who completed an associate's degree as their highest credential were still enrolled in college for at least one term in year 7, possibly continuing on towards a bachelor's degree.

**Table 4.** ***Year 7 Degree Completion Status by Year 2 Re-Enrollment Status for Four-Year Students***

| Year 2 Re-Enrollment Status | Bachelor's degree by year 4 | Bachelor's degree year 5 to 7 | Associate's degree only | No degree, still enrolled | No degree, not enrolled |
|---|---|---|---|---|---|
| Returned to same institution | 42 | 33 | 3 | 7 | 15 |
| Enrolled in a different four-year institution | 28 | 40 | 5 | 9 | 19 |
| Enrolled in a two-year institution | 4 | 19 | 17 | 19 | 41 |
| Did not enroll | 2 | 11 | 5 | 20 | 61 |

*Note*. Percentages may not sum to 100% due to rounding. Year 2 re-enrollment status based on fall 2004 enrollment.

Of four-year students who did not re-enroll in any institution in fall 2004, 61% were not enrolled in any institution during year 7 and had not completed a degree. Of those who were not enrolled during year 7, nearly two-thirds were also not enrolled during the three years prior to year 7, while a little over one-third were enrolled for at least one term during years 3 to 6.

Two-year students who returned to the same initial two-year institution in fall 2004 were more likely to complete a bachelor's degree or an associate's degree by year 7 than students who transferred to a different two-year institution in the fall of year 2 (51% vs. 37% for any degree). They were also nearly 2 times more likely to complete an associate's degree by year 3 (24% vs. 11%) or a bachelor's degree by year 6 (24% vs. 14%).

Two-year students who transferred to a four-year institution in fall 2004 were more likely to complete a bachelor's degree by year 7 than those who re-enrolled in any two-year institution (54% vs. 29% or 19%; Table 5), and substantially more likely to do so than those who did not re-enroll in any institution in

fall 2004 (6%). The bachelor's degree completion rate for two-year students who transferred to a four-year institution increased from 20% by year 4 to 50% by year 6 to 54% by year 7. And, over 90% of these students who completed a bachelor's degree bypassed earning an associate's degree. For 7% of two-year students who transferred to a four-year institution in fall 2004, the highest credential earned was an associate's degree by year 7.

**Table 5.** ***Year 7 Degree Completion Status by Year 2 Re-Enrollment Status for Two-Year Students***

| Year 2 Re-Enrollment Status | Associate's and bachelor's degree | Bachelor's degree only | Associate's degree only | No degree, still enrolled | No degree, not enrolled |
|---|---|---|---|---|---|
| Returned to same institution | 14 | 15 | 23 | 15 | 34 |
| Enrolled in a different two-year institution | 5 | 14 | 18 | 20 | 43 |
| Enrolled in a four-year institution | 5 | 49 | 7 | 13 | 26 |
| Did not enroll | 1 | 4 | 6 | 18 | 70 |

*Note*. Percentages may not sum to 100% due to rounding. Year 2 re-enrollment status based on fall 2004 enrollment.

Of two-year students who did not re-enroll in any institution in fall 2004, 70% were not enrolled in any institution during year 7 and had not completed a degree; only 12% had completed either an associate's or bachelor's degree by year 7. Of those who were without a degree and not enrolled during year 7, about two-thirds were also not enrolled during the three years prior to year 7.

Seven-year bachelor's degree completion rates were lower for two-year students who transferred from a two- to a four-year institution in year 2 than for students who transferred from one four-year institution to another one in year 2 (54% vs. 68%). This finding might be partially explained by the latter group having higher ACT Composite scores and HSGPAs, on average, than the former group (by 1.7 and 0.25 points, respectively; Table 1). In addition, seven-year bachelor's degree completion rates were substantially higher for students who transferred from a two- to a four-year institution than for those who transferred from a four- to a two-year institution by year 2 (54% vs. 23%), even though average ACT Composite scores and HSGPAs were similar for these two student groups (Table 1).

The findings described for year 7 degree completion status disaggregated by year 2 re-enrollment status generally held true across student demographic groups, where sufficient sample sizes were available. Even among students with higher ACT Composite scores or HSGPAs, we found that:

- Four-year students who remained enrolled at the same initial institution in year 2 were substantially more likely to complete a bachelor's degree by year 4 than students who transferred to a different four-year institution in year 2 (65% vs. 47%, respectively, for students with ACT Composite scores of 28 to 36). This gap in rates narrowed over time (89% vs. 80% by year 7).
- Two-year students who transferred to a four-year institution in year 2 were less likely to complete a bachelor's degree by year 7 than four-year students who transferred to a different four-year institution in year 2 (65% vs. 80%, respectively, for students with HSGPAs of 3.5 or higher).

## Discussion

In this study, we tracked over time the progress of a random sample of ACT-tested 2003 high school graduates nationally who immediately enrolled in college. For this cohort of students, we found that nearly one-third of four-year students and nearly 60% of two-year students were without a degree seven years after enrolling in college. However, 10% and 16% of four- and two-year students appeared to be still working towards one. Both sets of statistics agree with those reported in another recent study (Green & Radwin, 2012) based on a nationally representative sample of 2003-04 beginning postsecondary

students who were followed over the same time period. Our study extends the findings from the other study by focusing on the highest credential completed by year 7, as opposed to the first degree attained.

Bradburn (2002) found that the largest share of students leave college during their first year. In this study, students who persisted to the second year were more likely than those who did not to complete a degree by year 7, irrespective of the type of institution in which the student initially enrolled. In particular, over four-fifths of students who did not persist to the second year at any college were without an associate's or bachelor's degree seven years later. Moreover, students who did not complete a postsecondary degree were not as prepared academically for college as those who persisted and completed a degree. Implementation of effective practices that increase communication and curricular alignment between secondary schools and postsecondary institutions would help students better prepare for college. If students are ready for college, dropout rates and the costs of remediation are reduced and more students persist and graduate from college.

Other studies (Lotkowski, Robbins, & Noeth, 2004; Robbins, Allen, Casillas, Peterson, & Le, 2006) have also shown that students who are academically prepared for college, academically self-disciplined, socially engaged, and committed to college are more likely than those who are not to persist to degree completion. These findings together with the results from this study emphasize the importance of understanding what works in student persistence for improving degree completion. Some practices identified by postsecondary institutions as contributing the most to improving student persistence included: learning support centers, academic advising, and first-year programs (Habley & McClanahan, 2004; Habley, Valiga, McClanahan, Burkum, 2010).

Unfortunately, not all students follow the most efficient educational path to degree completion (Tinto, 2002). For example, there are many students with the goal of earning a bachelor's degree who begin at a two-year institution. But, two-year students who transferred to a four-year institution in year 2 were found to be less likely to complete a bachelor's degree in a timely manner than students who began and persisted at a four-year institution. Transferring to a different institution of the same type by year 2 was also found to increase time to degree completion for most students, even among those who are better prepared academically for college.

Given that more students are taking longer to complete a degree, evaluating enrollment status or degree completion beyond 150% of normal time seems reasonable. Yet, this study affirmed the results from another study (Horn, 2010) that the increases in graduation rates beyond 150% of normal time were considerably smaller than those seen between 150% and 100% of normal time. Unfortunately, in this study, we only had follow-up for one-year beyond 150% of normal time for four-year students (through year 7). But, the increase that we saw between years 6 and 7 for these students was comparable to that seen in the IPEDS GRS study (2010) between years 6 and 8 (3 vs. 2 to 4 percentage points), suggesting that the increase in rates between years 7 and 8 is even smaller. The increase in associate's degree rates between years 2 and 3 in this study for two-year students was somewhat smaller than that seen in the IPEDS GRS study (8 vs. 11 to 19 percentage points). However, we found that nearly one-fourth of two-year students earned a bachelor's degree by year 7, and that over 60% of these students bypassed earning an associate's degree. One possible explanation for these differences in results for two-year students is that we focused on ACT-tested students; the ACT is generally not required for admissions to two-year institutions. Interestingly, we also found that the associate's degree completion rate for two-year students continued to increase steadily beyond 200% of normal time.

Historically Black Colleges and Universities (HBCU) or institutions with high Hispanic enrollments (HHE) have been shown to have below average graduation rates. One of the key findings from the IPEDS GRS study (Horn, 2010) was that HBCU or HHE institutions from the public four-year sector had notably higher increases in graduation rates between years 6 and 8 than other institutions in the same sector, especially HHE institutions. Based on student-level data, we found that increases in bachelor's degree completion rates between years 6 and 7 for four-year students were comparable across student demographic groups. However, for two-year students, increases in bachelor's degree completion rates between years 6 and 7 were higher for Hispanic students than for any other racial/ethnic group. In addition, for both two- and four-year students, higher percentages of Hispanic and African American

students than White students were still enrolled at year 7. To better inform policy regarding graduation rates, future longitudinal studies should consider further exploring whether expanding the time frame to 200% of normal time results in greater increases in graduation rates for certain student demographic groups, including lower-income students. In terms of improving degree completion for all students, results from another study based on the same data used in this study (Radunzel & Noble, 2012) demonstrated that students who are well prepared academically for college are more likely than those who are underprepared to persist towards and complete a degree in a more timely manner. Moreover, the study found that college readiness helps reduce racial/ethnic and family income gaps in college success rates. For example, differences in six-year bachelor's degree completion rates between African American or Hispanic students and White students were reduced by more than 50% among those who were ready for first-year credit-bearing college coursework in all four subject areas.

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