

The Effects of Project Lead the Way on the Probability of College Attendance, Majoring in a STEM Discipline, and Majoring in Engineering

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Abstract

In order to remain globally competitive, the United States must substantially increase the percentage of the population holding postsecondary degrees and credentials. It is doubly important that the United States increase degree attainment in STEM disciplines, particularly engineering. Project Lead the Way (PLTW) is a nonprofit organization that delivers STEM-related, problem based learning, programs to more than 5,000 elementary, middle, and high schools in the United States. The purpose of the program is to increase the number of students attending college and to increase the number of STEM majors and professionals in the United States. The present research represents an evaluation of the success of PLTW in Indiana using data on 59,917 high school graduates in 2010. Preliminary results, based on logistic and multinomial logistic regression, revealed evidence of a dosage effect. Specifically, participating in 1 or 2 PLTW engineering courses had no significant effect on attending a four-year college or university and had small, but statistically significant effects, on majoring in a STEM discipline and majoring in engineering. Participating in 3 or more PLTW courses had statistically significant and substantial positive effects on all three outcomes. Analyses designed to account for selection effects using inverse-probability weighted regression adjustment and augmented inverse-probability weighted estimators confirmed preliminary findings.