

College and workforce outcomes for Minnesota students who concentrate in career and technical education

The Minnesota Department of Education, the Minnesota State Colleges and Universities, and the Minnesota Department of Employment and Economic Development have worked together to develop career and technical education courses and course sequences intended to improve high school students' college and career readiness. The Midwest Career Readiness Research Alliance at the Regional Educational Laboratory (REL) Midwest, which comprises school district leaders, service cooperative leaders, and representatives of the Minnesota Department of Education, conducted a study to **examine whether students who concentrated in career and technical education in high school had different college and workforce outcomes than samplers and nonparticipants with similar demographic and academic backgrounds.**



Concentrator

High school student who completes at least 150 hours of instruction (generally equivalent to about two semester credits) in a career and technical education career field.



Explorer

High school student who completes at least 150 hours of instruction spread across multiple career fields but fewer than 150 hours within a single field.



Sampler

High school student who completes at least 1 hour of instruction but fewer than 150 hours of instruction in career and technical education courses.



Nonparticipant

High school student who did not earn credit for a career or technical education course.

The study used **K–12 education data, postsecondary education data, and employment data** for all students who graduated from Minnesota public high schools between 2012/13 and 2017/18.

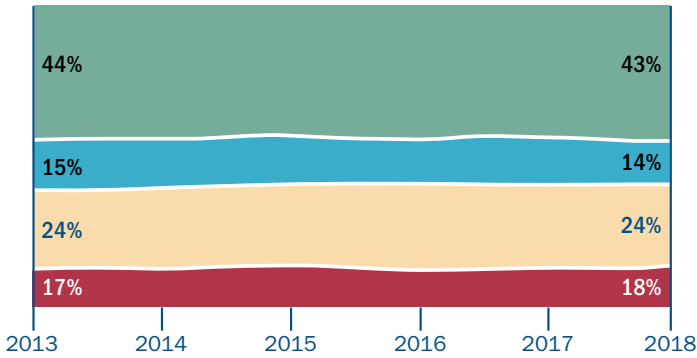


REL Midwest also examined how college and workforce outcomes for explorers compared with samplers and nonparticipants. To learn more read the [full report](#).

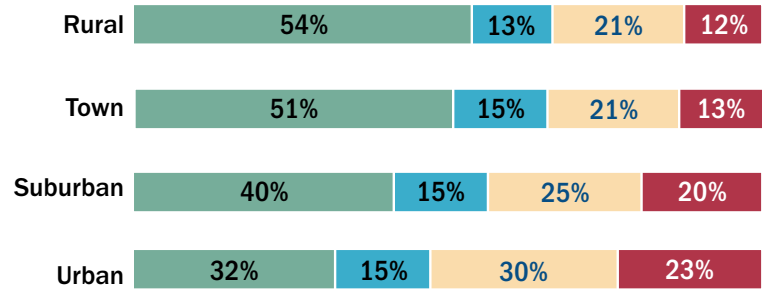
More than **350,000 students** graduated from Minnesota public high schools between 2012/13 and 2017/18.



Nearly half of students who graduated from a public high school between 2012/13 and 2017/18 were concentrators. **The percentage of concentrators remained consistent between 2012/13 and 2017/18.**

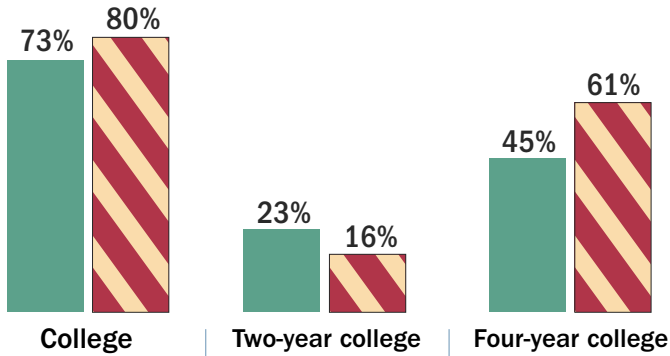


Graduates in urban and suburban areas were less likely to be concentrators and more likely to be nonparticipants than graduates in towns and rural areas.



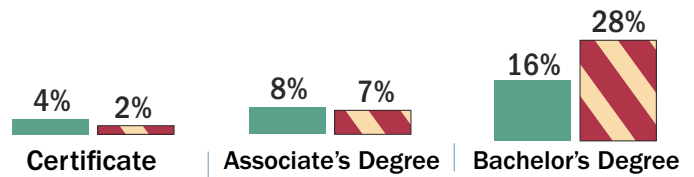
College outcomes

Although college enrollment among concentrators and samplers and nonparticipants with similar demographic and academic backgrounds was high in general, **concentrators had lower college enrollment rates than similar samplers and nonparticipants within one year of high school graduation.**



Concentrators were more likely than samplers and nonparticipants with similar demographic and academic backgrounds to enroll in two-year colleges but less likely to enroll in four-year colleges.

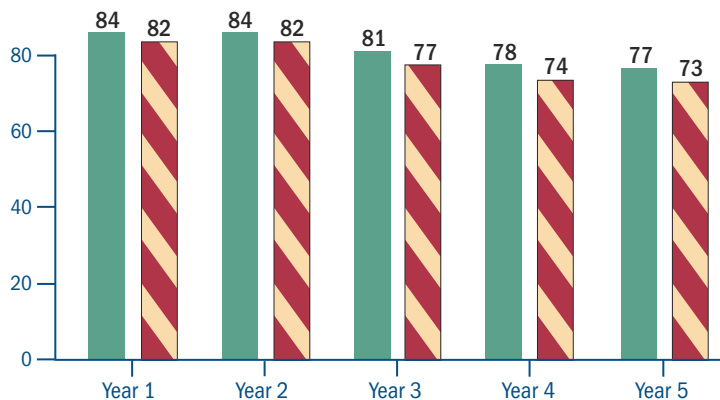
Concentrators were slightly more likely than samplers and nonparticipants with similar demographic and academic backgrounds to attain a certificate or associate's degree but less likely to attain a bachelor's degree.



Workforce outcomes*

Concentrators were more likely to be employed during the first five years after high school than samplers and nonparticipants with similar demographic and academic backgrounds.

Percent of high school graduates employed



Concentrators had higher earnings during their first five years after high school than samplers and nonparticipants with similar demographic and academic backgrounds.

Annual earnings (dollars)



* Employment information was not available for graduates who were employed outside the state, who were self-employed, who entered military service, or whose employer did not report wages to the state (including employees of the federal government), so it was not possible to distinguish them from unemployed graduates. They were treated as unemployed in these analyses. Earnings for graduates designated as unemployed are \$0. Annual earnings were converted to 2013 dollar values using inflation calculations based on the Consumer Price Index for All Urban Consumers, Midwest Region.

More research is needed to explore longer-term outcomes, including whether concentrators continue to have higher employment rates and earnings than samplers and nonparticipants with similar demographic and academic backgrounds five years after high school graduation and beyond.

Teachers and guidance counselors can use these findings to help students understand the postsecondary options available to them if they choose to take career and technical education courses in high school.

Teachers and counselors can help students who are considering concentrating in a single career and technical education pathway understand the college enrollment, college completion, employment, and earnings outcomes of students who have made similar choices and explain that concentrating in a career-oriented course of study does not preclude students from enrolling in a two-year or four-year college, attaining a degree, or becoming employed.

1 How do these findings relate to students in your school and district?

2 What are the CTE offerings for students in your district and in your school?

3 What is your next step?

View the full report: <https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4655>

Citation: Lindsay, J., Austin, M., Wan, Y., Pan, J., Pardo, M., & Yang, J. H. (2021). *Indiana and Minnesota students who focused on career and technical education in high school: Who are they, and what are their college and employment outcomes?* (REL 2021–090). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. <http://ies.ed.gov/ncee/edlabs>

This study was conducted by REL Midwest in partnership with members of the Midwest Career Readiness Research Alliance: https://ies.ed.gov/ncee/edlabs/regions/midwest/partnerships/midwest_career_readiness_research_alliance.aspx

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