The Impacts of Gender and Income on Career and Technical Education

By Mary Cashen, 2012 Visiting Graduate Scholar

For decades, high school students have taken technical training classes that prepare them for jobs, but little research has examined the impact these classes have on whether those students go to college.

In a new study, Center for Poverty Research 2012 Visiting Graduate scholar Mary Cashen finds that both family income and gender predict which students are more likely to complete high school Career and Technical Education (CTE) courses, as well as which will pursue a two- or four-year degree.

**Key Findings**

- Students from families with incomes below $25,000 per year are likely to complete more CTE units and fewer other high school units than their higher-income peers.
- About 46% of low-income male students completed courses in computer science, agribusiness, construction trades, mechanics and repairs or precision production, compared to 16% of low-income females.
- To complete traditionally female-dominated vocational courses, such as family and consumer science, makes it less likely a student will enroll in a two- or four-year college.

Over 95 percent of high school students took at least one CTE course in 2000, and approximately one fourth took three or more courses in the same CTE concentration. American high schools students continue to complete CTE courses, which makes it imperative to understand the consequences they have on later education attainment and earnings.

**About the Center**

Over the past 50 years, the U.S. has experienced a rising standard of living without reducing the fraction of the population that live in poverty. In response to this, the Center for Poverty Research at UC Davis is one of three federally designated National Poverty Centers whose mission is to facilitate non-partisan academic research on poverty in the U.S., to disseminate this research, and to train the next generation of poverty scholars. Our research agenda spans four themed areas of focus:

- Labor Markets and Poverty
- Children and the Intergenerational Transmission of Poverty
- The Non-traditional Safety Net, focusing on health and education
- The Relationship Between Poverty and Immigration

The Center was founded in the fall of 2011 with core funding from the Office of the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services.

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The Data on Career and Technical Training

This study focuses on outlooks for career and technical education (CTE) in U.S. high schools in the 21st century. It analyzes CTE course-taking patterns for male and female students from different socioeconomic backgrounds, and strives to make conclusions about what policies would improve high school curriculum for those students who are least likely to complete college.

This study uses data from the Educational Longitudinal Study of 2002 (ELS: 2002), a nationally representative dataset of high school sophomores in 2002, as well as a second and third wave of data collection in 2004 and 2006. Analyses were conducted only for non-private school students for whom complete high school transcript data was available.

CTE courses are identified as male or female if they were found with a t-test to be dominated by one gender or another. Female-dominated courses were in family and consumer science or home economics, while male-dominated courses were in computer science, agribusiness, construction trades, mechanics and repairs or precision production.

Gendered Courses of Study

The results indicate that young women complete significantly more family and consumer science education, business and office, allied health and health sciences and vocational home economics units than their male counterparts. This is consistent with previous research. Males from low-income families, and those with parents without college degrees, are less likely to participate in female-dominated vocational courses. Males from families with higher income, and whose parents have a higher level of education, are not as deterred.

CTE and College Enrollment

Gendered vocational education courses have different effects for males and females. To complete traditionally female-dominated vocational education courses reduced the likelihood that the participant would enroll in a two- or four-year college. Students who completed male-dominated vocational courses were no more or less likely to attend a two- or four-year college. However, those who concentrated in a specific vocation, like culinary school or construction, were less likely to enroll in a four-year college.

In the “College for All” era, where all students are expected to go to college, careful consideration needs to be taken when enrolling students in vocational coursework, particularly among women. Prior research has shown that, in fact, students trained in female-dominated vocational courses are at a large wage disadvantage compared to those who enroll in a male-dominated vocational education. This means that not only are women who pursue a female-dominated vocational education less likely to go to college, they are also less likely to earn a living wage.