



## Career and Technical Education: A Summary of the Evidence



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As of February 2024, there were about 8 million open positions in the labor market at the same time as there were 6.5 million unemployed Americans. One reason is that employers report difficulty finding people with the skills they need — and several federal laws passed in the last few years create even more demand for skilled workers. Among other things, employers are looking for people with strong quantitative and analytic skills, creativity and proficiency in solving complex problems, and good interpersonal communication.

Federal, state, and local policymakers view career and technical education (CTE) as a strategy both for meeting these needs in the labor market and for reducing gaps between students from lower- and higher-income backgrounds — making it one of the few policy areas to continually attract bipartisan support. For example, in 2018, both parties in Congress voted for the law known as Perkins V (the primary source of federal funding for K-12 and postsecondary CTE programs), and both Republican and Democratic regions of the country have launched and invested funding in state and local CTE initiatives: In 2022, 36 states enacted over 120 policies related to CTE, including notable investments in California, Ohio, and Texas.

## The Evidence on CTE

Today's CTE programs take many forms, and are offered through both high schools and colleges. They have a few common components, including work-based learning, employer engagement, partnerships with employers and (for high schools) colleges, career counseling, and small learning communities in which the same students take multiple classes together.

### Many CTE Programs Increase High School Graduation Rates

Much of the evidence on CTE programs to date has concerned CTE in high schools. Many observational studies have shown an association between taking CTE and higher graduation rates and between taking CTE and higher wages. More rigorous studies have focused on specific models that attempt to provide a *career pathway*: a series of structured and connected programs and support services that enable students to advance over time to higher levels of education and training. These studies used random assignment or strong quasi-experimental statistical designs to allow them to attribute students' outcomes to their participation in specific CTE models with more confidence. Several studies have found that career pathways models make students more likely to graduate high school and earn college degrees, and boost their earnings.

### There Is Some Promising Evidence on CTE After High School

CTE is also increasingly popular in colleges and other educational options after high school. Community colleges in particular offer dozens of degrees and certificates in fields such as agriculture, engineering, and construction. There is less evidence so far on how much these programs benefit the students who participate in them — and, in particular, not much strong evidence — but some of the evidence that does exist suggests that people who earn degrees or certificates through them are able to earn more, most notably in fields such as healthcare and information technology.

### CTE and Equity

CTE programs aim to be inclusive, but participation in them varies among students of different races, genders, and socioeconomic statuses. For example, male students are more likely to enroll in engineering CTE courses, while female students often choose healthcare-related CTE. There is evidence that when students from lower-income backgrounds or from underrepresented racial or ethnic groups participate in CTE, they may benefit from it even more than more affluent, more widely represented students. There is also evidence that students with disabilities who take CTE courses and programs are more likely to graduate on time and to earn industry-recognized credentials than their peers.

### CTE and Young Men

For many decades, young men have been falling behind young women academically. Since 1980, female students have graduated high school at higher rates than male students, and have enrolled in college at higher rates — as more and more jobs have come to require college degrees. But some CTE programs have been a bright spot in helping young men succeed, as multiple studies of high school programs have found positive effects among male students in particular.

## To Do

As CTE continues to grow, it will benefit from investments in the following areas:

1. Expanding evidence-based models in ways that allow them to remain faithful to their models while adapting to different labor markets and contexts
2. Ensuring equitable access to CTE for underrepresented students, through public schools, community colleges, and regional comprehensive universities
3. Expanding the evidence base of the policies and practices associated with student success, to build on that success and to understand the variation in effects for different student subgroups

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