Executive Summary

This report examines how Career Academies, one of the oldest and most widely established high school reforms in the United States, influence students' preparation for and transitions to post-secondary education and the labor market. Since the first Career Academies were established more than 30 years ago, they have been characterized by three features: (1) a school-within-a-school organizational structure aimed at creating a more supportive, personalized learning environment; (2) curricula that combine academic and career or technical courses to enrich teaching and learning; and (3) partnerships with local employers to increase career awareness and provide work-based learning opportunities.

Over the past 10 years, Career Academies have spread rapidly as states, school districts, and individual schools look to the approach as part of a solution to a range of problems facing large comprehensive high schools. The rapid growth of the Academy movement, which now encompasses an estimated 1,500 to 2,500 schools nationwide, has been accompanied by an expansion of the model's target population and goals. Whereas Career Academies originally focused on keeping students at high risk of dropping out enrolled in high school and on readying such students for the world of work, since the early 1990s they have aimed to prepare a mix of high-performing students and high-risk students for both college and employment. These developments have fueled the need for reliable evidence about how Career Academies affect students' performance in high school and their transitions to further education and careers.

With funding from the U.S. Departments of Education and Labor and 17 private foundations and organizations, the Manpower Demonstration Research Corporation (MDRC) began evaluating the Career Academy approach in 1993. The Career Academies Evaluation is one of the few studies of a school reform initiative that compares the experiences of students who applied to participate in the initiative and were randomly selected to enroll (the Academy group) with those of students in the same schools who applied for the initiative but were randomly selected not to enroll (the non-Academy group). The differences between the two groups serve as estimates of the Academies' impacts on students' outcomes. This type of research design is widely considered to be the most reliable way to measure the effectiveness of selective, voluntary 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 several years after graduation.

The nine participating high schools had implemented the three basic features of the Career Academy approach when they were selected for inclusion in the evaluation. As a group, they reflect the typical conditions under which Academies have operated during the past decade: All are located in or near urban areas, and each school's Academy sought to serve a mix of students ranging from those at high risk of dropping out to those highly engaged in school.

Focusing on the year after students' scheduled graduation from high school, this report examines these Career Academies' effects on graduation rates, post-secondary education enrollment, and labor market participation. The primary data were obtained from a survey administered to nearly 1,500 students in the study sample — about half of whom had been randomly assigned to Academies and about half of whom had been randomly assigned to other high school pro-

grams — approximately 14 months after their scheduled high school graduation (hereafter referred to as the "year after scheduled graduation" or the "year after high school").

Previously Reported Findings

Evidence presented in previous reports from the evaluation indicates that the participating Career Academies changed students' high school experiences in ways that are consistent with the short-term goals of the Academy approach:

- Relative to other high school programs, the Academies increased the level of interpersonal support that students received from their teachers and peers.
- Compared with their non-Academy counterparts, Academy students were more likely to combine academic and career or technical courses and to participate in career awareness and work-based learning activities.
- For students who entered the programs at high risk of dropping out, the Academies increased the likelihood of staying in school through the end of the 12th-grade year, the attendance rate, and the number of credits earned toward graduation.
- For students at medium or low risk of dropping out, the Academies increased access to career or technical courses and raised participation in career development activities without reducing academic course-taking.

Previously reported findings also revealed the following limits on the Academies' effectiveness:

- More than one-third of the students who enrolled in the Academies left the programs before the end of their 12th-grade year.
- The Academies that did not increase the interpersonal supports that students received from teachers and peers reduced student engagement — as reflected in school attendance, course-taking, and dropout rates — for some students.
- The Academies had little influence on course content and instructional practices and did not affect standardized test scores for any subgroup of students.

New Findings

The evidence presented in this report addresses three key questions:

1. What were the high school graduation rates and early college and work experiences of the non-Academy students, who in this research design set the standard against which Academy students are compared?
2. What impacts did the Career Academies have on these outcomes?

3. To what extent did the Career Academies' impacts differ across subgroups of students with characteristics associated with being at high, medium, or low risk of dropping out of high school?

Following is a summary of the findings.

- **Relative to similar students nationally, the non-Academy group achieved high rates of high school graduation, college enrollment, and employment.**

Owing to the study's random assignment research design — which ensures that there were no systematic differences between the Academy and non-Academy groups at the outset of the study — the outcomes for the non-Academy group are the best benchmark against which to measure the impacts of the Career Academies on the Academy group. As shown in Table ES.1, which presents several key outcomes for the non-Academy group, a large majority of non-Academy students graduated from high school on time, and a majority went on to post-secondary education programs during the following year.

Table ES.1 places the non-Academy outcomes in the context of outcomes for a nationally representative group of students with similar background characteristics who were enrolled in urban comprehensive public schools. The non-Academy students generally fared better than similar students who were enrolled in career or technical programs, on a par with or better than students in general curriculum programs, and somewhat worse than students enrolled in academic or college preparatory programs. Overall, the performance of the non-Academy group thus sets a formidable standard for the Academy group to exceed.

- **On average, the Career Academies had little impact on high school graduation rates and initial post-secondary outcomes. The relatively high outcome levels achieved by Academy students were matched by those for their non-Academy counterparts.**

Table ES.2, which presents the high school completion, post-secondary education enrollment, and employment rates for the Academy and non-Academy groups, makes clear that there were virtually no differences between the groups during the year after scheduled high school graduation. The lack of impacts on these transitional outcomes appears to be inconsistent with the substantial differences between Academy and non-Academy students' high school experiences documented in previous reports from the study. Two factors may help account for the discrepancies. First, judging from the non-Academy group's high outcomes relative to those for national samples, it appears that the students who applied to the Career Academies would have found other routes to graduation and post-secondary education without the programs. Second, the benefits that accrued to Academy students during high school may not have related directly enough to students' immediate post-high school transitions or may not have been substantial enough to affect these transitions. Longer-term follow-up will reveal whether the benefits eventually lead to higher levels of educational attainment or greater labor market success.

- **Among students at high risk of dropping out, the Career Academies' impacts were less pronounced during the year after high school than they were during high school.**

Career Academies Evaluation

Table ES.1

Outcomes for the Non-Academy Group and the NELS Sample

Outcome (%)	Non-Academy Group	NELS Sample		
		Career/ Technical	General	Academic
Earned high school diploma or GED	86.7	81.4	86.2	88.5
On-time graduate	74.4	63.8	68.8	84.7
Late graduate	7.4	14.0	11.3	3.5
Earned a GED or other certificate	5.0	3.6	6.1	0.3
Enrolled in post-secondary education degree program	54.6	41.8	43.9	53.5
Bachelor's degree program	15.5	20.7	15.6	26.1
Associate's degree program	27.8	17.0	17.5	18.6
Skills training program	11.3	4.1	10.8	8.8
Ever employed	87.2	84.5	82.6	80.0
Sample size	665	269	886	744

SOURCE: MDRC calculations from the Career Academies Evaluation Post-High School Follow-Up Survey Database and the National Education Longitudinal Study (NELS), 1988-1994 data.

NOTES: All measures reflect status at the end of August in the year following scheduled high school graduation.

The NELS sample includes only students who were enrolled in a nonselective urban public high school in 10th grade.

Students were considered on-time graduates if they received their diploma by the end of June in the year they were scheduled to graduate.

Post-secondary education measures reflect the highest degree programs in which students enrolled. Students must have earned a high school diploma or GED to be considered enrolled in these programs.

Ever employed means having ever worked for pay during the follow-up period.

MDRC estimates were regression-adjusted using ordinary least squares, controlling for background characteristics.

The NELS estimates were regression-adjusted and mean-centered to reflect outcomes for students who had the same distribution of background characteristics as non-Academy sample members.

No tests of statistical significance were performed.

Career Academies Evaluation

Table ES.2

Impacts on High School Completion, Post-Secondary Education, and Employment

Outcome (%)	Academy Group	Non-Academy Group	Impact (Difference)	Percentage Change
Earned high school diploma or GED	87.2	86.7	0.5	0.6
On-time graduate	74.0	74.4	-0.4	-0.5
Late graduate	5.8	7.4	-1.6	-21.8
Earned a GED or other certificate	7.5	5.0	2.5	49.6
Enrolled in post-secondary education degree program	54.8	54.6	0.2	0.3
Bachelor's degree program	14.7	15.5	-0.9	-5.6
Associate's degree program	27.3	27.8	-0.5	-1.8
Skills training program	12.8	11.3	1.6	13.9
Ever employed	88.7	87.2	1.5	1.7
Sample size (N=1,482)	817	665		

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

NOTES: All measures reflect status at the end of August in the year following scheduled high school graduation.

Students were considered on-time graduates if they received their diploma by the end of June in the year they were scheduled to graduate.

The post-secondary education measures reflect the highest degree programs in which students enrolled. Students must have earned a high school diploma or GED to be considered enrolled in these programs.

Percentage change equals the impact divided by the non-Academy group average.

Ever employed means having ever worked for pay during the follow-up period.

Estimates were regression-adjusted using ordinary least squares, controlling for background characteristics.

A two-tailed t-test was applied to differences between the Academy and non-Academy groups. The difference in receipt of a GED or other certificate was statistically significant at the 5 percent level. No other differences between the Academy and non-Academy groups in this table were statistically significant.

Earlier findings from the evaluation indicate that the Academies increased school engagement — as reflected in higher school attendance rates and lower dropout rates — and facilitated progress toward graduation among students who entered the programs at high risk of dropping out. The findings in the current report are more mixed. For the high-risk subgroup, the Academies led to a modest (though not statistically significant) increase in the on-time graduation rate and in the likelihood of completing a basic academic core curriculum. Also, the Academies produced a statistically significant increase in the proportion of high-risk students who earned a one-year post-secondary license or certificate. During the year after scheduled graduation, however, students in the non-Academy group "caught up" with Academy students by graduating from high school late and enrolling in bachelor's or associate's degree programs at about the same rates as the Academy students. By the end of the year after high school, there was virtually no difference between the Academy and non-Academy students in the high-risk subgroup in the amount of time spent attending post-secondary education, working, or combining the two.

- **In general, the findings for students who entered the program at medium or low risk of dropping out of high school were consistent with those for the full sample: Academy and non-Academy students did well relative to national samples, but the two groups' education and labor market outcomes were comparable.**

With few exceptions, the Academies had no impacts on key transitional outcomes for students in the medium- and low-risk subgroups. For the medium-risk subgroup, there were two notable statistically significant impacts. On the one hand, the Academy group was somewhat more likely to earn a General Educational Development (GED) credential instead of a high school diploma. On the other hand, although the Academy and non-Academy students in the medium-risk subgroup were equally likely to be employed during the year after high school, on average the jobs held by Academy group members paid a higher hourly wage.

Implications

- **The findings indicate that Career Academies offer a viable pathway to high school graduation and post-secondary education.**

Career Academies have been associated most notably with career and technical education and the school-to-work movement. Some critics of Career Academies and related education strategies have argued that Academies primarily target students who do not plan to go to college, tracking them into classes and work experiences that orient them toward immediate entry into the labor market. Other critics maintain that Career Academies induce college-bound students who are attracted to the programs to substitute career and technical classes and work experience for academic classes and experiences that would qualify them for college.

Overall, the present findings suggest that neither line of criticism is well founded. The Career Academies in this evaluation prepared most of their students to graduate from high school and enroll in post-secondary education. In fact, Academy students reached these milestones at rates roughly comparable to those for similar students in urban public schools across the country. Some

researchers and policymakers have suggested that large comprehensive high schools such as those in this study do not offer enough pathways from high school to post-secondary education to accommodate all students. The Career Academy approach may afford one way to expand the set of available pathways, at least for students who have the initiative to apply for them.

- **Academies changed the high school environments and experiences of their students and teachers in ways that were consistent with the program's short-term goals. Yet these changes did not translate into different initial post-secondary education experiences than would have been expected for equally motivated students not enrolled in Academies.**

Evidence from this evaluation and others indicates that Academies improve students' high school experiences. While the small learning communities probably account for the stronger interpersonal supports and higher levels of engagement among Academy students, the career themes provide a framework for combining academic and career-related courses, and the employer partnerships afford students greater access to career development experiences and work-based learning opportunities.

Beyond these short-term outcomes, however, the Academies' impacts appear to dissipate. As discussed in a previous report from this study, the participating Career Academies — though they created conditions for maintaining and even enhancing students' engagement in high school — did not change classroom instruction substantially or affect standardized measures of academic achievement. Similarly, most of the participating Academies did not provide college counseling services tailored for Academy students or to their needs and interests, which may help explain the lack of impacts on post-secondary education enrollments.

- **The present findings challenge Career Academy proponents and education policymakers to build on the strengths of the approach as they attempt to raise rates of high school completion and enrollment in post-secondary education.**

More than 25 percent of the students in the Academy group did not graduate from high school on time; approximately 45 percent had not enrolled in a post-secondary education program by the end of the year after scheduled graduation; and only 15 percent enrolled in bachelor's degree programs. These findings suggest that, although the Academy students did as well or better than national samples of similar students in similar programs, there is room for improvement. At this point in the evaluation, it is possible only to suggest some hypotheses about how the Career Academy approach might effect these improvements.

Increase high-risk students' access to Career Academies. To the extent that Academies have longer-term impacts, the impacts are concentrated among students who entered the program at high risk of dropping out. This finding suggests that Academies should make greater efforts to attract and retain such students. At the same time, targeting the programs exclusively to high-risk students might lower teachers', students', and parents' expectations of the program. More importantly, based on implementation research conducted for this evaluation, the Academies appear to draw at least some of their power to improve interpersonal supports and to increase student engagement from the diversity of their student bodies.

Heighten the emphasis on meeting academic standards, and provide more intensive guidance and support for college entrance. The Academy model has been shown to address such problems as low student engagement, learning activities that have little relevance to students, and weak connections between schools on the one hand and local communities and the world of work on the other. The approach appears to be less well equipped to improve other outcomes, such as standardized test scores and rates of enrollment in four-year colleges. Academy proponents and policymakers should develop strategies for addressing these limitations directly. For example, school officials and Academy administrators might consider implementing an accelerated academic program in the 9th grade to help students who are behind academically to catch up. In grades 10 to 12, the Academies could then focus on providing students with a rigorous academic curriculum of higher-level courses that would prepare them for high-stakes tests and help them garner the credentials needed to attend college. It is also critical to provide college and career counseling throughout high school and to monitor students' progress both in and outside the classroom.

Next Steps in the Evaluation

Although the results presented in this report go beyond those presented in other research on Career Academies and in previous reports from this evaluation, the full story of Career Academies' effectiveness is still unfolding. Indeed, the findings reported to date point to the need to examine longer-term results before making definitive judgments about the effectiveness of the approach.

Earlier results from the Career Academies Evaluation show that the Academies expanded students' exposure to career awareness and development activities and work-related learning opportunities. Moreover, consistent with studies indicating that the year after high school graduation is a particularly unsettled period for 18- to 20-year-old youth, the Academy and non-Academy students in this study exhibited a relatively high rate of enrollment in one- and two-year post-secondary degree programs, and many made multiple transitions between education and employment opportunities. Finally, a more definitive assessment of the strengths and limitations of the Career Academy approach — a school-to-career initiative — should include evidence about its longer-term effects on educational attainment and employment outcomes.

To address these and other issues, the evaluation is collecting data on students' education and labor market experiences during the second, third, and fourth years after scheduled high school graduation. The goal of this ongoing work is to determine whether the Academies enable students to make better choices about post-secondary education and employment and, if so, whether their choices lead to higher educational attainment and entry into higher-wage, more career-oriented jobs.