



## Postsecondary Success-- Completion

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### What Impacts Student Success in College Persistence and Completion?

By Molly Ryan  
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The compilation of research studies summarized below address postsecondary success and completion:

#### **Study #1: Impact of Increased Academic Intensity on Transfer Rates: An Application of Matching Estimators to Student-Unit Record Data**

William R. Doyle, Peabody College, Vanderbilt University, *Research in Higher Education*, Volume 50, Number 1, February 2009, pp 52-72.

#### **Background**

Numerous studies describe the transfer rate from community colleges to four-year institutions and analyze the factors associated with higher or lower rates. Few studies, however, attempt to identify the causal impact of various post-enrollment interventions on transfer rates.

#### **Purpose**

This study analyzes the impact of increased academic intensity in community college on eventual transfer rates.

#### **Findings**

Despite several limitations of the study, the findings further the idea that increased academic intensity does causally impact transfer rates. Specifically, **taking 12 or more credit hours increases the probability of transfer from community colleges to four-year institutions from between 11% and 15%**. Although students who take 12 credits or more are "much more likely" to transfer to four-year institutions, students who take more than nine credits are also more likely to transfer than are their peers who take less than that amount; as are students who take more than six credit hours than their peers.

The term "transfer" is broadly defined in the study as "a first-time student attending a community college who took a course or courses for credit in a public four-year college in Tennessee at any point within six years of initial enrollment." The author chose this open definition in an effort to capture every student who made the transition at one point or another from the community colleges to the four-year institutions within the state, without regard for the timing or sequence of transfer patterns.

#### **Policy recommendations**

1. There should be larger scale experimentation with policies that provide both support for students to take more class credits and incentives to encourage students to do so; this would provide a basis for better understanding and implementation of policies across all states that would benefit students.
2. Policies supporting more course-credit taking should include both academic and nonacademic support.

- Academic support should involve communication of placement standards and general requirements once students are enrolled in community college. Also, specific targeting of marginal students and the creation of individualized study plans, coupled with counselors or faculty members, could provide additional momentum for many students who could succeed in postsecondary education with a very minimal additional institutional investment.
  - Non-academic support should include additional need-based financial aid to reduce the need for students to work, and transportation assistance and child care. The essence of this support structure should be a holistic learning plan that enables students to take additional course credits and build momentum toward a postsecondary degree.
3. Institutions should also consider targeted incentives such as "buy three, get one free" plans that provide a three-credit course for free, given that the student pays for the first nine credits.
- Other incentive plans could include tuition remittances for 20 credits of course completion in the first year, or financial aid support targeted to help students overcome barriers that stand in the way of full-time attendance.

### **Study #2: Do Community Colleges Provide a Viable Pathway to a Baccalaureate Degree?**

Michal Kurlaender and Bridget Terry Long, Harvard University Graduate School of Education, University of California, Davis, *American Educational Research Journal*, Volume 31, Number 1, March 2009, pp 30-53.

#### **Background**

Although several studies have examined the consequences of attending a community college, many questions remain about both the goals and intentions of community college students and their postcollegiate outcomes. Estimates from a recent national longitudinal postsecondary study show that only 37% of students who graduated high school in 1992 and enrolled in community colleges eventually transferred to four-year colleges.

#### **Purpose**

This study compares the outcomes of community college entrants to the outcomes of similar students who initially entered four-year institutions within the Ohio public higher education system.

#### **Findings**

There appears to be a disadvantage to students, in terms of degree completion, credit accumulation and the risk for dropping out, to initially entering postsecondary study through community colleges. Moreover, this disadvantage or "penalty" seems to persist, although lower in magnitude, after controlling for key student demographic and academic variables such as race, gender, age, parents' income and student ability (i.e., ACT college entrance exam scores).

1. **Students who initially began at community colleges were less likely to complete bachelor's degrees.**
  - Among students who started at two-year colleges, nearly 44% had dropped out or stopped out (i.e., did not re-enroll during a given time period) 6 years after starting; among students who started at nonselective four-year institutions, 34% had dropped out or stopped out 6 years after starting; among students who started at selective four-year institutions, 18% had dropped out or stopped out 6 years after starting.
  - The lower likelihood of graduation for community college entrants remained larger even after extending the time frame from 6 to 9 years.
  - Among community college students with the demonstrated intention to get four-year degrees, only 26% obtained bachelor's degrees within 9 years of starting; while nearly 2 and 3 times as many students who began at nonselective (50%) and selective (73%) four-year institutions did so.
2. The penalty of starting at a two-year institution rather than a nonselective four-year institution varied by type of student.
  - Women experienced a larger penalty for initially entering a community college than men. However, because women tend to do better than men overall in terms of educational outcomes (regardless of where they attend college), the overall effects were still more negative for men.

- Black students who began at a community college were less likely to graduate than white students who began at a community college; **attending a community college exacerbated the education gap between black and white students.**
- Higher-ability students (i.e. students with higher ACT scores) did not suffer any special penalty in terms of graduation from beginning at a community college. Students with lower ACT scores appeared to do worse at community colleges than the average student in terms of degree completion.

The results show that, on average, students who initially enter higher education through the two-year system are 14.5% less likely to complete baccalaureate degrees within nine years.

### Policy recommendations

Caution should be exercised when designing policies that might shift enrollment patterns more toward two-year colleges, due to the "penalty" experienced by community college students. However, it is worth comparing the size of the penalty to the difference in costs between two-year and four-year institutions. Moreover, greater focus is warranted on institutional policies and programs that support community college students and help them transfer to four-year institutions to obtain baccalaureate degrees.

### Study #3: Why Have College Completion Rates Declined? An Analysis of Changing Student Preparation and Collegiate Resources

John Bound, Sarah Turner and Michael Lovenheim, University of Michigan, Department of Economics, Cornell University and University of Virginia, Department of Economics, *National Bureau of Economic Research Working Paper*, Number 15566, December 2009.

### Background

A much higher number of high school graduates enter college today than did 25 years ago. However, this rise in admission has not been met by a commensurate rise in completion.

### Purpose

This study examines how changes in student preparedness and changes in college characteristics have contributed to the national decline in college completion.

### Findings

The findings show that eight-year college completion rates declined nationally from 50.5% to 45.9%. **The decline is most pronounced among men who begin college at less-selective, public four-year schools and among students who begin college at a community college.** The decline is due both to changes in student preparedness (as measured by math test scores) and collegiate characteristics (as measured by increased in college student-faculty ratios); however, collegiate characteristics appear to be a more significant factor, especially among four-year schools.

1. Shifts in student preparedness account for about one third of the observed national decline in completion rates.
2. Decreases in institutional resources account for about one quarter of the decline.
3. Sectoral shifts in where students first attend college account for three quarters of the decline.
4. Students entering lower ranked public universities and community colleges experienced the full decline in completion rates.
5. Completion rates increased at public universities ranked in the top 50, as well as at private colleges and universities.
6. Despite greater increases in college-going among women, the drop in completion rates has been almost entirely concentrated among men.

### Policy recommendations

1. More attention should be paid to the state appropriations to colleges and universities and to their tuition revenues, as the institutions may have to choose between increasing enrollment by lowering tuition and reducing resources per student, or limiting enrollment by raising tuition and increasing resources per student.

2. Understanding the changes in student composition and the characteristics of higher education resources has substantial implications for the expected trend in the college-wage premium and long-run economic growth.

#### **Study #4: Crossing the Finish Line**

Michael McPherson, William Bowen and Matthew Chingos, *Crossing the Finish Line*, 2009.

#### **Background**

Educational attainment in the United States today is highly consequential. Important are both the overall level of educational attainment and disparities in educational outcomes by race/ethnicity, gender, socioeconomic status (SES) and the kind of university a student attends.

#### **Purpose**

This study focuses on the overall trends and disparities in educational attainment at public universities, and seeks to use this data to guide the future of public higher education in the United States.

#### **Findings** *Finishing college at public universities*

1. Disparities in educational attainment by socioeconomic status (SES) are pervasive in American public higher education and **cannot be explained away by associated differences in academic preparation**. Even after accounting for differences in entering credentials, students from lower-income families with less-educated parents are consistently less likely to graduate from college than their classmates from higher-income families with more educated parents. These differences do not diminish as semesters pass.
2. Both parental education and family income are strongly associated with graduation rates even after controlling for related differences in student characteristics, particularly academic preparation. However, **family income**, not parental education, **is primarily responsible for the overall relationship between SES and time-to-degree**.
3. Findings **understate the true extent of disparities** in educational outcomes because they fail to reflect both the lower high school graduation rates and the lower college enrollment rates that are common among black and Hispanic students and students from low-SES backgrounds.

#### *Fields of study, time-to-degree and grades*

1. Evidence suggests that (1) choice of major appears to be only weakly correlated with SES and (2) although there are strong relationships between major field of study and gender, underrepresented minorities of both genders are more likely to choose engineering, math and science majors than are white students once their background characteristics are taken into account.
2. All three of the main academic outcomes of college-going — graduating or not, time-to-degree and rank-in-class at graduation — are strongly associated with SES, race/ethnicity, and gender.

#### *The role of high schools*

1. The authors found **no evidence of lower six-year graduation rates among students from high schools in rural areas** (and that these students have even some modest advantage over students from high schools in most other areas).
2. High school **grades are a far better incremental predictor of graduation rates than are standard SAT/ACT test scores**. They are such a powerful predictor of graduation rates in part because they reveal mastery of course content. They also reveal qualities of motivation and perseverance — as well as the presence of good study habits and time management skills. They often reflect qualities such as the ability to accept criticism and benefit from it.
3. The strong predictive power of high school GPA holds even when we know little or nothing about the quality of high school attended.

4. **Race and SES are more highly correlated with SAT scores** than with high school grades. SES and race predict both high school GPA and SAT scores, but, in general, the impact on SAT scores is somewhat greater.
5. SAT/ACT scores have a **greater incremental power to predict college grades than to predict graduation rates**. The authors suggest framing this not by asking whether tests are good or bad but rather by asking in what settings different kinds of tests are particularly useful as complements to a careful examination of a student's high school record.
6. Scores on **achievement tests, especially Advanced Placement tests, are better predictors of graduation rates** than are scores on the standard SAT/ACT tests. As a general rule, colleges and universities selecting students are well advised to use a judicious combination of information about high school GPA, achievement test results (including the results of tests of writing skills), and the quality of the high school looked at in conjunction with standard SAT/ACT scores. "Triangulating" the selection process in this way is a strong protection against tendencies to "game" the system, which could be encouraged by focusing on only one predictor.

*Does institutional selection affect college completion?*

1. **Disparities in graduation rates, particularly along socioeconomic lines, are amazingly consistent regardless of how selective institutions are** in their admissions.
2. Broadly speaking, educational attainment suffers and students (higher education in general) are harmed, whenever **two types of sorting errors** occur: (a) students are "overmatched" by enrolling in programs for which they are not qualified or (b) **students are "undermatched" by failing to attend colleges and universities at which they will be appropriately challenged**. The findings reported in this study fail to provide any evidence of overmatching but demonstrate that **undermatching is a massive problem**.
3. The frequently **disappointing graduation rate** outcomes for students from underrepresented minority groups and for students from low-SES backgrounds are due in no small part to the fact that **a number of them were "undermatched"** — that is, appreciable numbers of these students enrolled in either two-year colleges or four-year colleges that were less demanding than the colleges for which they were presumptively qualified, and some enrolled in no college at all.
4. Students who **began their studies at two-year colleges** were **much less likely to earn bachelor's degrees** than were similar students who started at four-year institutions. This large effect is observed even for the least-prepared students, who might be expected to benefit the most from starting at a two-year college.
5. High school seniors who wanted to earn a bachelor's degree eventually, but who began at two-year colleges, were much less likely to earn a bachelor's degree than were comparable students who went directly from high school to a four-year program. The typical high school senior is **more likely to earn a bachelor's degree** if he or she **starts at a four-year school**.
6. Many highly qualified students from low-SES backgrounds went to a community college or to no college at all.

*Target populations*

1. It is **not low postsecondary graduation rates that are mainly responsible for the lower overall levels of educational attainment of Hispanics**. It is lower **enrollment** rates.
2. Within each grouping by high school GPA, including the below-3.0 category, **Hispanic students graduated at higher rates the more selective the institution** they attended.
3. The **relative graduation rate advantage** of going to a more selective university was even **more pronounced for black men at the lower end of the high school grade distribution** than it was for students with better high school records.

### *Transfer Patterns*

1. Overall, **transfer-in students did well**. Those attending the more selective universities in the study graduated at about the same rate as first-time freshmen in spite of entering with weaker pre-collegiate credentials; transfer students at the less-selective four-year universities in the study graduated at higher rates than did first-time freshmen even though they entered with weaker pre-collegiate credentials.
2. Transfer students from two-year colleges were substantially **more likely to be from low-income families** than were first-time freshmen.

### *Money Matters*

1. **Price and aid matter** to student success in completing college and in shortening time-to-degree, and **they matter much more for lower-income** students than for others.
2. Students from high-income families are significantly more likely to graduate from college, and to graduate “on time,” than are students with comparable qualifications from low-income families.
3. **Need-based** grant aid was available to students attending all groups of public universities in this study, and there is clear evidence that such **aid boosts both the numbers who attend such institutions and their graduation rates**. Nonetheless, despite the presence of need-based aid, the graduation rate for students from low-SES families at those public universities was lower than the graduation rate for other students. In contrast, at highly selective private colleges and universities, graduation rates were essentially the same among students who differed in SES.
4. Data clearly show that there is no relationship between net price and graduation rates among students from families in the top half of the income distribution — a less obvious and potentially more consequential conclusion.
5. From the authors’ literature review: **how simply and clearly aid is delivered makes a big difference** in whether and how students respond.

### *Institutional Selectivity and Graduation Rates*

1. Controlling for students’ high school GPAs, SAT/ACT scores and demographic characteristics fails to remove the pronounced differences in graduation rates related to institutional selectivity. Substantial differences remain. These persistent differences appear to be driven principally by five broad sets of factors: peer effects, expectations, access to excellent educational resources, financial aid and student work opportunities, and unobservable selection effects such as student ambition and drive.
2. The fact that substantial institutional differences in graduation rates remain even after we control for students’ academic preparation rebuts the idea that colleges and universities could increase their graduation rates substantially by simply rejecting all applicants with marginal credentials.

### *Promoting Persistence*

1. Transfers are heavily concentrated in the first two years of college attendance — but **withdrawals continue to occur, quite regularly, all along the path to graduation**. There are modest “spikes” in withdrawals at the end of the second and fourth semesters, but **nearly half of all withdrawals occur after the second year**.
2. Other things being more or less equal, **“campus-like” institutions have somewhat higher graduation rates and shorter time-to-degree**. Students who lived in a university residence hall during their first semester were more likely to graduate than were off-campus students (after controlling for differences in entering credentials and background characteristics, including family income.) There is also evidence of institution-wide effects. All students appear to benefit from attending an institution where more students live on campus. On-campus or near-campus living and learning options can increase the engagement of students with their university, which in turn should encourage higher graduation rates and shorter time-to-degree.

## Policy Recommendations

### 1. Maximize high school influence

- High schools are indeed a lever that can be used to improve later educational outcomes, but care needs to be taken to avoid exaggerating their effects. Later outcomes depend enormously on the qualifications that entering high school students bring with them from the 8th grade and on immutable personal attributes such as race/ethnicity, gender and family background.
- Testing organizations and others interested in testing should be encouraged to continue developing new tests and techniques of assessment that will facilitate matching processes of all kinds.
- **Careful consideration should be given to the possibility, over time, of making much more extensive use of the results of the AP examinations.** These tests are especially good predictors of four-year graduation rates.
- Even though the predictive value of the “**new**” SAT is about the same as the predictive value of the old SAT, it can be regarded as a definite improvement over its predecessor precisely because of the **clear signals** it sends **about the importance of writing and mathematics.**
- Putting **more emphasis on content-based tests** of various kinds can serve as **some protection against “grade inflation”** at the high school level — at the same time that achievement tests provide valuable diagnostic information in their own right.
- The question is not “to test or not to test?” Rather, the basic question is this: What set of tests and other measures are most useful in a particular setting?

### 2. Improve advising and counseling

- It is critical to find **more effective ways of informing high-achieving high school students** and their parents **of the educational opportunities** that are open to them — **and of the benefits** they can derive from taking advantage of these opportunities.
- Students in general would benefit greatly from **improved advising and counseling** — functions that too often are under-sourced and uninformed. Finding ways to improve the matching process should be a high priority. Considerations should be given to ways of improving the use of digital technologies and online resources, and to the possibility of assigning special “coaches” the task of helping high-achieving students from modest backgrounds complete their applications and financial aid forms.

### 3. Target transfer students

- Universities might improve both their socioeconomic diversity and their graduation rates by **accepting more transfer students** — who have, after all, demonstrated both motivation and accomplishment by completing a two-year course of study and seeking admission to a bachelor’s degree program.
- States **should not encourage students with bachelor’s degree aspirations and the necessary qualifications to enroll in a two-year program** when they could have enrolled in a four-year college directly out of high school. Nor should the existence of transfer opportunities justify underinvestment in creating places at four-year institutions.
- Any large-scale policy changes need to be considered very carefully. If patterns of initial choice of institutions by students cannot be changed, **creating more places at four-year schools for two-year transfers** is an attractive option for helping such students earn bachelor’s degrees. But any institution or system pursuing such a policy would need to be careful not to discourage high school seniors from starting at four-year schools — particularly if the policy were to decrease the number of places available for first-time freshmen.

4. Improve affordability where needed most
  - **Making college less expensive for students from modest backgrounds** has to be a key consideration in any concerted effort to raise graduation rates and shorten time-to-degree.
  - **Finding more resources for need-based student aid is demonstrably less expensive than keeping the net price low by reducing tuition across the board** — a policy that provides further subsidies to well-off families without improving their graduation rates. There is no evidence in this study's data that grants to more affluent students actually influence the likelihood that these students will graduate. Reallocating some amount of money from merit-based aid to need-based awards could make a real difference.
  - The federal government should adopt a policy of **automatically raising the loan limits in proportion to some suitable cost index**, such as the Consumer Price Index.
  - Providing key campus actors (presumably deans in most instances) with a **meaningful amount of truly discretionary money** that can be quickly deployed to relieve distress [student financial emergencies] **could make a real difference to completion rates and time-to-degree.**
  - Students in general, and low-income students in particular, should not be asked to assume such large debt obligations that their future is compromised. But it is equally clear that students can be too reluctant to borrow. Unwillingness to take on reasonable amounts of debt can itself exact a high "price" if the consequence is a longer and more tortuous path to a degree or no degree at all.
5. Promote persistence
  - Public universities should **provide surrogates for on-campus living experiences**, as such university-owned apartments reasonably close to campus. For those students who do commute, it may be valuable to provide a **safe, easy and attractive environment on or around campus for their use between or after classes.**
  - Universities can **strive to create "sub-environments" such as honors colleges and structured learning communities** that can be used to set high expectations and create peer effects that reinforce these expectations.
6. Target specific populations
  - **Reduce the level at which students are "undermatched" by failing to attend colleges and universities at which they will be appropriately challenged.**
  - The scale of the undermatch phenomenon among students from modest backgrounds suggests that **addressing this problem offers a real opportunity** to increase social mobility and simultaneously to increase overall levels of educational attainment. **Working to improve "match"** is one of the interventions **likely to improve educational attainment among Hispanics.**

**Study #5: Unmasking the Effects of Student Engagement on First-Year College Grades and Persistence**

George Kuh, Jillian Kinzie, Robert Gonyea, Rick Shoup and Ty Cruce, *Journal of Higher Education*, Volume 79, Number 5, September 2008, pp. 540-563.

### **Background**

Research conducted on why students leave college before completing degrees has been limited in its scope and defined too narrowly. Most research connecting student engagement and college outcomes is based on single institution studies and does not take student background characteristics into consideration.

## **Purpose**

This study seeks to determine the relationships between key student behaviors and the institutional practices and conditions that foster student success.

## **Findings:**

1. **Generally, all students attending institutions that employ initiatives based on effective educational practices perform better academically, are more satisfied, and persist and graduate.** Student engagement in educationally purposeful activities is positively related to academic outcomes as represented by first-year student grades and by persistence between the first and second year of college. Examples of educationally purposeful activities include:
  - Contributing to class discussions
  - Making presentations
  - Working with other classmates
  - Communicating with an instructor
  - Talking about career plans
  - Working with faculty members on activities other than coursework
  - Discussing ideas from class outside of the classroom.
2. Pre-college characteristics such as academic achievement represented by ACT or SAT score matter to first-year grades and persistence; however, once college experiences are taken into account, the effects of pre-college characteristics and experiences decrease considerably.
3. Effective educational practices occur at colleges and universities that are able to intervene early and often during key transition points, and where institutional values and expectations are clearly defined. While exposure to effective educational practices generally benefits all students, the effects are even greater for lower-ability students and students of color compared with white students. Such effective educational practices include well-designed and implemented:
  - Orientation
  - Placement testing
  - First-year seminars
  - Learning communities
  - Intrusive advising
  - Early warning systems
  - Redundant safety nets
  - Supplemental instruction
  - Peer tutoring and mentoring
  - Theme-based campus housing
  - Adequate financial aid
  - Demonstrably effective teaching practices.

## **Policy Recommendations:**

1. Institutional values and expectations should be clarified to students early and often, as students generally benefit from early interventions and sustained attention at key transition points.
2. Faculty and staff must use effective and customizable educational practices throughout the institution to help compensate for shortcomings in students' academic preparation and to create a culture that fosters student success.
3. Institutions should make the first year more challenging and satisfying for students who come from strong academic backgrounds.

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