



## **What We Know about College Success: Using ACT Data to Inform Educational Issues**

The pending reauthorization of the federal Higher Education Act has reinvigorated the debate over the value of U.S. higher education.<sup>1</sup> Secretary of Education Margaret Spellings has proposed mandated testing of college students or graduates as one means of measuring the amount of knowledge and skill they gain from college. State governors and legislators continue to express alarm at persistent higher education cost increases at rates substantially greater than standard inflation rates. Other evidence of a growing interest in holding higher education institutions accountable is more tangible, through recent changes in accreditation standards that focus less on inputs and more on outcomes.

The National Governors Association and the Commission on the Future of Higher Education both advocate increased communication and curricular alignment between postsecondary institutions and secondary schools. With increased alignment, students are more likely to be ready for credit-bearing entry-level college courses. If students are ready for college, dropout rates and the costs of remediation are reduced and more students persist in and graduate from college. ACT research related to college readiness and college success is rich and extensive and offers insights about the impact of readiness on college success. Below we highlight findings of these studies.

### **College Recruitment**

- The three most important determiners of where a student will enroll in college are the rank order of a student's college choice (first choice, second choice, etc.), the distance they live from the college, and their ACT Composite score.
- The closer the fit between a high school student's planned college major and the programs offered by a given postsecondary institution (also taking into account the perceived reputation of those programs), the more important the student's planned major is in determining whether the student will enroll at that institution.
- A student whose list of college choices follows a particular pattern typical of students who eventually enroll in an out-of-state or private institution is

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<sup>1</sup> The U.S. Congress most recently amended and reauthorized the U.S. Higher Education Act in 1998. Its original legal authority expired September 30, 2004. But, absent agreement on a newly amended and reauthorized Act, the legal authority of the 1998 Act has been extended by continuing resolutions and remains in effect today.

more likely to enroll in one of these institutions than a student whose list of college choices does not follow this pattern.

## **College Enrollment**

- Students who are ready for college (i.e., who meet the ACT College Readiness Benchmarks) are substantially more likely to enroll in college than those who are not ready. This is true of all students regardless of gender, racial/ethnic group, or family income.
- The college enrollment gap between white and racial/ethnic minority students is reduced for students who are ready for college in mathematics or science.
- Students who engage in earlier college readiness planning, such as through taking both PLAN<sup>®</sup> (10th grade) and the ACT<sup>®</sup> test (11th and 12th grade), are more likely to enroll in college than students who take only the ACT (by 7 percentage points). Similar results are found across gender, racial/ethnic, or family income groups.
- Students who take higher-level mathematics, social studies, and/or science courses in high school are generally more likely to enroll in college than students who do not take these courses (by 7 to 25 percentage points). This is true for most gender, racial/ethnic, or family income groups.

## **College Remediation**

- Students who are ready for college are less likely to need remediation in English or mathematics than students who are not ready (typically by 36 to 47 percentage points), regardless of gender, race/ethnicity, or family income.
- Students who engage in earlier college readiness planning, such as through PLAN and the ACT, are less likely to need remediation in English or mathematics than those who participate only in the ACT (by 3 to 12 percentage points).
- Students who take or plan to take a core curriculum in high school are less likely to need remediation in English or mathematics than those who do not take or plan to take a core curriculum (typically by about 8 percentage points), regardless of gender, race/ethnicity, and family income.
- Students who take higher-level English courses and a foreign language in high school are less likely to need remediation in English than those who do not take these courses (by up to 31 percentage points), regardless of gender, race/ethnicity, or family income.
- Students who take higher-level mathematics courses in high school are less likely to need remediation in mathematics than those who do not take these courses (by up to 34 percentage points), regardless of gender, race/ethnicity, or family income.

## **Performance in First-Year College Courses**

- Students who are ready for college are more likely to achieve a grade of B or higher in specific college courses (typically by 20 to 25 percentage points) than those who are not ready. This finding is consistent across gender, racial/ethnic, and family income groups.
- Students who take a core curriculum in high school are more likely to succeed in specific first-year college courses (typically by 8 percentage points) than students who do not take a core curriculum. This is particularly true for social science and science courses.
- Taking additional English courses in high school, or taking one or more foreign languages with these courses, does not substantially affect success in first-year college English composition courses.
- Taking additional social studies courses in high school is associated with a slight increase in students' chances of success in first-year social science courses (by 4 to 8 percentage points).
- Taking higher-level mathematics courses in high school is associated with increases in students' chances of success in first-year mathematics courses (by 3 to 28 percentage points).
- Taking higher-level science courses in high school is associated with increases in students' chances of success in first-year science courses (by 11 to 25 percentage points).

## **First-Year College Grade Point Average (GPA)**

- Students with higher ACT scores are more likely to achieve a first-year college GPA of 2.0 or higher or 3.0 or higher than students with lower ACT scores, regardless of gender, race/ethnicity, or family income.
- Students who are ready for college are more likely to achieve a first-year college GPA of 2.0 or higher or 3.0 or higher than those who are not ready (by 11 to 23 percentage points across subject areas).
- Students who take a core curriculum in high school are more likely to achieve a first-year college GPA of 2.0 or higher or 3.0 or higher than students who do not take a core curriculum (by 7 to 9 percentage points), regardless of gender, race/ethnicity, or family income.
- Students who take higher-level courses in high school are more likely to achieve a first-year college GPA of 2.0 or higher or 3.0 or higher than students who do not take these courses (by as much as 27 percentage points), regardless of gender, race/ethnicity, or family income.
- Students who are highly motivated (as measured by the ACT Student Readiness Inventory) have higher first-year college GPAs.

## **Persistence to a Second Year of College at the Same Institution**

- Students who are ready for college in all four subject areas are more likely to re-enroll at the same postsecondary institution their second year than those who are not ready (by about 13 percentage points). This finding is generally consistent across gender, racial/ethnic, and family income groups.
- Differences in retention rates across racial/ethnic groups are reduced among students who are ready for college in mathematics or science, compared to those who are not ready.
- Differences in college retention rates across racial/ethnic groups are reduced among students who take either higher-level mathematics or higher-level science courses in high school, compared to students who do not take these courses.
- Students who take higher-level mathematics, social studies, and/or science courses in high school are generally more likely to return to the same institution for their second year of college than students who do not take these courses (by 5 to 16 percentage points). This is true for most gender, racial/ethnic, and family income groups.
- Students who are academically self-disciplined, socially engaged, and committed to college are substantially more likely to return to the same institution for their second year of college than students who are not.

## **Academic Proficiency by the Second Year of College**

- Students who are ready for college demonstrate greater academic proficiency by their sophomore year in college (as measured by the ACT Collegiate Assessment of Academic Proficiency, or CAAP) than those who are not ready, regardless of subject area.
- Students who earn higher ACT scores demonstrate greater academic proficiency by their sophomore year in college (as measured by CAAP) than those who earn lower ACT scores, regardless of subject area.

## **Performance, Progress, and Success beyond the Second Year of College**

- Students who are ready for college are more likely to achieve a cumulative college GPA of 2.5 or higher (by 18 to 22 percentage points), persist beyond the first year of college at the same institution (by 7 to 13 percentage points), progress towards a college degree (by 15 to 20 percentage points), and complete a college degree (by 5 to 17 percentage points) than those who are not ready. These results are consistent across gender, racial/ethnic, and family income groups.
- When students are ready for college in more than one subject area, they are more likely to achieve a cumulative college GPA of 2.5 or higher.

- Differences in college GPA success rates across racial/ethnic and income groups are reduced when students are ready for college.
- Students who take a core curriculum in high school are more likely to achieve a cumulative college GPA of 2.5 or higher (by 11 percentage points), persist beyond the first year of college at the same institution (by 8 percentage points), progress towards a college degree (by 13 percentage points), and complete a college degree (by 8 percentage points) than those who do not take a core curriculum. These results are consistent across gender, racial/ethnic, and family income groups.
- Students who take higher-level mathematics or science courses in high school are more likely to achieve a cumulative college GPA of 2.5 or higher (by 13 and 17 percentage points), persist beyond first year of college at the same institution (by 9 and 13 percentage points), progress towards a college degree (by 15 and 20 percentage points), and complete a college degree (by 10 percentage points) than those who do not take these courses. These results are consistent across gender, racial/ethnic, and family income groups.
- Students who are academically self disciplined, socially engaged, and committed to college are more likely to persist to college graduation than those who are not.
- The closer the fit between students' interests and their college major (as measured by the ACT Interest Inventory) the less likely those students are to change their major by the third year of college.

## **Success after College**

- Students' earnings increase as their ACT scores increase: for every 10-percent increase in ACT score, earnings increase by as much as 2 percent.
- The closer the fit between students' career interests and their choice of career (as measured by ACT's UNIACT), the higher their earnings are likely to be: for every 10-percent increase in career-choice fit, earnings increase by as much as 1.3 percent.

## **Recommendations**

College readiness is highly related to college success. Our research suggests the following recommendations to maximize students' chances of succeeding in college:

- Students should take ACT's recommended core curriculum in high school (4 years of English and 3 years each of mathematics, science, and social studies).
- Students should take higher-level mathematics and science courses in high school (i.e., mathematics beyond Algebra II and science beyond Chemistry).
- Students should work hard to increase their academic self-discipline, degree of social engagement, and commitment to benefiting from postsecondary education.
- Students should choose a college major that fits as closely as possible with their personal interests.

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