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Career Academies Impacts on Labor Market Outcomes and Educational Attainment

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Today, high schools face more pressure than ever to produce graduates who can enter and succeed in post-secondary education. At the same time, high schools have been pressed to rethink the way they prepare young people for transitions to the world of work, whether or not this path leads through post-secondary education. Specifically, new school-to-work transition strategies have emphasized partnerships with local employers, use of a broad array of career development strategies beyond training in specific skills, integration of academic and career-related coursework, and work-based teaching and learning.

Meanwhile, transitions from school to work have become increasingly complex and, for many young people, problematic. More and more young people are combining post-secondary education and work, or are moving between school and work to accommodate shifting individual preferences, economic conditions, and available opportunities. Today's labor market provides fewer entry-level, career-oriented jobs for young workers, typically those between ages 18 and 26. Employment prospects have become particularly bleak for youth with less than two years of post-secondary education, as their earnings have declined precipitously in recent years relative to the earnings of those who have college degrees. Hardest hit have been young men of color and from low-income communities. These trends in the youth labor market and the economy as a whole have placed increasing pressure on high schools to provide higher-quality opportunities that prepare their students for work as well as for higher education.

Career Academies offer high schools — particularly those in urban communities that struggle to keep students in school and to prepare them for post-secondary education and employment opportunities — a systematic approach to addressing a range of challenges. Typically serving between 150 and 200 students from grades 9 or 10 through grade 12, Career Academies have three distinguishing features: (1) they are organized as small learning communities to create a more supportive, personalized learning environment; (2) they combine academic and career and technical curricula around a career theme to enrich teaching and learning; and (3) they establish partnerships with local employers to provide career awareness and work-based learning opportunities for students. There are estimated to be more than 2,500 Career Academies across the country, operating either as a single program or as multiple programs within a larger high school.

Although there is a rich body of research into Career Academies and other school reforms that aim to accomplish multiple and complex goals, there is little rigorous evidence from which to judge the initiatives' *long-term* effectiveness. Do investments in career-related interventions in high school really pay off in the labor market? Does preparation for healthy transitions from school to work come at the expense of college readiness? To what extent can career-related high school initiatives pave the way for youth — particularly young men with limited post-secondary education — to enter jobs that offer high earnings and viable career paths?

Since 1993, MDRC has been conducting a uniquely rigorous evaluation of the Career Academy approach in a diverse group of nine high schools across the country. The high schools are located in medium- and large-sized school districts and reflect many of the stressful conditions found in urban settings. The participating Career Academies were able to implement and sustain the core features of the approach, and they served a cross-section of the student populations in their host high schools. The evaluation is being funded by the U.S. Departments of Education and Labor and by 17 private foundations and organizations.

The Career Academies Evaluation is one of the few studies of a school reform initiative that uses the design of a randomized, controlled field trial. Because more students applied for the Academy programs than could be served, applicants were randomly selected to enroll (the Academy group). The remaining students constitute the study's non-Academy control group. Subsequent differences in outcomes between the two groups provide valid estimates of the Academies' impacts. This type of research design is widely considered to be the most reliable way to measure the effectiveness of interventions such as Career Academies. The evaluation is also unusual among studies of school reforms for following both groups of students from the beginning of high school through four years after scheduled graduation.

MDRC's earlier reports from the evaluation indicate that Career Academies appear to have been most effective at influencing those aspects of school functioning and student and teacher experiences that are closest to the core features of the approach. Students in the Academy group reported higher levels of interpersonal support from their teachers and peers than did students in the non-Academy group. For students who entered the programs at high risk of dropping out, the Academies increased the likelihood of their staying in school through the end of 12th grade, improved attendance, and increased the number of credits earned toward graduation. The Career Academy–employer partnerships, in particular, provided students with a much broader array of career-awareness and development experiences both in and outside school, including work-based learning internships. At the same time, the Academies evaluation appears to have had less influence on curriculum content and teachers' instructional practice. Previously reported findings even suggest that some Academy students may have substituted more career-related courses for their academic core courses and thereby mitigated the employment-related benefits of the programs.

This report examines the impact that Career Academies have had on the educational attainment and post-secondary labor market experiences of young people through the four years

following their scheduled graduation from high school. It is based on survey data collected from 1,458 young people in the Career Academies Evaluation study sample (about 85 percent of whom are either Hispanic or African-American).

Impacts on Labor Market Outcomes

- **The Career Academies produced positive and sustained impacts on a range of labor market outcomes among the young men in the study sample.**

The Career Academies increased earnings for young men by an average of \$212 per month over 48 months (see Exhibit ES.1). This amounts to an 18 percent increase over the non-Academy group's average earnings of \$1,161 per month, and it totaled to more than \$10,000 in additional earnings for the Academy group over the 48-month follow-up period. The Career Academies' impact on earnings for young men is substantially larger than the roughly \$100 difference in monthly earnings that has been found in other research that compared the earnings of young workers who have one or two years of post-secondary education with the earnings of their counterparts who have only a high school diploma or a General Educational Development (GED) certificate. These findings are noteworthy in light of the declining labor market prospects for young men in recent years, particularly among young men with limited post-secondary education.

The Career Academy impacts on total earnings resulted from the combined impacts that the programs had on the number of months employed, hours worked per week, and hourly wages. In other words, Career Academies were likely to have helped the young men obtain better-paying jobs and jobs that afforded them the opportunity to work more hours (more often in full-time rather than part-time jobs).

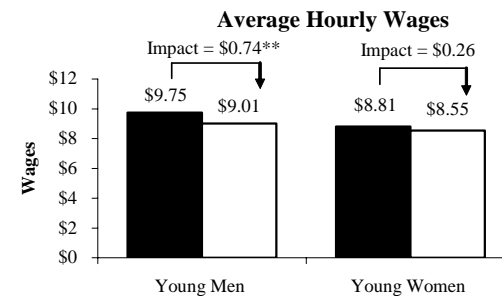
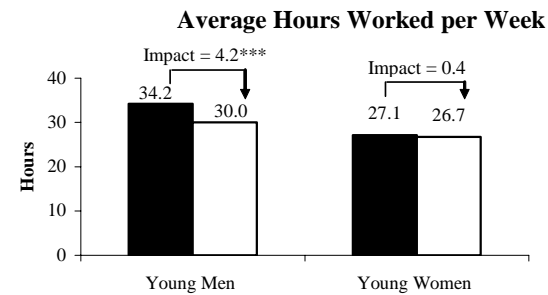
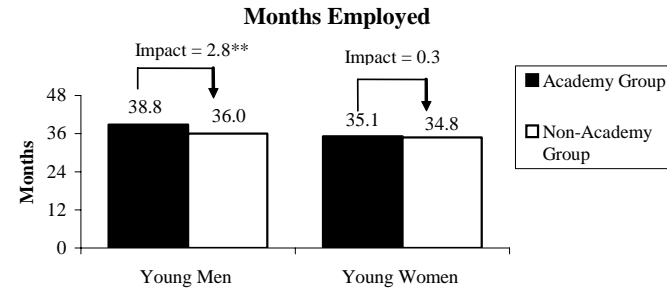
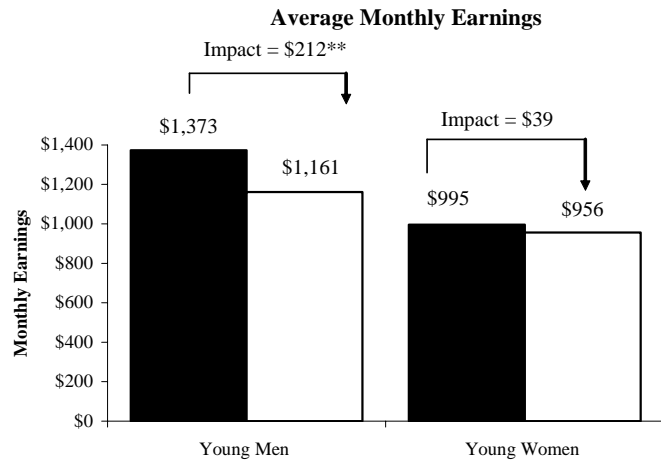
- **Overall, the Career Academies had no impacts (positive or negative) on labor market outcomes for young women.**

Average monthly earnings, number of months employed, hours worked per week, and hourly wages were very similar overall for young women in the Academy and non-Academy groups (see Exhibit ES.1). One reason for the lack of post-high school labor market impacts among young women may be that the young women in the sample were more focused, relative to the young men, on attending post-secondary education programs or taking care of their children. Further analysis did reveal, however, that young women with children may have experienced some boost in their labor market prospects from the Career Academies. Among young women who had children, those in the Academy group were employed for more months during the follow-up period, and they earned about \$107 more per month than those in the non-Academy group. (It should be noted that these differences are not statistically significant and may not reflect the impact of Career Academies.)

Career Academies Evaluation

Exhibit ES.1

Impacts on Average Monthly Earnings and Components of Earnings, by Gender



SOURCE: MDRC calculations from the Career Academies Evaluation Four-Year Post-High School Follow-Up Survey.

NOTES: Measures reflect averages over the 48-month period following scheduled high school graduation for each sample member. A two-tailed t-test was applied to differences between the Academy and non-Academy groups (impacts). Statistical significance levels are indicated as *** = 1 percent; ** = 5 percent; and * = 10 percent.

Monthly earnings were calculated by multiplying each sample member's reported hourly wage times the hours worked per week times the number of weeks worked per month. For months in which sample members did not report being employed, zero values were used for monthly earnings and the components of earnings.

Hourly wages and weekly hours worked reported by sample members at the conclusion of each job were applied to the full duration of the job. Thus, if wages or hours increased or decreased during the job, these measures may over- or underestimate true monthly earnings. Additional analyses indicate that the pattern of impacts was not sensitive to various assumptions about changes in wages or hours.

- **The Career Academies produced substantial increases in employment and earnings for students who entered the programs at high or medium risk of dropping out of high school.**

Among students who entered high school at the highest risk of dropping out, the Academies increased earnings by an average of \$168 per month, or 16 percent, compared with the non-Academy group's average monthly earnings of \$1,036. The impact for the medium-risk subgroup was an average increase of \$141 per month, or 14 percent more than the non-Academy group's average monthly earnings. The Career Academies also produced positive impacts in terms of the number of months employed, hours worked per week, and hourly wages, although some of the impacts for the smaller high-risk subgroup are not statistically significant.

The lack of impacts on labor market outcomes for the low-risk subgroup may be due, in part, to the fact that this group made a substantial investment in post-secondary education during the follow-up period. For example, those in the low-risk subgroups (from both the Academy and the non-Academy group) spent just over 30 months enrolled in post-secondary education programs, and over 40 percent were still working on a post-secondary education credential at the end of the follow-up period.

Impacts on Educational Attainment

- **Overall, the Career Academies had no impacts (positive or negative) on educational attainment, although high school completion rates and post-secondary enrollment and attainment rates were higher than national averages.**

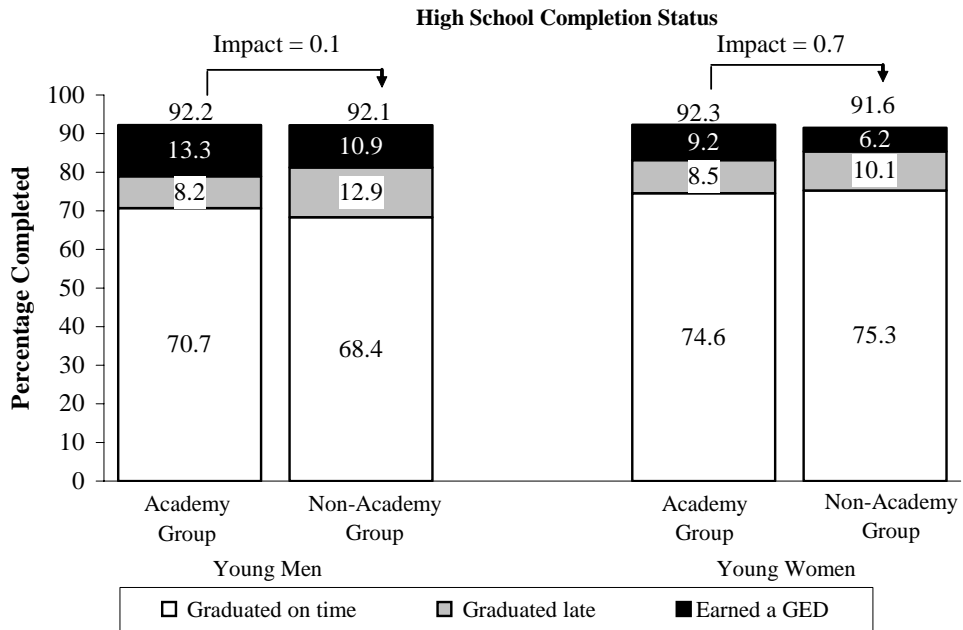
Over 90 percent of the young people in the Academy and non-Academy groups graduated from high school or received a GED, and nearly 80 percent enrolled in some type of post-secondary education program. By the end of the four-year post-high school follow-up period, over half of those in both the Academy and the non-Academy group had either completed a post-secondary credential (a bachelor's degree, an associate's degree, or a training license or certificate) or were still working toward a credential. These educational attainment levels are higher than national averages for similar students from similar school districts.

Exhibit ES.2 shows that the overall high school completion rates were very similar for young men and young women. The young women were somewhat more likely to graduate from high school on time, but the Career Academies did not have an impact on on-time graduation rates for either group. It should be noted that the 4.7 percentage point reduction in late graduation rates for young men was balanced by a slight increases in on-time graduation and GED receipt rates.

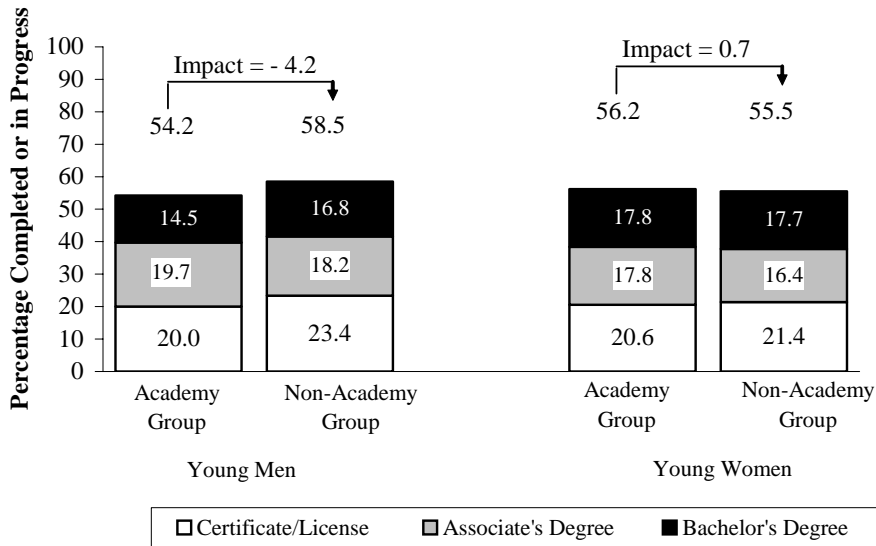
Career Academies Evaluation

Exhibit ES.2

Impacts on Educational Attainment, by Gender



Highest Post-Secondary Credential Completed or in Progress Four Years After High School



(continued)

Exhibit ES.2 (continued)

SOURCE: MDRC calculations from the Career Academies Evaluation Four-Year Post-High School Follow-Up Survey.

NOTES: Statuses reflect the 48-month period following scheduled high school graduation for each sample member.

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between the Academy and non-Academy groups (impacts). Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Students must have earned a high school diploma or GED to be considered enrolled in a post-secondary education program.

A credential was considered "in progress" if the student reported being enrolled in a program within three months of the end of the follow-up period and expected to complete the credential.

Exhibit ES.2 also indicates that the young men experienced a slight decline in the rates at which they completed, or were still working toward, post-secondary credentials. In addition to being relatively small and not statistically significant, the difference also reflects somewhat higher attrition rates among those in the non-Academy group, which may further erase the slight reduction in completion rates over time. By the end of the follow-up period, over half the young men in the sample had earned a post-secondary credential or were still working on one. Overall, the substantial, positive impact on labor market outcomes for young men does not appear to have come at the expense of systematically reducing their prospects for post-secondary education.

- **The Career Academies modestly reduced enrollments in post-secondary education among those who entered the programs at highest risk of dropping out of high school. This does not appear to have diminished the Academies' impact on employment and earnings for this subgroup.**

At the end of the follow-up period, 40 percent of the high-risk Academy group and 49 percent of the high-risk non-Academy group had either completed a post-secondary credential or were still working on one. Although this 9 percentage point reduction in educational attainment is not statistically significant, it is sufficiently large to raise a caution about potential tradeoffs between education and work. Most of this difference, however, occurred in the rates of completing a short-term training license or certificate. By the end of the four-year follow-up period, the reduction evident in these limited education credentials does not appear to have diminished the increased earnings power that accrued to the Academy group. In fact, the Career Academies' impact on earnings for this subgroup in the last year of follow-up was substantially larger than in any of the preceding three years.

Implications of the Findings

- **The findings provide convincing evidence that increased investments in career-related experiences during high school can improve post-secondary labor market prospects.**

A growing body of descriptive analyses suggests that increases in career-technical course-taking and engagement in higher-quality, work-based learning programs during high school are associated with better labor market outcomes after high school. This evaluation finds that Career Academies produced impacts on monthly earnings for young men that exceed the differences in earnings that have been found between young workers with one or two years of post-secondary education and those who only have a high school diploma. Although one should not conclude from this that Career Academies can substitute for post-secondary education below the associate's-degree level, the findings seem to suggest that Academies do produce benefits in the labor market that are commensurate with those associated with continuing investment in post-secondary programs.

- **The findings demonstrate the feasibility of accomplishing goals of school-to-career and career-technical education without compromising academic goals.**

Like many approaches to education reform, the Career Academy model has many and varied goals. Career Academies aspire to prevent students from dropping out of high school and to prepare them for college and other post-secondary education opportunities. At the same time, Career Academies provide students with an explicit introduction to the world of work and try to furnish them with skills and connections to help them navigate the transition from high school to successful employment. Many critics of school-to-work transition initiatives and career-technical programs contend that programs like Career Academies track students into classes and work experiences that orient them toward immediate entry into the labor market. Such criticism sometimes suggests that this orientation comes at the expense of preparation for and opportunities to attend college. In this study, however, the high rates of enrollment in post-secondary education programs and the sustained impacts on employment and earnings suggest that such tradeoffs need not occur.

- **The findings suggest that Career Academies should make special efforts to serve students who are at risk of dropping out of high school.**

One theme that has evolved from the Career Academies Evaluation is that students who enter the programs at high or medium risk of dropping out of high school tend to benefit most from exposure to the programs. Earlier findings indicate that high-risk students experienced modest reductions in dropout rates and increases in attendance and course-taking (although these did

not translate into impacts on graduation or post-secondary enrollment rates). The present findings indicate that the Academies' strong labor market impacts were concentrated among the high- and medium-risk subgroups. Even for the high-risk subgroup, impacts on labor market outcomes grew over time, despite the modest reductions in post-secondary education enrollments.

These findings suggest that Career Academies should make greater efforts to attract and retain high- or medium-risk students. At the same time, however, targeting such students exclusively might lower expectations for the program among teachers, students, and parents. More important, the implementation research for this evaluation indicates that the Academies draw much of their power to improve interpersonal supports and increase engagement from the diversity of their student bodies.

Several school districts and school reform initiatives around the country are now attempting to convert entire high schools into clusters of Career Academies. Instead of giving students the option of enrolling in traditional general or vocational programs, these wall-to-wall Academies offer students a choice among different Academies that combine academic and career-related curricula. This approach may have the greatest potential for maximizing high-risk students' access to the programs (because all students would be required to enroll in an Academy) while ensuring that the Academies include a broad mix of students. These high schools and reform initiatives, however, face the related challenges of preventing high-risk students from being tracked into poorly implemented Academies and of ensuring a high level of implementation on a larger scale.

- **The Career Academies Evaluation demonstrates the feasibility, benefits, and challenges of conducting a longitudinal random assignment evaluation of a prominent high school reform approach.**

The Career Academies Evaluation is one of the few longitudinal random assignment evaluations of a school-based education intervention. Without the random assignment research design and the extended follow-up period, it is likely that an alternative approach to the study would have yielded misleading findings and conclusions. For example, statistical comparisons with national data might suggest that the Career Academies represent a substantially better educational opportunity than many alternatives available to similar students from similar schools and school districts across the country. The availability of a valid control group — determined by the random assignment design of the evaluation — shows that the Career Academies in this study tended to attract students (by a combination of self-selection and program selection) who were likely to do well in high school and post-secondary education even if they had not been exposed to the Career Academies.

Next Steps for the Evaluation

The full story of Career Academies' effectiveness may still be unfolding. The young men and women in the study sample were about 22 years old at the time they were contacted for the most recent follow-up survey. Most were still somewhat unsettled in their transition to self-sufficient adulthood. Nearly one-third of these young people were still enrolled in education programs, and most had not yet started families. Very few had settled on a long-term career. These factors leave unanswered a number of important questions about the longer-term effects of the Career Academies: Will the substantial impacts on employment and earnings outcomes for young men continue as they become more dependent on higher-wage, career-oriented jobs to support their families? Will these benefits eventually accrue to young women? Will the young men and women who were engaged in Career Academies remain in (or return to) post-secondary education programs at higher rates than their counterparts from the control group?

To address these and other issues, the evaluation is collecting data on students' education and labor market experiences over an additional four-year period. This will mark an eight-year post-high school follow-up period and nearly 12 years since these young people first entered the study sample. The goal of this ongoing work is to determine whether the Career Academies enable students to make better choices about post-secondary education and employment and whether their choices lead to higher educational attainment and entry into higher-wage, more career-oriented jobs.