



What Happens When You Combine High School And College?

The impact of early colleges on postsecondary performance and completion¹



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SUMMARY

Early colleges are an innovative model of schooling that combines high school and college. A 14-year, rigorous experimental study has been examining whether this model works. The study compares early college students who were accepted through a lottery to students who applied to early colleges but were not accepted through the lottery (the control group). The latest findings from this study include:

- More early college students earned postsecondary credentials. By six years after 12th grade, 44.3% of early college students had earned some sort of postsecondary credential compared to 33.0% of the control group.
- Early college students were three times as likely to get associate degrees as control students. 32.8% of early college students earned an associate degree, compared to 11.0% of control students.
- Despite the higher rate of associate degree attainment, early college students were not being steered away from bachelor’s degrees. There was no significant impact on bachelor’s degree attainment for the full sample. Among economically disadvantaged students, early college students were 4.5 percentage points more likely to earn bachelor’s degrees than their control group counterparts.
- Early college students earned their degrees more rapidly. The early college model shortened students’ time to degree by two years for associate degrees and by six months for bachelor’s degrees.
- Despite the shortened time in school, early college students did equally well in college. Both groups had essentially the same postsecondary GPA.

This brief gives an overview of the early college model as implemented in North Carolina, the study’s design, and the model’s impacts on student outcomes.

The problem

Earning a living wage in the 21st century generally requires some sort of postsecondary training or credential.² Yet access to and success in college remains out of reach for too many students, particularly those who are low-income, those whose parents did not go to college, or members of historically marginalized racial and ethnic groups.³ Students face many barriers to enrolling in college, which include academic, financial, and logistical obstacles. For example, many students have not taken the courses they need to take in high school to qualify for college admission; they may not know how to get financial aid; or they may be unclear about the college application process.⁴ Early colleges seek to address this problem with a conceptually simple solution: combine the high school and college experience so that students can graduate from high school with a postsecondary credential.

Early colleges as part of the solution

Serving students in grades 9–12 or 9–13, early colleges are small schools, frequently located on college campuses, that seamlessly integrate the high school and college experiences. At the end of high school, students are expected to graduate with a high school diploma and an associate degree or two years of transferable college credit. The target populations for these schools are students who traditionally face challenges making the transition to college, including students who are low-income, the first in their family to go to college, or members of a minority group underrepresented in college. Our study looked at this model in North Carolina (NC), which has had a statewide program since 2005. Under the Cooperative Innovative High School legislation and with the financial support of the North Carolina General Assembly, NC has created a total of 133 early colleges and similar schools.⁵

As implemented in North Carolina, early colleges are not just dual enrollment programs on steroids. Instead, these schools redesign the entire high school experience to prepare all their students for success in postsecondary education. Thus,

early colleges provide a rigorous high school curriculum with instructional practices that support students' ability to think critically, write effectively, and work collaboratively. Students start taking college courses as early as 9th grade, and by 11th or 12th grade, they are taking college courses almost exclusively. To ensure that students are successful in the rigorous curriculum, early colleges provide students with academic and affective supports. The schools also focus on providing ongoing professional learning and opportunities for collaboration to the teachers.

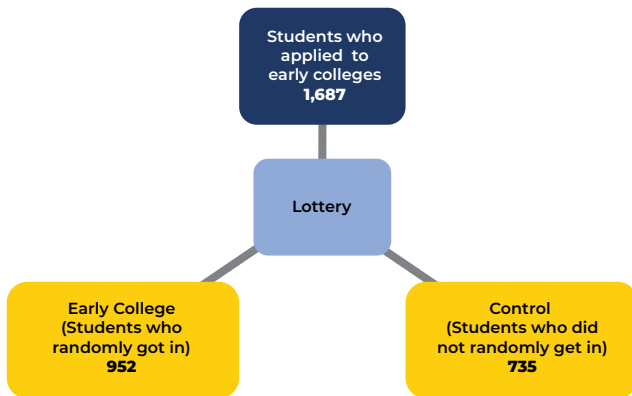
The study

Funded through four federal grants from the U.S. Department of Education's Institute of Education Sciences and a grant awarded by Arnold Ventures, this 14-year study was the first to rigorously examine the impact of the early college high school model. This independent study is led by SERVE Center at the University of North Carolina at Greensboro, partnering with researchers at RAND Corporation and RTI International. The study has been examining the impact of the model on a variety of student outcomes: high school achievement, attendance, suspensions, attainment of college credits in high school, graduation from high school, enrollment and performance in postsecondary education, and graduation from postsecondary education. This brief summarizes results for postsecondary performance and degree attainment.

METHODS

In this longitudinal experimental study, participating early colleges used a lottery to select students from their applicant pool. To track outcomes of all applicants who went through the lottery, the study team collected data from the North Carolina Department of Public Instruction, the University of North Carolina System (postsecondary performance), and the National Student Clearinghouse (postsecondary enrollment, persistence, and degree attainment after high school).

Figure 1: The Sample



The study uses a methodology known as “intent-to-treat,” which means that all students who were initially assigned to the early college remain in the treatment group, even if they did not end up going to the early college or if they left the school before graduating. The advantage to this approach is that it preserves the original ‘apples-to-apples’ comparison;⁶ the disadvantage is that the impact estimates are likely to be smaller because they include outcomes of students who withdrew from the early college prior to completion.

SAMPLE

This brief presents results from analyses conducted with 1687 students who applied to attend 12 early colleges and went through a lottery process (see Figure 1). Nine hundred fifty-two were randomly chosen to attend and 735 were randomly chosen not to attend and went to a different school. Results were compared for the early college sample and the control sample.

Comparing apples to apples

It is often challenging to determine the impact of a program like the early college model because the students who apply might be very different than regular high school students who do not apply. This makes it hard to tease out whether any positive outcomes are because of the strength of the school or because the school might be attracting more motivated or academically talented students. This study uses an experimental design—frequently called the “gold standard” in education research—to address this concern. The study only included schools that used a lottery to select their students. Eligible students were then randomly assigned to attend the early college or not. The study compares the outcomes for the students who applied and were randomly accepted to the results for the students who applied and were not randomly accepted. This means that we are comparing apples to apples.



Results

Overall, the study found that early colleges are meeting their goal of increasing the number of students successfully completing postsecondary education. Specifics on the key findings appear below.

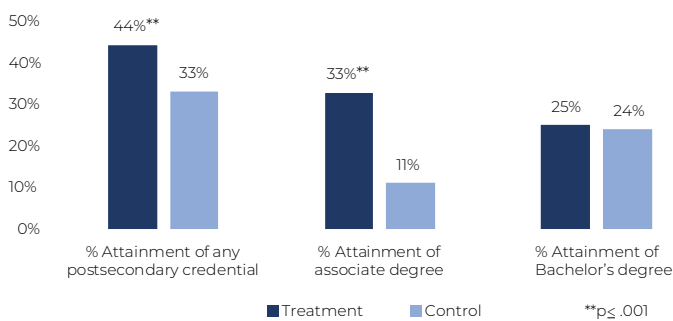
FINDING 1

More early college students earned postsecondary credentials. The study looked at the percentage of students who had earned any sort of postsecondary credential (associate degree, a bachelor's degree, or a technical credentials). By six years after 12th grade, 44.3% of early college students had earned some sort of postsecondary credential compared to 33.0% of the control group.

FINDING 2

Early college students were three times as likely to get associate degrees as control students. By six years after 12th grade, 32.8% of early college students had earned an associate degree, compared to 11.0% of control students (see Figure 2).

Figure 2: Early College Students Earned More Postsecondary Credentials (Six Yrs. after 12th Grade)



FINDING 3

Economically disadvantaged students were more likely to earn a bachelor's degree. The higher rate of associate degree attainment did not result in a lower rate of bachelor's degree attainment. For the full sample, early college students were 3.9 percentage points more likely to have earned a bachelor's degree by four years after 12th grade, a statistically significant positive impact. However, by six years after 12th grade, the control group had caught up, and there was no significant impact on bachelor's degree attainment six years after 12th grade in the full sample. Exploratory analyses did find a statistically significant positive impact for economically disadvantaged students; 21.3% of the early college group earned a bachelor's degree by six years after 12th grade compared to 16.8% of the control group.



“I think that coming into this school as a freshman and now getting ready to graduate next year, the maturity level from when you enter to when you leave is completely different than when you go to a traditional high school...I’ve known that I can apply for grants since sophomore year, and I’ve known where I’ve wanted to go and I really don’t think that would have happened if I would have went to my home school.”

— Early college student



FINDING 4

Early college students earned their degrees more rapidly. Early college students who earned a degree did so more rapidly. On average, the early college group earned an associate degree two years more quickly than the control group did, and they earned a bachelor's degree six months more quickly.

FINDING 5

Both treatment and control groups had similar postsecondary GPAs. Some people might worry that the early college model, which shortens the students' total time in postsecondary institutions, will result in students being less successful at those institutions. To test this theory, the study used a matching design to look at students' college GPAs after they left the early college. Results showed that early college students had essentially the same postsecondary GPA (between 2.60 and 2.74, depending on the time point) as the control group (between 2.59 and 2.76).

CONCLUSIONS

The early college model is essentially a test case of whether we can merge the high school and college experiences in such a way that students earn a postsecondary credential or a substantial number of transferable college credits while they are in high school. According to results from this rigorous experimental study, more early college students earned associate degrees and economically disadvantaged students were more likely to earn bachelor's degrees. On average, early college students earned their degrees more quickly.

In addition to these impacts on postsecondary degree attainment, the team's prior research⁷ in North Carolina has shown that early college students were more likely to complete high school courses required for college; students also had higher attendance and lower suspensions. Early college students reported better experiences in school than control students. They were also more likely to enroll in college.

Additionally, preliminary cost studies of the model found that early colleges had higher costs per student than a traditional comprehensive high school; however, they were a less expensive route (for both the students and society) to a two-year degree and a much less expensive pathway to earning a four-year degree.

A potential critique of the model is that early college students might miss important high school learning opportunities and be less prepared for their future, including for success in college. At this point, there is no evidence to suggest that this is the case; both groups of students performed equally well after they left the early college or their high school. Of course, a key test of students' preparation will be how students perform in the workforce. As this study continues, it will continue following students and look at the impact of the program on students' employment and earnings.

For more information about the study, please contact Julie Edmunds, the Principal Investigator, at SERVE Center at the University of North Carolina at Greensboro: 336-315-7415 or jedmunds@serve.org.

Footnotes

¹This brief is based on the following peer-reviewed article: Edmunds, J.A., Unlu, F., Furey, J., Glennie, E., & Arshavsky, N. (2020) What happens when you combine high school and college? The impact of the early college model on postsecondary performance and completion. *Educational Evaluation and Policy Analysis*. <https://doi.org/10.3102/0162373720912249>

²Carnevale, A. P., Smith, N., & Strohl, J. (2010). Help wanted: Projections of jobs and education requirements through 2018. Retrieved from Washington, DC: <https://georgetown.app.box.com/s/ursjbxaym2np1v8mgrv7>

³Ross, T., Kena, G., Rathbun, A., KewalRamani, A., Zhang, J., Kristapovich, P., et al. (2012). Higher Education: Gaps in Access and Persistence Study. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

⁴Roderick, M., Nagaoka, J., Coca, V., & Moeller, E. (2008). From high school to the future: Potholes on the road to college. Chicago, IL: Consortium on Chicago School Research.

⁵For more information about North Carolina's Cooperative Innovative High Schools, many of which are early colleges, please visit <https://www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education/career-and-college-promise/cooperative-innovative-high-school-programs>.

⁶Students who choose to leave the school might be different in some way than students who choose to remain. The students who remain might be more motivated or more prepared; if the study looked only at results for those students, it might overestimate the program's impact.

⁷See Edmunds, J. A., Bernstein, L., Unlu, F., Glennie, E., Willse, J., Smith, A., & Arshavsky, N. (2012). Expanding the start of the college pipeline: Ninth grade findings from an experimental study of the impact of the Early College High School Model. *Journal for Research on Educational Effectiveness*, 5(2), 136-159. Edmunds, J. A., Unlu, F., Glennie, E., Bernstein, L., Fesler, L., Furey, J., & Arshavsky, N. (2017). Smoothing the transition to postsecondary education: the impact of the early college model. *Journal of Research on Educational Effectiveness*, 10(2), 297-325. Edmunds, J. A., Willse, J., Arshavsky, N., & Dallas, A. (2013). Mandated engagement: The impact of early college high schools. *Teachers College Record*, 115(7), 1-31.

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