

## Citation

Elliott, M., Hanser, L., & Gilroy, C. (2002). Career Academies: Additional evidence of positive student outcomes. *Journal of Education for Students Placed at Risk*, 7(1), 71–90.

## Highlights

- The study examines the effect of the Junior Reserve Officers Training Corps Career Academies (JROTCCA) on student attendance, grade point average (GPA), and high school graduation.
- Using school administrative records, the study reports the four-year impacts for students who entered a JROTCCA in the 1994–1995 school year, and one-year impacts for the students who entered a JROTCCA in the 1995–1996 school year, compared with one of three control groups: (1) students in other academy or magnet programs, (2) students in regular non-Career Academy (CA) Junior Reserve Officers' Training Corps (JROTC) programs, and (3) students in a general academic program. About 27,500 students from eight schools in five urban high school districts participated in the study.
- The authors reported several positive impacts of the JROTCCA program, including a reduction in the failure to graduate, substantial increases in the proportion of graduates with high GPAs, and a reduction in the proportion of students with low GPAs, compared with students in non-CA JROTC programs and general academic programs. However, some JROTCCA groups had statistically significantly higher first-year absenteeism rates than their magnet school counterparts.
- The quality of the causal evidence presented in this study is low because the analysis did not adequately control for characteristics of the students before their entry into JROTCCA. This means that we are not confident that the results estimated in the study are attributable to JROTCCA; other factors are likely to be responsible.

## Features of the Junior Reserve Officers Training Corps Career Academies

The JROTCCA program aimed to address the needs of at-risk students and increase their likelihood of graduating from high school. Consistent with the CA model, JROTCAs are structured as “schools within a school,” with a designated set of students and teachers, block scheduling of student participants to the same CA classes, planning time for teachers, an occupational focus in the curriculum and activities, integrated academic and vocational classes, reduced student:teacher ratios, and local business partners. In addition, JROTCAs incorporated a JROTC class taught by a retired military instructor that emphasized civic values, citizenship, leadership, and discipline, and offered extracurricular military learning activities.

All 9th- and 10th-grade students considered at risk of dropping out were recruited to participate in the JROTCCA in their school. Students could either self-select into the program or be placed in the program by their parents or guidance counselors.

## Features of the Study

The study used a nonexperimental design to examine the effects of participation in JROTC on high school GPA, high school graduation, and absenteeism. Within each district that housed a JROTC program, administrative officials selected similar comparison schools, which, in theory, contained students who were eligible to attend JROTC before their assignment to a particular school. The authors used these schools to generate three comparison groups for each cohort of JROTC students: (1) students in other academy or magnet programs, (2) students in regular non-CA JROTC programs, and (3) students in a general academic program. The study included 18 cohorts of students across five schools, with a total of 27,490 students participating in JROTC or one of the comparison groups.

The authors first predicted the probability of assignment to the JROTC program among students in the comparison group(s) within each site. They then used these weights and regression models to estimate the program's impacts separately for each of the 10 cohorts. In the regression models, the authors controlled for race and ethnicity, gender, school, cohort, prior test scores, prior-year attendance, prior GPA, and prior credits attempted and earned, using data from school administrative records.

## Findings

- The authors reported a 15 to 25 percent reduction in dropout/failure to graduate rates, substantial increases in the proportion of graduates with high GPAs, and a reduction in the proportion of students with low GPAs for participants in JROTCs, compared with students in non-CA JROTC programs and general academic high schools.
- Six of the 10 JROTCs reported significantly higher first-year GPAs than at least one of their control counterparts, with differences ranging from 0.05 to 0.48 points.
- Nine of the 10 JROTCs reported significantly lower first year absenteeism rates than at least one of their control counterparts, with differences ranging from -4 to -19 percentage points.
- However, two of the JROTC schools had significantly higher first year absenteeism rates than their magnet school counterparts.

## Considerations for Interpreting the Findings

The amount of missing data in this study was high. Baseline math and reading standardized achievement scores were missing for 35 percent of the sample. Baseline data on attendance, GPA, and credits attempted and earned were not available for students that began the JROTC program in ninth grade (16 of the 18 cohorts examined). The high degree of missing data implies that, despite the statistical matching techniques the authors used, we cannot be confident that the two groups were well matched on important measures of academic achievement before program enrollment.

## Causal Evidence Rating

The quality of the causal evidence presented in this study is low because the analysis did not adequately control for characteristics of the students before their entry into JROTC. This means that we are not confident that the results estimated in the study are attributable to JROTC; other factors are likely to be responsible.