Tuning In to Local Labor Markets

FINDINGS FROM THE SECTORAL EMPLOYMENT IMPACT STUDY

P/PV Public/Private Ventures
INNOVATION. RESEARCH. ACTION.

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Sheila Maguire
Joshua Freely
Carol Clymer
Maureen Conway*
and
Deena Schwartz

* Maureen Conway is the Director of The Workforce Strategies Initiative at the Aspen Institute.

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Dedication

This report is dedicated to Eric Parker, who died suddenly in August 2007. A visionary, leader, mentor and friend to many in the workforce development field, Eric founded the Wisconsin Regional Training Partnership and devoted much of his career to improving the lives of low-wage workers and the competitiveness of local employers.

Acknowledgments

Many people worked to make this report possible. Thanks go first and foremost to the three organizations that are the subject of the study—Jewish Vocational Service–Boston (JVS–Boston), Per Scholas and Wisconsin Regional Training Partnership (WRTP). Participating in a random assignment evaluation is a challenging and risky undertaking, and the study would not have been possible without the leadership of Barbara Rosenbaum and Jerry Rubin at JVS–Boston; Plinio Ayala at Per Scholas; and Eric Parker and Earl Buford at WRTP, as well as the ongoing efforts of dozens of staff members. We are also grateful to the study participants for sharing their experiences during interviews and in focus groups.

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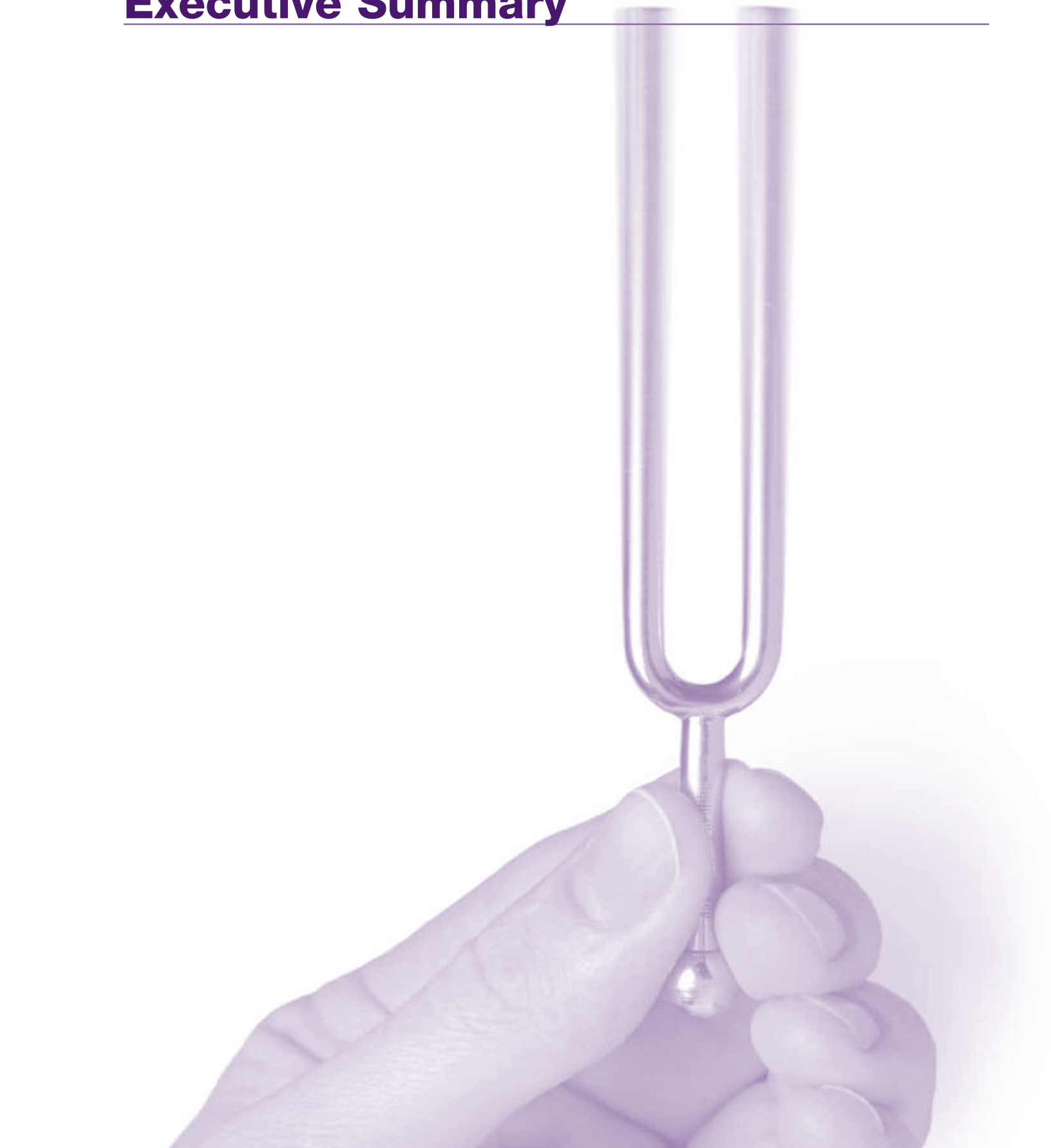


For American workers, having a high school or general equivalency diploma (GED)—which once represented a means of entrance to the middle class—is no longer adequate for finding steady employment. In fact, three quarters of low-wage workers[1] have these qualifications but lack the relevant occupational skills and connections to employers needed to launch a career. At the same time, in some regions of the country there are persistent skills gaps clustered in particular industries, such as manufacturing and healthcare.[2] Many of these jobs are expected to grow[3] and require specific technical skills that can be gained only through focused training that is closely linked to the needs of local businesses.

Over the past two decades, an innovative approach to workforce development known as sectoral employment has emerged, resulting in the creation of industry-specific training programs that prepare unemployed and underskilled workers for skilled positions and connect them with employers seeking to fill such vacancies. Based on earlier outcomes studies pointing to the promise of this strategy, Public/Private Ventures (P/PV) set out to conduct a random assignment evaluation to assess whether sector-focused programs could in fact increase the earnings of low-income, disadvantaged workers and job seekers.

The Study

In 2003, with funding from the Charles Stewart Mott Foundation, P/PV launched the Sectoral Employment Impact Study. We did not seek organizations that followed a common model to participate in the study, as sectoral programs employ various approaches depending on the organization leading the effort and local employers' needs. Instead, we sought mature programs that seemed to be well implemented, since it takes time for an organization to both understand employers' needs and craft appropriate responses.

Three organizations were selected:

- **The Wisconsin Regional Training Partnership (WRTP)** is an association of employers and unions that seeks to retain and attract high-wage jobs in Milwaukee and create career opportunities for low-income and unemployed community residents. WRTP develops training programs (generally lasting between two and eight weeks) in response to specific employers' requests or to clearly identified labor market needs. Its short-term preemployment training programs in the construction, manufacturing and healthcare sectors were included in the study.
- **Jewish Vocational Service–Boston (JVS–Boston)** is a community-based nonprofit that has provided workforce development services for more than 70 years, including operating one of three One-Stop Career Centers (One-Stops) funded by the Workforce Investment Act (WIA) in the Boston area. The organization aims to serve a diverse range of Boston's disadvantaged populations, including refugees, immigrants and welfare recipients. Its training programs in medical billing and accounting were included in the study.
- **Per Scholas** is a social venture in New York City that combines a training program with efforts to refurbish and recycle "end of life" computers and distribute them to low-income people through partnerships with nonprofits, schools and community colleges. Per Scholas' computer technician training program—which prepares participants for jobs in the repair and maintenance of personal computers, printers and copiers, as well as the installation and troubleshooting of computer networks—was included in the study.

P/PV used an experimental research design to bring as much rigor as possible to the following question: Do mature sector-focused programs result in significant labor market gains for low-income, disadvantaged workers and job seekers? More specifically, we strived to determine whether such programs raise the earnings of program participants and whether participants were more likely to find employment and work more consistently. We also wanted to explore whether program participants obtained higher-quality jobs. For example, were participants more likely to earn higher wages? Did participants find jobs with better access to benefits? Further,

we set out to explore whether specific groups of people, such as welfare recipients or young adults, benefit from participation. We also sought to understand the programmatic, contextual and individual factors that contribute to these outcomes.

To answer these questions, the three sites recruited 1,286 people for the study over a two-year period, all of whom had been through their program's application process and met its eligibility criteria. Half of these applicants were selected at random to participate in the program (the treatment group); the remaining half (the control group) could not receive services from the study sites for the next 24 months, but they were free to attend other employment programs or seek access to other services. Baseline and follow-up surveys were conducted with members of both groups, eliciting information about their education and work histories as well as their employment experiences during the two-year study period. The follow-up survey sample included 1,014 respondents, reflecting a 79 percent response rate.

In addition to collecting data about individuals, we also conducted annual site visits to each of the three organizations to interview staff, participants and others involved with the programs. The goal of this qualitative research was to document the structure and content of the programs and to better understand key practices as well as challenges the organizations faced.

Study Participants

Participants in the study were screened through their respective programs to ensure they had the basic academic skills to read and understand instructional material; entrance requirements ranged from sixth to tenth grade reading and/or math levels. In the year prior to the study, participants had been in and out of the labor market. Only 10 percent had worked full-time for the entire year, and the average participant had worked full-time for three and a half months. Thirty-four percent were working at the time they enrolled in the study. On average, each had worked (for at least one hour) in seven months of the year prior to the baseline survey, earning $9,872. Nearly 40 percent had received public assistance at some time,[4] including the 23 percent of participants who were on welfare at the time of enrollment.[5] (See Executive Summary Table 1.)

Executive Summary Table 1
Baseline Characteristics of the Follow-Up Sample

	Total
N	1,014
Gender	
Male	47%
Female	53%
Race/Ethnicity and Foreign-Born Status	
African American	60%
Latino	21%
White	12%
Other	6%
Foreign Born	23%
Age	
18 to 24	28%
18 to 26[a]	37%
25 to 54	70%
55 and Older	2%
Average Age	32.2
Education	
More Than a High School Diploma	18%
High School Diploma	53%
GED	22%
Less Than a High School Diploma	7%
Other Characteristics	
Married	18%
Ever on Welfare	37%
On Welfare at Baseline	23%
Has Access to a Vehicle	45%
Average Number of Children in Household	1.2
Moved in Last Two Years	43%
Completed Other Training Before Baseline	25%
Homeless in Year Prior to Baseline	7%
Ever Convicted of a Crime	22%
Formerly Incarcerated	17%
Employment History at Baseline	
Average Months Employed Year Prior to Baseline	6.8
Employed (Part-Time or Full-Time) at Baseline	34%
Worked Full-Time All 12 Months Prior to Baseline	10%
Average Months Working Full-Time Year Prior to Baseline	3.5
Total Earnings Year Prior to Baseline	$9,872

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

Analysis

In evaluating the programs' impacts, we looked at a number of key employment outcomes: total earnings, the likelihood of finding employment, number of hours worked, the likelihood of working a job that paid an hourly wage of at least $11 and at least $13, and the likelihood of working a job that offers benefits. Because the outcomes seen during the first 12 months include time spent in training, internships and the initial job search, we present both the effects seen during the full 24-month study period and those observed during the second year of the study (i.e., months 13 through 24, when participants were fully available to participate in the labor market).

Key Findings

1. **Participants in sector-focused programs earned significantly more than control group members, with most of the earnings gains occurring in the second year.**

Participants in sector-focused training earned 18 percent—about $4,500—more than controls over the 24-month study period. Not surprisingly, given that program participants were in training during the first year, most of the increase in earnings was seen during the second year. During months 13 through 24, participants earned 29 percent more than controls on average, or $337 more per month—about $4,000 more overall.

2. **Participants in sector-focused programs were significantly more likely to work and, in the second year, worked more consistently than control group members.**

Part of program participants' earnings gains can be attributed to the fact that participants were more likely to find work and worked more consistently. Over the 24-month study period, program participants were significantly more likely to be employed, working on average 1.3 more months than controls. During the second year, program participants were significantly more likely than controls to work all 12 months (52 percent versus 41 percent)—an indication that sector-focused training programs helped participants find steadier employment. Program participants also worked significantly more hours—about 245 more than controls over the 24-month study period and 250 more than controls in the second year. Employment rates hovered around 70 percent for program participants in the second year, compared with about 60 percent for controls.

3. **Program participants were significantly more likely to work in jobs with higher wages.**

Over the full study period, program participants worked two more months than control group members in jobs that paid at least $11 an hour, and 1.5 more months in the second year alone. The likelihood of ever working a job that paid at least $11 an hour was 14 percentage points higher for program participants (59 percent) than controls (45 percent) over the entire study period and 13 percentage points higher (55 percent for program participants and 42 percent for controls) in the second year. A similar pattern emerges when we look at the likelihood of working a job that paid at least $13 an hour. Over the entire study period, program participants worked about a month more in these jobs and their likelihood of ever working a job at this wage level was eight percentage points higher than it was for controls.

4. **Program participants were significantly more likely to work in jobs that offered benefits.**

During the full study period, program participants spent an average of 11 months working in jobs that offered benefits (e.g., health insurance, paid vacation, paid sick leave, tuition reimbursement)—about a month and a half longer than controls. In the second year, program participants spent about seven months working jobs that offered benefits—1.4 more months than controls. By the beginning of the second year, and continuing through the end of the study period, the likelihood that program participants were working in jobs that offered benefits was between 50 and 60 percent, as compared with controls, whose likelihood ranged between 40 and 50 percent over the same period.

5. For each subgroup analyzed, program participants had significant earnings gains as compared to their counterpart controls.

The three organizations in the study serve quite distinct target populations; therefore, the subgroups we examined (men, women, African Americans, Latinos, immigrants, people who were formerly incarcerated, welfare recipients and young adults) were not evenly distributed among the three sites. All subgroups, however, had significant earnings gains; the timing of these gains and the programs' effects on other employment outcomes (such as likelihood of being employed, working in jobs with higher wages, etc.) varied among groups. It is likely that some of these differences are due to differences in the approaches at the three sites. It is also worth noting that not all subgroups had earnings gains at each site.

Program-Specific Findings

Wisconsin Regional Training Partnership

The effects we see at WRTP reflect its overall strategy of providing short-term, job-specific training and then helping guide disadvantaged workers into higher-quality jobs than they might have been able to access without its assistance. Overall, program participants earned significantly more, even though they found employment at rates similar to their control counterparts. They were significantly more likely to work in higher-wage jobs, to secure union jobs and to work in jobs that offered benefits. They were also more likely to obtain certifications in both the healthcare and construction tracks. Earnings gains varied across sectors: Construction participants saw the highest gains, followed by healthcare; participants in manufacturing did not achieve higher earnings than control group members, which is not surprising given the region's downturn in manufacturing.

WRTP's strategy also had different effects on earnings for different types of workers: Both African American and women participants earned significantly more than their counterpart controls, largely as a result of higher wages. Formerly incarcerated program participants also saw earnings gains, which were attributed to working more hours than controls as well as earning higher wages. For young adult participants and welfare recipients, there were no significant earnings gains.

JVS–Boston

JVS–Boston's strategy was to provide participants with job-specific occupational skills through an intensive five-and-a-half-month training program (the longest in the study) and to supplement this training with a high level of support. JVS–Boston offered substantial support during and after the program. It was able to guide participants into employment opportunities thanks to its knowledge of the healthcare sector. JVS–Boston's results reflect this approach: Program participants saw 21 percent earnings gains over the two-year period and a 35 percent earnings gain in the second year alone, largely as a result of their being more likely to find employment than their control group counterparts. They also worked more hours and were more likely to earn at least $11 an hour. Young adult program participants did particularly well, perhaps reflecting the high level of support provided by program staff; these younger participants earned almost 50 percent more than young adult controls. African American participants and participants who had ever received welfare also saw earnings gains, entirely due to working more months and more hours. We did not see any significant effects for foreign-born program participants, who were older, disproportionately male and more educated than the overall sample.

Per Scholas

Per Scholas' strategy of providing its participants with skills, preparing them to obtain a recognized industry certification and offering internships and work experience is reflected in the program's effects. Not surprisingly, given the length of Per Scholas' training and the internship that often follows, program participants mainly saw effects in the second year. Program participants had significantly higher earnings and were significantly more likely to work—and work in jobs with higher wages—than their control counterparts. Program participants also earned the A+ certification at higher rates, which may be a critical part of the value contributed by Per Scholas. Latino, immigrant, and formerly incarcerated program participants earned significantly more than their control group counterparts; immigrant and formerly incarcerated program participants fared particularly well. Young adults between ages 18 and 24 did not earn significantly more than their control group counterparts,

though this was possibly due to small sample size. When the range is broadened to 18 to 26, program participants did have significantly higher earnings.

Common Programmatic Elements

Each organization in the study employed a unique strategy and crafted its program to respond to local circumstances. Through site visits, focus groups and interviews, we identified common elements shared by the three programs. While all the programs focused to some degree on each of these elements, they were implemented differently at each organization and, in some cases, were stronger at one than another.

1. Strong organizational capacity—with the ability to adapt.

Workforce organizations operate at the nexus between disadvantaged workers, local employers and the public and private agencies that have resources to invest. Each organization in the study had capacities—resources, staffing, relationships, institutional memory—that enabled it to understand the specific needs of employers, target appropriate candidates and devise an intervention using public and private funding sources. While the subsequent programmatic elements we discuss are critical, each organization's ability to understand and deal with change—sometimes referred to as adaptive capacity or the ability to ask, listen, reflect and adapt—underlies its success.

2. A strong link to local employers that results in an understanding of the target occupation and connections to jobs.

An effective sectoral strategy rests on linking to the workforce needs of local employers. Organizations in the study forged this link in various ways. As an association of employers and unions, WRTP was able to work collaboratively with individual employers, sets of employers and union representatives. JVS–Boston's links to the healthcare sector were built through its long history of placing people in jobs with Boston-area employers, as well as through the incumbent worker training[6] it offered to several major healthcare providers. Per Scholas connected to the IT sector through its role as a recycling center for "end of life" computers, and its job developers built strong relationships with major employers.

3. Job readiness, basic skills and hands-on technical skills training offered through the lens of a specific occupation or sector.

Effective adult education is essential to the success of sector-focused training programs. Rather than offering job readiness, basic skills and technical skills training separately, WRTP, JVS–Boston and Per Scholas all addressed these needs together, through the lens of their targeted sectors.

4. Recruitment, screening and intake processes that result in a good match between the applicant, the program and the target occupation.

Each organization established a screening process that helped identify candidates who had both the ability to benefit from its program and the potential to be successful in the targeted occupation. This process began with outreach and recruitment efforts, both of which were integral to each organization's operation and required considerable staff resources. The programs' ability to so carefully target participants who were an appropriate match for the target occupation (in terms of interest, ability and qualifications) is a critical piece of their success.

5. Individualized services to support training completion and success on the job.

For disadvantaged job seekers and workers, help with childcare or transportation or a referral for housing or legal services can be critical to staying in training or keeping a job. All three organizations had mechanisms in place to deal with these needs, though delivery of the services varied.

Conclusions

Mature, nonprofit-led sector-focused programs can increase the earnings of disadvantaged populations.

This study provides compelling evidence that nonprofit-led sector-focused training programs can increase the earnings of a range of disadvantaged populations. Results of the study also demonstrate that this approach can provide disadvantaged people with access to industry-relevant skills and

steady employment. While there has been significant growth in both the number of programs that target specific industry sectors and the range of institutions that operate or sponsor them, it is important to note that the programs in this study are representative of mature, nonprofit-led sector-focused programs and not all efforts that often fall under the umbrella of sectoral training. It is also important to recognize that the programs in this study were more than simply job training programs. Each organization had strong connections to local employers and identified specific job opportunities for which they trained program participants. Each organization targeted people who would be a good match for the occupation and the training, provided essential supports and offered skills training through the lens of a specific sector. This study points to the promise of programs that combine these elements.

Variation in approaches can be effective but results in different effects on earnings.

The programs in this study varied in length, populations served and target industry/occupation. Each offered a mix of services with differing emphasis on making connections between participants and employers, providing supportive services, and training in occupationally relevant skills. The longer-term training programs, JVS–Boston and Per Scholas, placed a stronger emphasis on skills, whereas WRTP emphasized connecting participants to jobs through its networks of unions and employers. These strategies influenced earnings: WRTP's participants showed early earnings gains that were largely a result of higher wages, while participants at Per Scholas and JVS–Boston had earnings gains that came later and were a result of participants' increased likelihood of finding a job and working more consistently and/or at higher wages.

Mature, nonprofit-led sector-focused programs can be effective with a range of disadvantaged workers and job seekers.

The three programs in the study served a range of un- and underemployed people, including men and women, African Americans, Latinos, immigrants, people who were formerly incarcerated, welfare recipients and young adults. We saw positive impacts on earnings for all subgroups, though there were differing impacts for various groups across the three organizations studied. At WRTP, African Americans, women and formerly incarcerated participants experienced significant earnings gains. At JVS–Boston, the program showed impacts for young adults, African Americans, women and those who had been on welfare. At Per Scholas, immigrants, men, Latinos, formerly incarcerated individuals and young adults (18-26) had significant earnings gains.

Nonprofit organizations can play a critical role in delivering workforce services. The three programs in this study demonstrated an adaptability that allowed them to connect disadvantaged job seekers to employers using a mix of strategies and a range of public and private funding sources.

While the three programs in the study did not follow a common model, we found that their ability to combine key elements—good understanding of and connection to industry needs, careful screening to identify appropriate clients, a sector-focused approach to training and individualized support services—seemed to contribute to success. The organizations' ability to keep pace with changes in the local economy, funding agencies or partners was also a key ingredient.

Implications for Further Research

These findings suggest the need for additional research about the effectiveness of sector programs for disadvantaged people. Below we outline potential avenues for further exploration:

Can this approach be scaled?

The organizations in the study served small numbers of program participants. Scaling up—either for these organizations or by other organizations adopting this approach—presents some unique challenges, as sector programs are by their very nature flexible—relying on clearly identified employer demand as well as available funding (either public or private) to provide services. More rigorous research could tell us with greater certainty which of the common elements we identified are indeed essential, if there are other features we missed and which combinations of elements are most effective in various situations. Additional studies could also inform the increasing number of organizations that are developing sectoral programs and increase the likelihood that their approach could replicate

the impacts seen in this study. Research aimed at understanding the costs of these programs is also important in considering how they can be scaled.

What about sector programs led by other types of institutions?

While our findings show the promise of sectoral programs run by experienced nonprofit organizations that demonstrate the ability to adapt and respond to local circumstances, research is needed about the effectiveness of sectoral efforts undertaken by other types of institutions, such as community colleges, Workforce Investment Boards, state agencies and employer associations.

What about the role of industry certifications?

Both Per Scholas and WRTP offered training that prepared participants to obtain industry-recognized certifications—a strategy that may have played a major role in participants' earnings gains. Further research is needed to understand how industry certifications affect earnings and wage gains and the role workforce organizations can play in helping disadvantaged workers and job seekers gain access to jobs once they have attained an industry-recognized certification. Further analysis using data from this study is forthcoming.

What strategies are effective for various groups of job seekers?

Given their flexible design, sector-focused training programs both targeted and were effective for many disadvantaged populations. More needs to be understood about what blends of services are most effective for different groups.

What about impacts over time?

While this study's 24-month span allowed us to examine the immediate impact of each strategy, longer-term studies would be valuable. Such studies would allow us to see whether earnings gains grow or diminish over time, and may cast a different light on the effectiveness of each approach.

Closing Thoughts

Sector-focused programs aim to connect disadvantaged job seekers and low-skilled workers to employment opportunities, addressing unmet hiring needs of local employers and improving participants' prospects in the labor market. As we emerge from the Great Recession, which has disproportionately affected disadvantaged workers, these strategies and the organizations that implement them may represent a key element in America's economic recovery—for its workers and its employers.

Executive Summary Endnotes

1. Low-wage workers are defined as those who are paid a wage such that, even with full-time, full-year employment, their annual earnings fall below the poverty line for a family of four. See Loprest, Pamela, Gregory Acs, Caroline Ratcliffe and Katie Vinopal. 2009. *ASPE Research Brief: Who Are Low-Wage Workers?* Washington DC: US Department of Health and Human Services, Office of Human Services Policy, Office of the Assistant Secretary for Planning and Evaluation.

2. A 2009 survey conducted by Manpower, Inc., found that 19 percent of United States employers reported having trouble finding skilled workers to fill vacancies. See Manpower, Inc. 2009. *2009 Talent Shortage Survey Results.* Manpower, Inc. For a discussion of the challenges facing manufacturers looking for skilled workers, see Jusko, Jill. "The Training Imperative." *Industry Week*, March 17, 2010. For a discussion of the shortage of healthcare workers in California, see Lauer, George. "Shortage of Allied Health Care Workers Strains California Clinics." *California Healthline*, January 27, 2009.

3. Holzer, Harry J. and Robert I. Lerman. 2007. *America's Forgotten Middle Skill Jobs: Education and Training Requirements for the Next Decade and Beyond.* Washington, DC: The Workforce Alliance.

4. Repeated use of welfare is common. An analysis by the Urban Institute found that 21.9 percent of those who leave welfare return within two years. For more information, see Loprest, Pamela. 2002. *Who Returns to Welfare?* Washington, DC: Urban Institute.

5. None of the programs in the study included welfare recipients who had been mandated to attend the training.

6. Incumbent worker training refers to training for currently employed workers.

Introduction

Chapter I

For American workers, having a high school or general equivalency diploma (GED)—which once represented a means of entrance to the middle class—is no longer adequate for finding steady, quality employment. In fact, three quarters of low-wage workers[1] have these qualifications but lack the relevant occupational skills and connections to employers needed to launch a career. At the same time, in some regions of the country there are persistent skills gaps clustered in particular industries, such as manufacturing and healthcare.[2] Many of these jobs are expected to grow[3] and require specific technical skills that can be gained only through focused training that is closely linked to the needs of local businesses.

Over the past two decades, an innovative approach to workforce development known as sectoral employment has emerged, resulting in the creation of industry-specific training programs that prepare unemployed and underskilled workers for skilled positions and connect them with employers seeking to fill such vacancies. Beginning in the early 1990s, with support from private foundations, several nonprofit community-based organizations developed strategies aimed at improving the prospects of low-income workers by meeting the needs of local businesses. In 1998, to explore the potential of such strategies, Public/Private Ventures (P/PV) launched the nine-site, three-year Sectoral Employment Initiative, with support from the Charles Stewart Mott Foundation. An evaluation of this initiative showed that after two years, participants in programs that offered sectoral training had higher hourly wages, increased annual incomes and better-quality jobs compared to the year prior to their enrollment. These findings were echoed in a similar outcomes study conducted by the Aspen Institute.[4] While these findings were encouraging, more rigorous research was needed.

With continued funding from the Mott Foundation, P/PV set out in 2003 to conduct a random assignment evaluation to assess whether sector-focused programs could increase the earnings of low-income, disadvantaged workers and job seekers (e.g., formerly incarcerated individuals, welfare recipients and people with only a high school education or less). We did not seek organizations that followed a common model to participate in the study, as sectoral programs employ various approaches depending on the organization leading the effort and local employers' needs. Instead, we sought mature programs that seemed to be well implemented, since it takes time for an organization to both understand employers' needs and craft appropriate responses.

Through nominations from leaders in the workforce development field, P/PV identified 25 organizations that targeted an occupation or cluster of occupations, that aimed to place participants in jobs paying $8 or more per hour, that served more than 100 participants annually and that had been operating their programs for at least three years.

Three organizations were selected to participate in the study (see Appendix A for more details about the selection process):

- **The Wisconsin Regional Training Partnership (WRTP)** is an association of employers and unions that seeks to retain and attract high-wage jobs in Milwaukee and create career opportunities for low-income and unemployed community residents. WRTP develops training programs (generally lasting between two and eight weeks) in response to specific employers' requests or to clearly identified labor market needs. Its short-term preemployment training programs in the construction, manufacturing and healthcare sectors were included in the study. Study participants were primarily African American and were about evenly divided between men and women; about 40 percent had been incarcerated.
- **Jewish Vocational Service–Boston (JVS–Boston)** is a community-based nonprofit that has provided workforce development services for more than 70 years, including operating one of three One-Stop Career Centers (One-Stops) funded by the Workforce Investment Act (WIA) in the Boston area. The organization aims to serve a diverse range of Boston's disadvantaged populations, including refugees, immigrants and welfare recipients. Its training programs in medical billing and accounting were included in the study. Each training program was provided over

Program Components			
	WRTP	**JVS–Boston**	**Per Scholas**
Sector Focus	• Manufacturing, construction and healthcare • Employers, including organized labor, are members of WRTP, serving on committees to identify and address needs of member businesses, market services and advise about the training curriculum.	• Clerical and medical office occupations • Employers serve on advisory committees; staff develop one-on-one relationships with employers and use an account management system to identify, address and monitor their needs.	• Information technology • Staff identify employers' needs and develop relationships through a social venture to recycle and refurbish computers; employers participate in job fairs and mock job interviews and advise about the curriculum.
Enrollment Requirements	• Sixth- to tenth-grade reading level, depending on sector • Interview to determine career goal and participation challenges • Driver's license (no more than five violation points) for construction sector • Negative drug screen for healthcare sector	• High school diploma or GED • Sixth- to eighth-grade reading and/or math level, depending on sector • Interview to determine career goal and participation challenges • Staff team agreement of acceptance	• High school diploma or GED • Tenth-grade level (both reading and math) • Interview to determine career goal and participation challenges
Preemployment Training and Certifications	• Training length varies: 2 to 8 weeks, 40 to 160 hours • Certifications for nursing assistants, medical assistants and construction	• Training length varies: 20 to 22 weeks, 20 to 25 hours per week • Certificate of completion for the training	• Training is 15 weeks, 500 hours • A+ certification
Employability Activities	• "Essential skills" related to timeliness, attendance, strategies for dealing with childcare, workplace issues and operating within the industry culture integrated into technical training	• Four- to six-week internship • Job readiness training (e.g., writing resumes and cover letters, job interviewing)	• Internship • "Life skills" training related to goal setting, communication, interviewing for a job and time management • Employability workshops
Supports	• Case management • Childcare and transportation for those receiving TANF • Job placement • Postemployment retention • Remedial education as needed • Assistance to get a driver's license	• Case management • Childcare and transportation assistance • Job placement • Postemployment retention services • ESL/basic skills tutoring as needed • Tax preparation assistance	• Career mentoring • Counseling • Job placement • Postemployment retention services • Assistance with work attire

20 to 22 weeks for 20 to 25 hours per week. JVS–Boston engaged its target industry by forming employer advisory committees and building individual relationships with local businesses. JVS–Boston study participants were primarily women and included a large number of young adults and current or former welfare recipients.

- **Per Scholas** is a social venture in New York City that combines a training program with efforts to refurbish and recycle "end of life" computers and distribute them to low-income people through partnerships with nonprofits, schools and community colleges. Per Scholas' computer technician training program—which prepares participants for jobs in the repair and maintenance of personal computers, printers and copiers, as well as the installation and troubleshooting of computer networks—was included in the study. The training program consists of 500 hours over a 15-week period and is aligned closely with the industry-recognized A+ certification—which demonstrates computer technician competency. Program participants also take part in internships, during which time they work in the Per Scholas recycling and refurbishing center or with local employers. At Per Scholas, study participants were primarily male, and a sizeable proportion was foreign-born.

Since the early 1990s, and indeed since this study was launched, the number and types of organizations pursuing sectoral employment strategies have grown. Today, community colleges, workforce investment boards, labor-management partnerships, business associations and other agencies have adopted this approach, and many sectoral programs receive support from federal, state and local government sources.[5] This report presents the findings of the first rigorous random assignment study of three nonprofit-led sector-focused efforts: an employer/union association, a social venture and a human service organization. Chapter II of this report outlines the study's design and methodology; Chapter III describes the findings across all three programs; and Chapter IV analyzes the strategies and findings for each site individually. Chapter V presents a discussion of the common programmatic elements, as well as common challenges. Finally, Chapter VI summarizes our conclusions and outlines implications for further research.

Study Design

Chapter II

P/PV used an experimental research design to bring as much rigor as possible to the following question: Do mature sector-focused programs result in significant labor market gains for low-income, disadvantaged workers and job seekers? More specifically, we strived to determine whether such programs raise the earnings of program participants and whether participants were more likely to find employment and work more consistently. We also wanted to explore whether program participants obtained higher-quality jobs. For example, were participants more likely to earn higher wages? Did participants find jobs with better access to benefits? Further, we set out to explore whether specific groups of people, such as welfare recipients or young adults, benefit from participation. We also sought to understand the programmatic, contextual and individual factors that contribute to these outcomes.

To answer these questions, 1,286 people were recruited for the study from across the three programs over a two-year period, all of whom had been through their program's application process and met its eligibility criteria.[6] Baseline data were gathered from eligible applicants through a phone survey about their education and work histories, additional sources of income, living situations and experiences with other employment programs. Then, half of the participants were selected at random to participate in the program (the treatment group); the remaining half (the control group) could not receive services from the study sites for the next 24 months, but they were free to attend other employment programs or seek access to other services. No significant differences existed between the treatment and control groups at the time of the baseline survey (see Appendix B).

Members of both groups were surveyed by phone between the 24th and 30th months after the baseline survey was conducted. During the follow-up survey, participants were asked to provide detailed information about every job they had worked during the study period, including earnings, months worked and weekly hours, and whether participants were offered and had taken advantage of benefits. The follow-up survey sample included 1,014 respondents, reflecting a 79 percent response rate (75 percent for the control group and 82 percent for the treatment group).[7] The programs' effects were measured by comparing the progress made by members of the treatment group with that made by members of the control group. Because assignment to these groups was random, any differences found between treatments (hereafter referred to as program participants[8]) and controls can be attributed to participation in the sector-focused training programs.

In addition to collecting data about individuals, we conducted regular site visits to each of the three organizations. The goal of this qualitative research was to identify key practices as well as challenges the organizations faced. Once a year, P/PV interviewed both frontline staff (such as job developers, case managers and career specialists) and supervisors and senior management. Focus groups were also held annually with participants, and on occasion interviews were conducted with employers and board members of the participating organizations. Although the study design did not include the collection of detailed information on program intensity or the costs associated with program implementation, the qualitative component of our research did enable us to document the structure and content of the programs.

Study Participants

Table 1 details the baseline characteristics of the study's entire follow-up sample. The study participants shared many characteristics across all three sites, though there was some variation in the demographics from site to site. These differences will be explored in the site-specific sections of this report. For the baseline survey, we used a number of statistical techniques to determine the success of random assignment (see Appendix B for details) and concluded that there were no measurable differences between program participants and the control group—overall or at each particular site. At the time of the follow-up, we found differences between program participants and controls in 3 of 31 characteristics; further analysis using linear regression suggested that the random nature of the baseline sample was maintained at the follow-up (see Appendix B for more detail about the baseline and follow-up samples).

Table 1
Baseline Characteristics of the Follow-Up Sample

	Total	Control Group	Treatment Group
N	1,014	485	529
Response Rate	79%	75%	82%
Gender			
Male	47%	49%	46%
Female	53%	51%	54%
Race/Ethnicity and Foreign-Born Status			
African American	60%	61%	59%
Latino	21%	23%	20%
White	12%	11%	13%
Other	6%	5%	7%
Foreign Born	23%	21%	26%**
Age			
18 to 24	28%	29%	27%
18 to 26[a]	37%	39%	35%
25 to 54	70%	68%	71%
55 and Older	2%	3%	1%
Average Age	32.2	32.0	32.5
Education			
More Than a High School Diploma	18%	17%	19%
High School Diploma	53%	54%	53%
GED	22%	21%	22%
Less Than a High School Diploma	7%	7%	6%
Other Characteristics			
Married	18%	15%	20%**
Ever on Welfare	37%	36%	38%
On Welfare at Baseline	23%	23%	22%
Has Access to a Vehicle	45%	44%	47%
Average Number of Children in Household	1.2	1.2	1.3
Moved in Last Two Years	43%	41%	44%
Completed Other Training Before Baseline	25%	27%	23%
Homeless in Year Prior to Baseline	7%	7%	7%
Ever Convicted of a Crime	22%	24%	20%
Formerly Incarcerated	17%	20%	15%*
Employment History at Baseline			
Average Months Employed Year Prior to Baseline	6.8	6.7	6.9
Employed (Part-Time or Full-Time) at Baseline	34%	33%	34%
Worked Full-Time All 12 Months Prior to Baseline	10%	10%	11%
Average Months Working Full-Time Year Prior to Baseline	3.5	3.4	3.5
Total Earnings Year Prior to Baseline	$9,872	$10,171	$9,599

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Participants in the study were screened through their respective programs to ensure they had the basic academic skills to read and understand instructional material; entrance requirements ranged from sixth to tenth grade reading and/or math levels. In the year prior to the study, participants had been in and out of the labor market. Only 10 percent had worked full-time for the entire year, and the average participant had worked full-time for three and a half months. Thirty-four percent were working at the time they enrolled in the study. On average, each had worked (for at least one hour) in seven months of the year prior to the baseline survey, earning $9,872. Nearly 40 percent had received public assistance at some time,[9] including the 23 percent of participants who were on welfare at the time of enrollment.[10]

Programs enrolled a sizable number of young people. Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.[11] Twenty-eight percent of study participants were under the age of 24, while 37 percent were younger than 26. The average age was 32. About one in five participants had been convicted of a crime. Seven percent had been homeless in the year before the baseline survey was conducted. In terms of their educational credentials, 53 percent had only a high school diploma, 22 percent had a GED and 18 percent had more than a high school diploma (an associate's, bachelor's or master's degree).[12] Overall, women and men were almost equally represented in the study sample, though there were differences across sites. We conducted analyses on several of these subpopulations at each site, though such analyses were sometimes limited due to small sample sizes.[13]

Overall Effects and Key Findings

Chapter III

This evaluation seeks to compare the effects of a program's services against services people might ordinarily receive or "business as usual." In other words, how much better do program participants fare than control group members, who often seek and receive other employment and training services? The findings in this study are based on an "intent to treat" analysis, i.e., all participants assigned to the treatment group were included, even if they did not attend or complete the program. In this study, 7 percent of those offered a position in a sector-focused training program never attended, and 41 percent of those assigned to the control group received other job training services, including job-specific skills training, job search assistance, training in basic reading and math skills, internships, on-the-job training and GED classes.

Among the program participants, 75 percent completed training—averaging 1.6 months at WRTP, 5.2 months at JVS–Boston and 3.6 months at Per Scholas (see Table 2). Of the 132 program participants who did not complete the training, about 20 percent left because they found a job, 42 percent left for reasons such as health or family issues and 11 percent were asked to leave.

In evaluating the program's overall impact, we looked first at the average effect on participants' earnings over the 24-month study period. We then examined whether program participants were more likely to find employment than controls or to work more hours. We also explored if program participants were more likely than controls to work in jobs that paid higher hourly wages, using thresholds of $11 and $13 an hour. Finally, we examined whether program participants were more likely to find jobs that offered benefits—including health insurance, paid vacation, paid sick leave and tuition reimbursement. (See Appendix C for a complete discussion of how earnings and wages were calculated.) Because the outcomes seen during the first 12 months include time spent in training, internships and the initial job search, we present both the effects seen during the full 24-month study period and those observed during the second year of the study (months 13 through 24, when participants were fully available to participate in the labor market). All differences between program participants and control group members discussed in this report are statistically significant unless otherwise noted.[14]

Table 2
Training Cohorts, by Site

	All Sites	JVS–Boston	Per Scholas	WRTP
Total Recruited	1,286	450	443	393
Completion Rate	75%	74%	78%	73%
Average Months in Training (Completers)	3.6	5.2	3.6	1.6
Number Who Left Training Early	132	47	38	47
Reason for Leaving Early (% of Those Leaving Early)				
Got a Job	20%	28%	18%	13%
Asked to Leave by Program	11%	2%	13%	17%
Left for Other Reason	42%	36%	47%	45%
Never Attended	27%	34%	21%	26%

In some cases, percentages may not add up to 100 because of rounding.

Table 3
Employment Outcomes, Total Sample

	Total Sample (N=985)[a]		
	Treatment Impact	Control Group Mean[b]	Treatment Group Mean
Earnings			
Total Earnings, 24 Months	$4,509***	$24,425	$28,934
Total Earnings, Months 13–24	$4,011***	$13,662	$17,673
Ever Employed			
Ever Employed, 24 Months	5%**	83%	88%
Ever Employed, Months 13–24	5%**	79%	84%
Months Employed			
Months Employed, 24 Months	1.3***	13.6	14.9
Months Employed, Months 13–24	1.3***	7.3	8.6
Hours Worked			
Total Hours Worked, 24 Months	245**	2,089	2,334
Total Hours Worked, Months 13–24	250***	1,130	1,380
Hourly Wage—$11 or More			
Months Working a Job Paying $11 an Hour, 24 Months	2.0***	6.6	8.6
Months Working a Job Paying $11 an Hour, Months 13–24	1.5***	3.9	5.4
Ever Worked a Job Paying $11 an Hour, 24 Months	14%***	45%	59%
Ever Worked a Job Paying $11 an Hour, Months 13–24	13%***	42%	55%
Hourly Wage—$13 or More			
Months Working a Job Paying $13 an Hour, 24 Months	1.2***	3.8	5.0
Months Working a Job Paying $13 an Hour, Months 13–24	0.9***	2.3	3.2
Ever Worked a Job Paying $13 an Hour, 24 Months	8%**	29%	37%
Ever Worked a Job Paying $13 an Hour, Months 13–24	8%***	26%	34%

[a] Twenty-nine respondents were excluded from the analysis due to missing data.

[b] For each model, we produced an estimated value for the outcome of interest. The treatment group mean values in all tables represent the average of the estimated value of each outcome of interest for all members of the treatment group. Control group means represent the program participant average minus the regression coefficient of the treatment variable.

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Figure 1
Total Earnings by Month, Total Sample

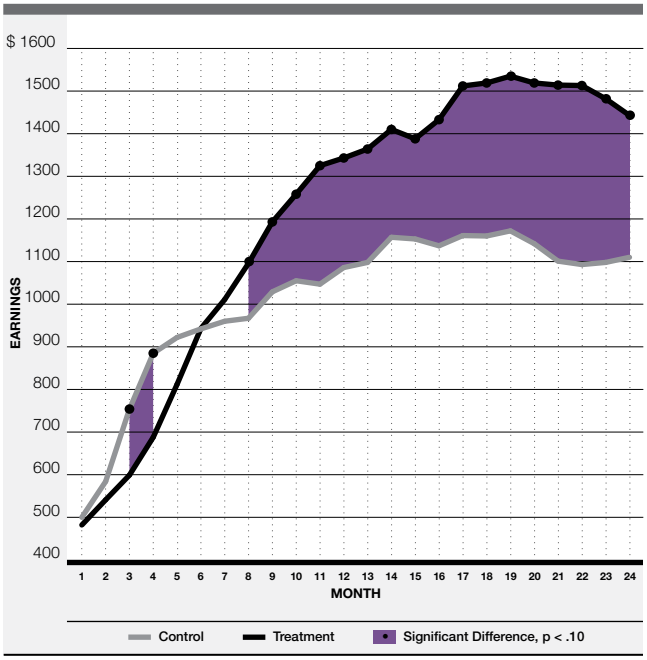
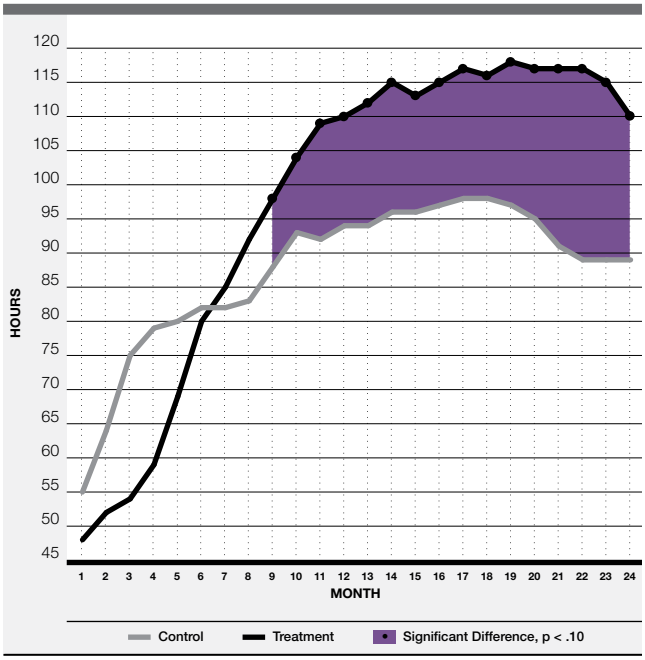


Figure 2
Hours Worked by Month, Total Sample



Key Findings

1. Participants in sector-focused programs earned significantly more than control group members, with most of the earnings gains occurring in the second year.

Participants in sector-focused training earned 18 percent—about $4,500—more than controls over the 24-month study period (see Table 3 on the previous page). The effect on earnings began around the eighth month and continued through the end of the two-year study period. Over the full two years, program participants earned an average of $187 more per month than controls. Not surprisingly, given that program participants were in training during the first year, most of the increase in earnings was seen during the second year (see Figure 1). During months 13 through 24, participants earned 29 percent more than controls on average, or $337 more per month—about $4,000 more overall.

2. Participants in sector-focused programs were significantly more likely to work and, in the second year, worked more consistently than control group members.

Part of program participants' earnings gains can be attributed to the fact that participants were more likely to find work and worked more consistently. Over the 24-month study period, program participants were significantly more likely to be employed, working on average 1.3 more months than controls. During the second year, program participants were significantly more likely than controls to work all 12 months (52 percent versus 41 percent)—an indication that sector-focused training programs helped participants find steadier employment. Program participants also worked significantly more hours—about 245 (on average 10 hours a month) more than controls over the 24-month study period and 250 (on average 20 hours a month) more than controls in the second year (months 13 through 24) (see Figure 2). During the first seven months of the study, while most program participants were still in training, controls were more likely to be employed. But by the eighth month (see Figure 3 on next page), after most program participants had finished training, this relationship was reversed and program participants were more likely to be employed than controls each month for the rest of the study period. Employment rates hovered around 70 percent for program participants in the second year, compared with about 60 percent for controls.

Figure 3
Likelihood of Employment by Month, Total Sample

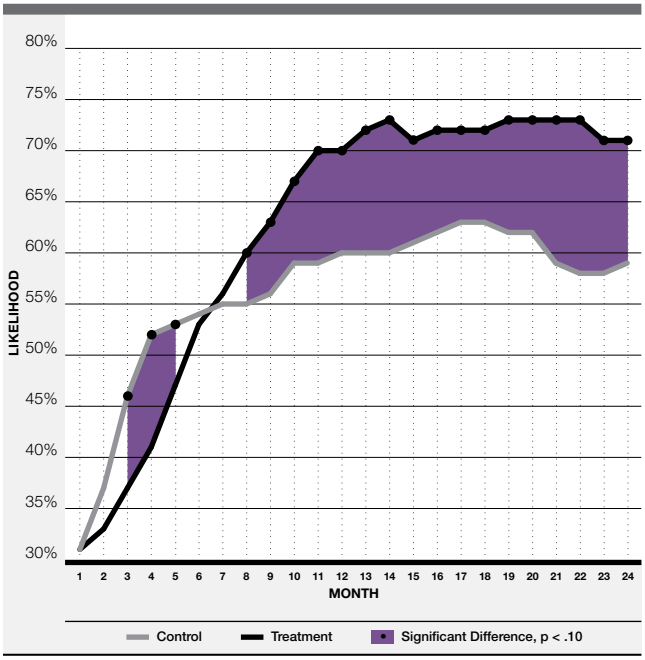
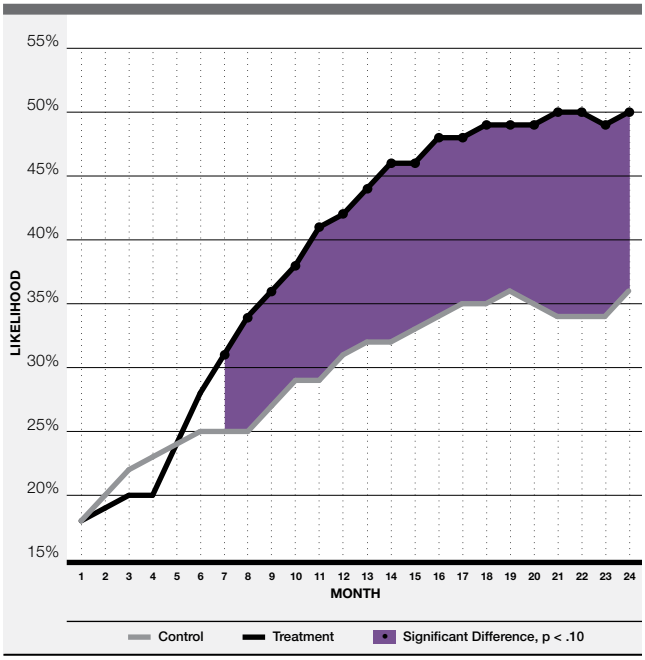


Figure 4
Likelihood of Working a Job Paying at Least $11 an Hour by Month, Total Sample



3. Program participants were significantly more likely to work in jobs with higher wages.

Over the full study period, program participants worked two more months than control group members in jobs that paid at least $11 an hour and 1.5 more months in the second year alone (see Table 3 on page 11). The likelihood of ever working a job that paid at least $11 an hour was 14 percentage points higher for program participants (59 percent) than controls (45 percent) over the entire study period and 13 percentage points higher (55 percent for program participants and 42 percent for controls) in the second year. Figure 4 shows that by month seven of the study period, program participants were significantly more likely to work in jobs that paid at least $11 an hour, with the likelihood peaking at around 50 percent in the last few months of the study period. For the control group, the likelihood of working a job that paid $11 an hour or more peaked at around 35 percent toward the end of the study period.

A similar pattern emerges when we look at the likelihood of working a job that paid at least $13 an hour. Over the full study period, program participants worked about a month more in these jobs, and their likelihood of ever working a job at this wage level was eight percentage points higher than that for controls. Toward the end of the study period, the program participants' likelihood of working a job that paid $13 an hour or more peaked just above 30 percent, versus just over 20 percent for the control group (see Figure 5 on the next page).

4. Program participants were significantly more likely to work in jobs that offered benefits.

During the full study period, program participants spent an average of 11 months working in jobs that offered benefits (e.g., health insurance, paid vacation, paid sick leave, tuition reimbursement)—about a month and a half longer than controls. In the second year, program participants spent about seven months working jobs that offered benefits—1.4 more months than controls. Figure 6 on the next page shows that beginning in the second year (month 13) and continuing through the end of the study period, the likelihood that program participants were working in jobs that offered benefits was between 50 and 60 percent, as compared with controls, whose likelihood ranged between 40 and 50 percent over the same period.

Figure 5
Likelihood of Working a Job Paying at Least $13 an Hour by Month, Total Sample

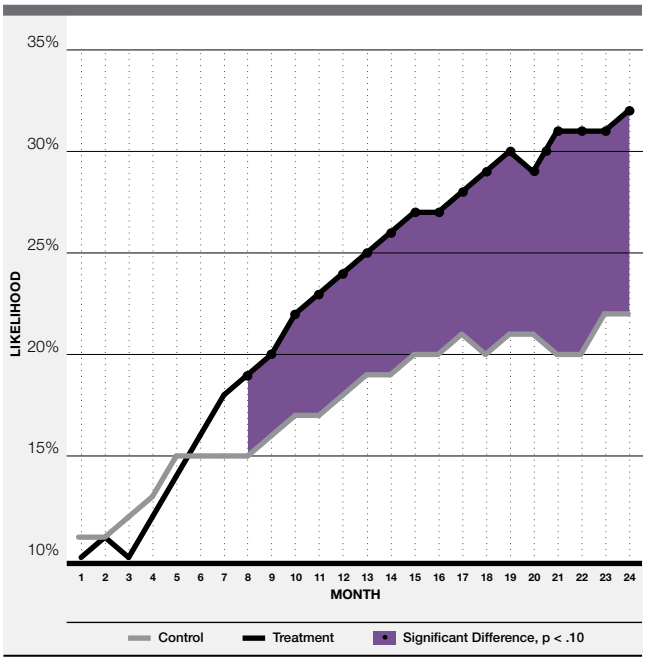
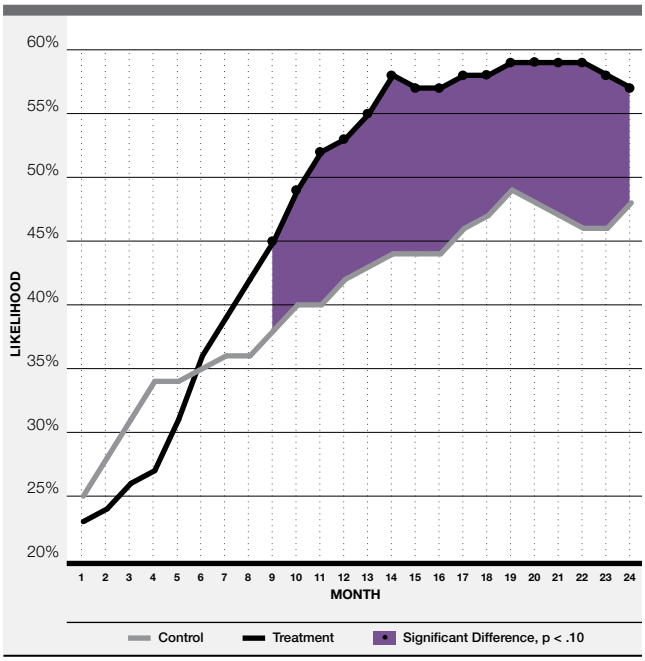


Figure 6
Likelihood of Working a Job Offering Benefits, Total Sample



5. For each subgroup analyzed, program participants had significant earnings gains as compared to their counterpart controls.

The three organizations in the study serve quite distinct target populations; therefore, the subgroups we examined were not evenly distributed among the three sites. All subgroups, however, had significant earnings gains (see Table 4 on the next page); the timing of these gains and the programs' effects on other employment outcomes (such as likelihood of being employed, working in jobs with higher wages, etc.) varied among groups (see Appendix D). It is likely that some of these differences are due to differences in the approaches at the three sites. It is also worth noting that not all subgroups had earnings gains at each site. Site-by-site findings, including findings for subgroups, are explored in greater depth in Chapter IV.

Summary

Overall, program participants fared much better in the labor market than controls. Program participants earned significantly more, and this was true for a range of subgroups. Program participants were more likely than their control group counterparts to find employment, to work all 12 months of the second year, to earn higher wages and to work in jobs that offered benefits.

To explore site differences in more depth, Chapter IV examines the effects observed for each individual organization.

Table 4
Earnings Impacts, Selected Subgroups, All Sites

	Treatment Impact, Total Earnings, 24 Months	Treatment Impact, Total Earnings, Months 13-24
Men (N=476)	$3,734	$3,777***
Women (N=518)	$5,752***	$4,555***
Young Adults 18 to 24 (N=281)	$2,918	$3,092**
Young Adults 18 to 26[a] (N=367)	$5,281***	$4,737***
African American (N=597)	$2,252	$2,577**
Formerly Incarcerated (N=215)	$5,947*	$4,769***
Ever on Welfare (N=364)	$2,630	$2,668**
On Welfare at Baseline (N=223)	$3,265	$3,286**
Foreign Born (N=233)	$7,821**	$6,375***
Latino (N=215)	$6,219**	$4,817**

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Program-Specific Findings

Chapter IV

Organizations that operate sector-focused training programs develop their strategies in the context of the regional economy, the local policy environment and particular employers' needs. Their strategies are also informed by their mission, target population and influence or position within the local employment sector and with local public and private funding agencies. For the three organizations involved in this study, these factors led to the development and delivery of different strategies that, in turn, yielded varying effects for the people being served. In this section, we describe each organization's position within the local industry and policy/funding environment, the strategy it developed, its target population and the specific effects of its sector-focused program.

Wisconsin Regional Training Partnership

Organizational Background

WRTP was founded in the 1990s with the goal of reviving the region's traditional industrial base, which had been devastated by plant closings, costing Milwaukee residents access to high-quality jobs. WRTP is a membership organization that enlists major area employers and the unions they work with. Members form sector-specific committees staffed by people from within each industry. Each committee works to develop WRTP services that will meet identified business needs, with the goal of supporting local businesses. At the same time, WRTP also identifies the best jobs for low-income Milwaukee residents.

Although WRTP originally focused its efforts on the manufacturing sector, in 2000 the organization received a US Department of Labor grant to develop a similar approach for other regional industry sectors. WRTP then began collaborating with BIG STEP, a local apprenticeship preparation program, to offer services in the construction sector. WRTP and BIG STEP eventually merged and combined their efforts in both manufacturing and construction, establishing WRTP's Center of Excellence for Skilled Trades and Industry. In addition, WRTP began developing services to meet the high demand for healthcare workers in Milwaukee.

By 2003, when the organization was selected to participate in this study, it was providing training and placement services in all three sectors (manufacturing, construction and healthcare), using a range of public and private funding sources. However, during the course of the study, WRTP suspended its manufacturing training owing to a downturn in this sector. In addition to preemployment training and placement services, WRTP also provides training for workers who are already employed, to help them advance their skills, as well as other services for its members; these services play an important role in the organization's ability to maintain strong relationships with employers and understand the labor market dynamics of its targeted sectors.

WRTP's preemployment training program—the focus of our study—was developed in response to member demand. In some cases, a specific employer "ordered up" training, indicating its plans to hire successful graduates. In others, such as in the healthcare sector, labor market information indicated that job opportunities were growing and WRTP consequently launched healthcare trainings. And in some cases, staff relationships with local leaders alerted them to upcoming job opportunities, such as those related to publicly financed construction projects. In all cases, however, the training period is relatively brief—ranging from two to eight weeks—as workers are needed to fill vacancies immediately. Basic skill levels required for entry vary from sixth to tenth grade.

WRTP serves as an intermediary, using its knowledge of and networks within industry not only to identify labor demand but also to find trainers and training providers. For example, WRTP's training providers may come from industry, local technical schools or community colleges. Similarly, WRTP works through a network of community-based organizations and other agencies to provide its participants with support services. Thus, unlike the other two programs in this study, WRTP has shorter-term training that is frequently offered through external providers, and interactions with participants are generally less intensive. Program participants reported spending an average of 1.6 months in training at WRTP, compared with 3.6 months for those at Per Scholas and 5.2 months at JVS–Boston.

Table 5
Baseline Characteristics of the Follow-Up Sample, WRTP

	Total	Control Group	Treatment Group
N	341	168	173
Response Rate	87%	85%	88%
Gender			
Male	52%	51%	53%
Female	48%	49%	47%
Race/Ethnicity and Foreign-Born Status			
African American	78%	78%	79%
Latino	4%	4%	3%
White	16%	16%	17%
Other	2%	2%	2%
Foreign Born	4%	4%	3%
Age			
18 to 24	28%	31%	26%
18 to 26[a]	34%	39%	30%*
25 to 54	70%	67%	73%
55 and Older	2%	2%	1%
Average Age	32.6	31.8	33.3
Education			
More Than a High School Diploma	8%	6%	9%
High School Diploma	58%	60%	57%
GED	22%	21%	23%
Less Than a High School Diploma	12%	13%	11%
Other Characteristics			
Married	14%	11%	17%
Ever on Welfare	37%	35%	40%
On Welfare at Baseline	14%	18%	11%*
Has Access to a Vehicle	75%	71%	78%
Average Number of Children in Household	1.4	1.3	1.6*
Moved in Last Two Years	49%	46%	51%
Completed Other Training Before Baseline	30%	32%	27%
Homeless in Year Prior to Baseline	8%	7%	8%
Ever Convicted of a Crime	44%	42%	45%
Formerly Incarcerated	37%	37%	38%
Employment History at Baseline			
Average Months Employed Year Prior to Baseline	8.0	8.0	7.9
Employed at Baseline	50%	49%	52%
Worked Full-Time All 12 Months Prior to Baseline	19%	17%	21%
Average Months Working Full-Time Year Prior to Baseline	4.5	4.4	4.5
Total Earnings Year Prior to Baseline	$11,592	$11,514	$11,667

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Study Participants

WRTP study participants were roughly evenly divided between men and women (see Table 5 on the previous page), though among the three sectors, more women participated in healthcare training, and more men engaged in manufacturing or construction training. Nearly 80 percent of participants were African American and 16 percent were white. Eighty percent had either a high school diploma or a GED, and 8 percent had some postsecondary education, while 12 percent had less than a high school education. Close to 50 percent had at some point been convicted of a crime—a significant barrier to employment in some sectors.

Almost 40 percent of WRTP study participants reported having received welfare at some point; 14 percent were receiving welfare at the time of enrollment. WRTP also served significant numbers of young adults: About 28 percent were between ages 18 and 24, and 34 percent were between 18 and 26. Young adults, defined either way, constitute a subgroup of WRTP study participants who were somewhat less educated, with about 20 percent having less than a high school education and 4 percent having (compared with 8 percent overall) some postsecondary education.

Although about 90 percent reported having worked in the year before the baseline survey was conducted, and 50 percent were employed when they enrolled, WRTP study participants reported an average annual income of only $11,600 for the year prior to the study.

The response rates to the follow-up survey at WRTP were high—87 percent overall, with 85 percent for controls and 88 percent for program participants. As a result, with three exceptions, there were no statistically significant differences between the baseline characteristics of the program participant and control groups at follow-up (see Table 5). (For a detailed description of the follow-up sample, see Appendix B.)

Key Findings

The effects seen at WRTP reflect its overall strategy of providing short-term, job-specific training and then helping guide disadvantaged workers into higher-quality jobs than they might have been able to access without its assistance. Overall, program participants earned significantly more even though they found employment at rates similar to their control counterparts. They were significantly more likely to work in higher-wage jobs, to secure union jobs and to work in jobs that offered benefits. They were also more likely to obtain certifications in both the healthcare and constructions tracks. Earnings gains varied across sectors: Construction participants saw the highest gains, followed by healthcare; participants in manufacturing did not achieve higher earnings than the control group, which is not surprising given the region's downturn in manufacturing.

WRTP's strategy also had different effects on earnings for different types of workers: Both African American and women participants earned significantly more than their counterpart controls, largely as a result of higher wages. Formerly incarcerated program participants also saw earnings gains, which were attributed to working more hours than controls as well as earning higher wages. For young adult participants and welfare recipients, there were no significant earnings gains.

These results are explored in detail on the following pages:

1. **WRTP participants earned significantly more than their control group counterparts—largely a result of working more hours and earning higher wages.**

WRTP program participants earned substantially more than control group members ($6,255, or 24 percent, more than controls over the 24-month study period, and $3,735, or 27 percent, more in the second year). In an average month during the study period, program participants earned about $267 more than controls, with the impact of training on earnings beginning around month eight of the study period (see Figure 7 on page 22). As shown in Table 6, the likelihood of employment was more than 90 percent for both program participants and controls. Participants worked approximately one month more and about 190 hours more than controls in the second year.

Table 6
Employment Outcomes, WRTP

	Total Sample (N=335)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings			
Total Earnings, 24 Months	$6,255***	$26,289	$32,544
Total Earnings, Months 13–24	$3,735***	$13,614	$17,349
Ever Employed			
Ever Employed, 24 Months	2%	92%	94%
Ever Employed, Months 13–24	2%	88%	90%
Months Employed			
Months Employed, 24 Months	1.1	15.9	17.0
Months Employed, Months 13–24	0.9*	8.1	9.0
Hours Worked			
Total Hours Worked, 24 Months	241	2,548	2,789
Total Hours Worked, Months 13–24	191*	1,293	1,484
Hourly Wage—$11 or More			
Months Working a Job Paying at Least $11 an Hour, 24 Months	2.2**	6.5	8.7
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.0**	3.5	4.5
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	18%***	39%	57%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	14%**	38%	52%
Hourly Wage—$13 or More			
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.4*	3.6	5.0
Months Working a Job Paying at Least $13 an Hour, Months 13–24	0.7*	2.0	2.7
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	14%**	23%	37%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	11%*	22%	33%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Figure 7
Total Earnings by Month, WRTP

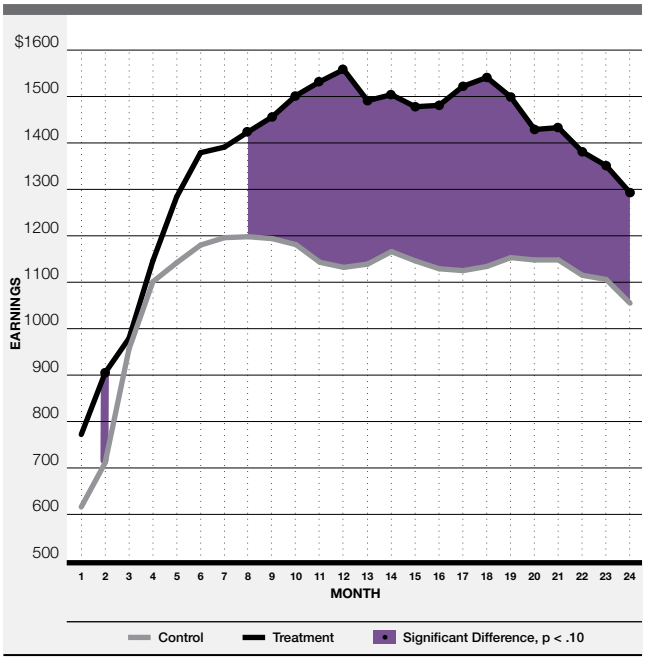
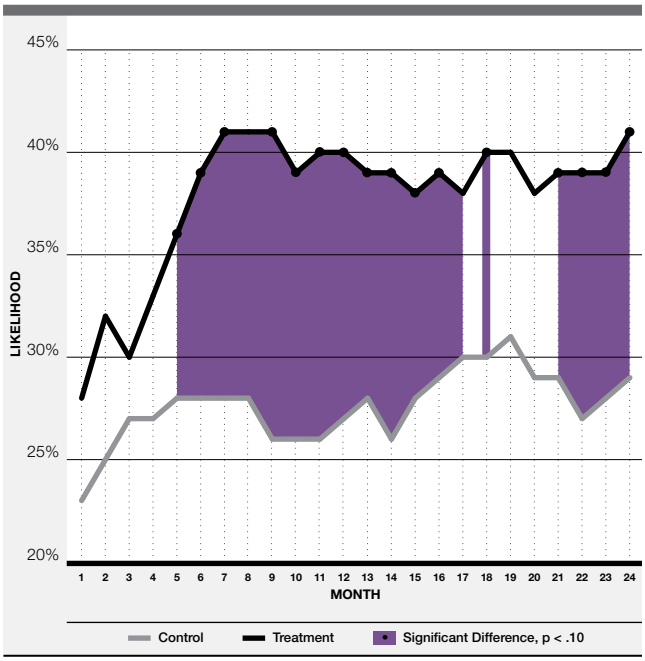


Figure 8
Likelihood of Working a Job Paying at Least $11 an Hour by Month, WRTP

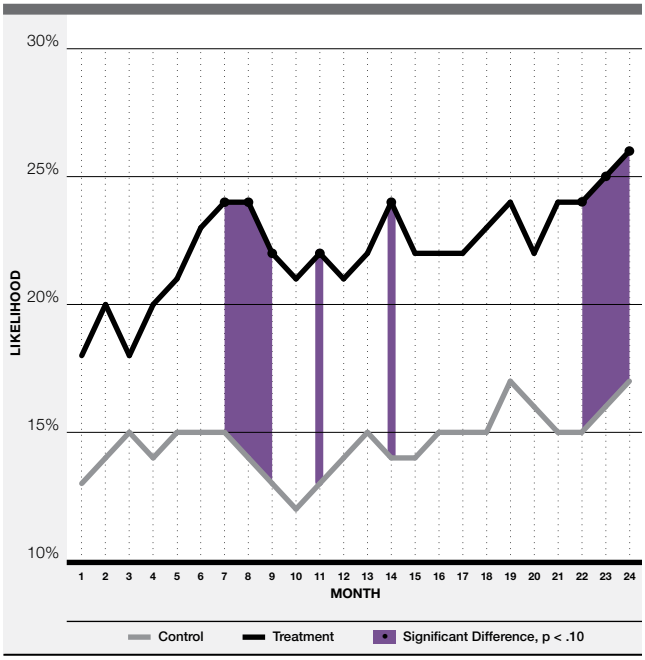


2. WRTP program participants were significantly more likely to work in jobs that paid higher hourly wages.

WRTP program participants had a significantly higher likelihood of working a job that paid at least $11 an hour than controls—18 percentage points higher over the entire study period and 14 percentage points higher in the second year alone. As a result, over the entire study period, WRTP participants worked two months more than controls in these higher-wage jobs and one more month in the second year (see Table 6 on the previous page). Figure 8 shows that beginning around month five of the study period, the likelihood that a WRTP participant was working in a job paying at least $11 an hour consistently hovered around 40 percent, whereas for controls it remained between 25 and 30 percent.

As with the $11 per hour threshold, program participants at WRTP were more likely to work in jobs paying at least $13 an hour, both over the entire study period and in the second year alone. Over the study period, they worked about five months in these jobs, compared with 3.6 months for controls. Figure 9 shows that beginning in

Figure 9
Likelihood of Working a Job Paying at Least $13 an Hour by Month, WRTP



month seven, WRTP participants were more likely to work in jobs paying at least $13 an hour, a difference that was statistically significant in 8 of the remaining 18 months.

3. WRTP program participants were significantly more likely to be offered benefits than were controls.

Program participants were significantly more likely to work in jobs that offered benefits and worked more months in those jobs than controls (see Table 7). Participants were also more likely to work in jobs that offered medical insurance (see Appendix E for more details).

4. WRTP program participants were more likely to hold union jobs than were controls.

One way WRTP helped steer participants toward high-quality positions was by improving their access to union jobs. However, the proportion of the labor market that is unionized has declined drastically in the region during the last 30 years,[15] and union jobs are often not available. Although most WRTP participants did not hold a union job during the study period, participants were significantly more likely to work in a union job during the two years than were controls (see Table 8). Across the three sectors in which WRTP offers training, participants' rates of employment at union jobs were essentially equal.

Table 7
Likelihood of Working a Job Offering Benefits, WRTP

	Total Sample (N=335)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Likelihood of Working a Job Offering Benefits, 24 Months	12%***	67%	79%
Likelihood of Working a Job Offering Benefits, Months 13–24	13%***	60%	73%
Months Working a Job Offering Benefits, 24 Months	2.2***	10.0	12.2
Months Working a Job Offering Benefits, Months 13–24	1.1**	5.3	6.4

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 8
Likelihood of Working a Unionized Job, WRTP

	Total Sample (N=335)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Likelihood of Working a Unionized Job, 24 Months	12%**	28%	40%
Likelihood of Working a Unionized Job, Months 13–24	11%**	23%	34%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 9
Employment Outcomes by Industry Sector, WRTP

	Healthcare (N=137)			Construction (N=123)			Manufacturing (N=75)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings									
Total Earnings, 24 Months	$3,784	$24,419	$28,203	$9,475**	$30,365	$39,840	$638	$27,386	$28,204
Total Earnings, Months 13–24	$2,923*	$12,404	$15,327	$5,692**	$15,420	$21,112	-$515	$14,844	$14,329
Ever Employed									
Ever Employed, 24 Months	1%	91%	92%	-1%	89%	88%	7%	81%	88%
Ever Employed, Months 13–24	0%	87%	87%	0%	88%	88%	3%	44%	47%
Months Employed									
Months Employed, 24 Months	0.9	16.5	17.4	1.4	15.9	17.3	-0.6	16.1	15.5
Months Employed, Months 13–24	1.2*	8.4	9.6	1.0	8.0	9.0	-0.4	8.3	7.9
Hours Worked									
Total Hours Worked, 24 Months	116	2,395	2,511	304	2,898	3,202	-84	2,675	2,591
Total Hours Worked, Months 13–24	207	1,188	1,395	210	1,461	1,671	-67	1,395	1,328
Hourly Wage—$11 or More									
Months Working a Job Paying at Least $11 an Hour, 24 Months	3.3**	5.7	9.0	-0.2	9.5	9.3	1.9	6.3	7.2
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.7**	2.8	4.5	0	5.0	5.0	0.5	3.1	3.6
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	20%***	33%	53%	12%	47%	59%	20%*	34%	54%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	16%**	33%	49%	13%	45%	58%	12%	34%	46%
Hourly Wage—$13 or More									
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.8	3.1	4.9	1.5	4.8	6.3	-0.4	3.6	3.2
Months Working a Job Paying at Least $13 an Hour, Months 13–24	0.6	1.7	2.3	1.4	2.3	3.7	-0.5	2.1	1.6
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	8%	22%	30%	22%*	25%	47%	10%	31%	41%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	5%	20%	25%	23%*	22%	45%	-3%	31%	28%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

5. Participants in programs focused on healthcare and construction—the sectors in which WRTP served the most people—saw earnings effects, though these resulted from different factors.

a. Participants in WRTP's healthcare track earned significantly more than controls, but only in the second year.

WRTP healthcare-track participants saw significant earnings gains, though not until the study's second year. They earned about $2,900 (or 24 percent) more than controls during months 13 through 24 (see Table 9 on the previous page). These participants worked about one month more in the second year but were not more likely to have ever worked, and they did not work significantly more hours than controls. Program participants in WRTP's healthcare track were significantly more likely to work in jobs that paid at least $11 an hour and worked three more months in these jobs than controls. However, they were not more likely to work in jobs that paid at least $13 an hour. Finally, WRTP healthcare participants were significantly more likely to work in jobs that offered benefits and spent 2.5 more months in such jobs than controls over the entire study period.

WRTP also offered participants the opportunity to pursue Certified Nursing Assistant (CNA) and Certified Medical Assistant (CMA) certificates. WRTP participants were significantly more likely than controls to earn these certificates (see Table 10).

b. Program participants in WRTP's construction track had substantially higher earnings than their control group counterparts.

WRTP construction-track participants earned significantly more than controls—nearly $9,500 over the entire study period and about $5,700 during the second year alone (see Table 9). These participants were not more likely to have ever worked, did not work more months and did not work significantly more hours. WRTP construction-track participants were significantly more likely than controls to work in jobs that paid at least $13 an hour, but no significant differences were found in the likelihood of working in jobs that paid at least $11 an hour. This is probably a reflection of the higher wages generally paid in the construction sector, in which many of these program participants found jobs. We also tested whether WRTP construction-track program participants were more likely than controls to work in jobs that paid $15 an hour or more (see Appendix E), and in fact they were. This was not the case for participants in the manufacturing and healthcare tracks.

WRTP participants had an opportunity to earn several different certifications in the construction field, including in asbestos removal, utilities construction and general construction. Program participants were significantly more likely to earn one of these certificates than controls (60 percent of participants, versus 12 percent of controls) (see Table 10).

Table 10
Likelihood of Receiving a Certification, WRTP

Certified Nursing Assistant (N=137)			Certified Medical Assistant (N=137)			Construction (N=123)		
Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
34%***	11%	45%	22%***	4%	26%	48%***	12%	60%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

c. Participants in WRTP's manufacturing track did not have higher earnings and did not work more compared with controls.

As seen in Table 9 on page 24, manufacturing-track participants did not experience earnings or employment gains. (As noted earlier, given the deteriorating opportunities in manufacturing that program leaders observed, WRTP stopped offering the manufacturing preemployment training during the study period.) The lack of effects may reflect this downturn in the sector. Participants in WRTP's manufacturing track were, however, more likely to work in jobs that offered benefits over the 24-month study period, though not in the second year alone.

6. African Americans, women and formerly incarcerated WRTP participants earned significantly more than controls.

A key element of WRTP's strategy is creating new employment networks for individuals who may encounter barriers to entry into the labor market. African Americans, women and formerly incarcerated people clearly benefited from this strategy.

As shown in Table 11 on the next page, female WRTP participants earned $7,159 (or 30 percent) more than female controls over the course of the study. African American participants earned $4,594 (or 18 percent) more than their control group counterparts. Whereas women and African American program participants were not more likely to work and did not work more hours than their control group counterparts, they were significantly more likely to work in jobs that paid at least $11 and $13 an hour, respectively. It is likely, therefore, that the higher earnings for participants in these two subgroups resulted from their finding work in higher-paying jobs.

Formerly incarcerated participants earned in excess of $8,000 (or 44 percent) more than formerly incarcerated controls; they worked significantly more months and more hours than their control group counterparts. Formerly incarcerated individuals were also significantly more likely to work in jobs that paid hourly wages of at least $11 and $13, respectively (see Table 11).

Young adult program participants did not have higher earnings, were not more likely to have worked and did not work more hours than their control group counterparts. Interestingly, they were significantly more likely to work in higher-wage jobs and spent more months working in those jobs. Working in jobs with higher wages did not translate into significantly higher earnings overall, because participants were working fewer hours on average (although this difference in hours was not statistically significant). Welfare recipients also had no significant earnings or employment gains compared with their control group peers.

When considered as a group, men did not earn significantly more than their control group counterparts. A number of factors may contribute to this outcome: 35 percent of the men at WRTP were enrolled in the manufacturing program, in which, likely owing to the sector's economic downturn, program participants did not see significant earnings gains. Men in the construction program did earn substantially more than their control group counterparts, although these gains are not significant, likely because of small sample sizes. If men in both construction and manufacturing (but excluding healthcare) are considered together, the sample size is large enough to show significance, and the gains in the construction sector are strong enough to offset the lack of earnings gains in manufacturing. In sum, while male program participants—considered together as a group—did not earn significantly more than male controls, it is difficult to know whether this reflects WRTP's effects with this group, or simply the limitations of sample size.

Summary

WRTP's strong connections to local employers in a range of sectors enabled it to develop relevant and flexible programs and broker participants into higher-quality jobs. WRTP offered the shortest training of the three study sites, and its effects were seen the earliest and were sustained throughout the study period.

Table 11
Employment Outcomes, Selected Subgroups, WRTP

	Men (N=174)			Women (N=161)			Young Adults 18–24 (N=95)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings									
Total Earnings, 24 Months	$5,207	$28,981	$34,188	$7,159***	$23,535	$30,694	$16	$21,578	$21,594
Total Earnings, Months 13–24	$2,967	$14,864	$17,831	$4,413***	$12,234	$16,647	$248	$12,255	$12,503
Ever Employed									
Ever Employed, 24 Months	-1%	92%	91%	4%	91%	95%	1%	88%	89%
Ever Employed, Months 13–24	-2%	89%	87%	2%	86%	88%	-9%	89%	79%
Months Employed									
Months Employed, 24 Months	0.6	15.7	16.4	0.9	16.7	17.7	-0.5	15.2	14.7
Months Employed, Months 13–24	0.5	8.1	8.6	1.0	8.4	9.4	0.2	8.1	8.3
Hours Worked									
Total Hours Worked, 24 Months	109	2,805	2,914	234	2,414	2,648	-326	2,415	2,089
Total Hours Worked, Months 13–24	118	1,419	1,537	202	1,221	1,423	-139	1,357	1,218
Hourly Wage—$11 or More									
Months Working a Job Paying at Least $11 an Hour, 24 Months	0.7	7.1	7.8	3.9***	5.8	9.7	2.2**	6.5	8.7
Months Working a Job Paying at Least $11 an Hour, Months 13–24	0.3	3.8	4.2	1.9**	3.0	4.9	1.0**	3.5	4.5
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	10%	46%	57%	25%***	32%	57%	18%***	39%	57%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	8%	44%	52%	20%**	32%	52%	14%**	38%	52%
Hourly Wage—$13 or More									
Months Working a Job Paying at Least $13 an Hour, 24 Months	0.8	4.0	4.7	2.3*	3.1	5.5	1.4*	3.6	5.1
Months Working a Job Paying at Least $13 an Hour, Months 13–24	0.4	2.1	2.5	1.2*	1.8	2.9	0.7*	2.0	2.7
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	10%	29%	39%	17%**	18%	35%	14%**	23%	37%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	7%	26%	33%	14%*	17%	31%	11%*	22%	33%

Small sample size prevented an analysis of Latino participants, foreign born participants and those receiving welfare at baseline.
Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 11 *continued*
Employment Outcomes, Selected Subgroups, WRTP

	Young Adults 18–26[a] (N=113)			African American (N=262)			Formerly Incarcerated (N=123)			Ever on Welfare (N=124)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings												
Total Earnings, 24 Months	$1,221	$21,981	$23,202	$4,594*	$24,991	$29,585	$8,398**	$19,018	$27,416	$1,052	$27,486	$28,898
Total Earnings, Months 13–24	$1,353	$11,932	$13,285	$2,741*	$13,139	$15,880	$4,780**	$9,762	$14,542	$1,131	$14,305	$15,436
Ever Employed												
Ever Employed, 24 Months	2%	88%	90%	1%	92%	93%	5%	87%	92%	-4%	96%	92%
Ever Employed, Months 13–24	-7%	87%	80%	-1%	89%	88%	5%	83%	88%	-9%*	94%	85%
Months Employed												
Months Employed, 24 Months	0	15.1	15.1	1.0	15.3	16.3	3.5**	12.1	15.6	-0.3	16.8	16.5
Months Employed, Months 13–24	0.6	7.8	8.4	0.8	7.8	8.7	2.1**	6.3	8.4	0.4	8.5	8.9
Hours Worked												
Total Hours Worked, 24 Months	-193	2,421	2,228	201	2,421	2,622	509*	1,943	2,452	-7	2,548	2,541
Total Hours Worked, Months 13–24	-28	1,299	1,271	159	1,241	1,399	312*	1,001	1,313	60	1,317	1,377
Hourly Wage—$11 or More												
Months Working a Job Paying at Least $11 an Hour, 24 Months	3.8***	2.2	6.1	2.3**	5.1	7.4	2.0	4.4	6.4	1.1	8.0	9.1
Months Working a Job Paying at Least $11 an Hour, Months 13–24	2.3***	1.1	3.4	1.1*	2.8	3.9	1.1	2.3	3.4	0.6	4.1	4.7
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	19%***	22%	41%	19%***	34%	53%	17%**	34%	51%	18%	36%	54%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	15%***	20%	35%	15%**	32%	47%	15%*	33%	48%	15%	36%	51%
Hourly Wage—$13 or More												
Months Working a Job Paying at Least $13 an Hour, 24 Months	2.8**	0.8	3.6	1.4*	2.5	3.9	1.6	2.2	3.8	0.2	4.2	4.4
Months Working a Job Paying at Least $13 an Hour, Months 13–24	1.4**	0.5	1.9	0.7	1.4	2.1	1.0	1.2	2.2	0	2.4	2.4
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	18%**	13%	31%	14%**	19%	33%	15%**	22%	37%	9%	22%	31%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	14%**	11%	25%	10%*	17%	27%	11%**	21%	32%	7%	21%	28%

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

Small sample size prevented an analysis of Latino participants, foreign born participants and those receiving welfare at baseline.

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.

Asterisks (*) indicate statistically significant differences between treatments and controls; *p < 0.10 **p < 0.05 ***p < 0.01

JVS–Boston

Organizational Background

Founded in 1938, JVS–Boston is one of several loosely affiliated JVS agencies nationwide. Originally, its mission focused on helping Jewish immigrants launch their careers. Like many of the affiliates, JVS–Boston broadened its scope in the early 1980s, beginning in 1981, when it received a grant from the Foundation for Jewish Philanthropies to assist Russian immigrants in finding work. Over the next three decades, it extended its employment services—which include several long-term occupational skills training programs—to a broad range of Boston's poor (e.g., refugees, immigrants, women on welfare), funded through contracts with both city and state agencies.

In 1996, JVS–Boston won a contract to run The Work Place, one of Boston's three WIA-funded One-Stops. Operating independently, this One-Stop assists hundreds of Bostonians monthly with employment-related services, including administering WIA-funded training vouchers.

JVS–Boston has also developed services for incumbent workers.[16] Beginning by offering English-language training services to employers who had hired a large number of refugees, JVS–Boston went on to provide such services to incumbent workers, with funding from the federal National Workplace Literacy Program and then Welfare-to-Work Program grants. After the grants ended, JVS–Boston continued to offer this training on a fee-for-service and grant-funded basis. By the time this study began, the agency's fee-for-service incumbent worker trainings had been expanded and included a long-term contract with Massachusetts General Hospital.

In 2000, JVS–Boston launched a newly organized Center for Careers and Lifelong Learning (CALL) that was intended to replace departments organized around siloed government contracts with a functional approach. CALL focused on career pathways and provided long-term (up to two years) follow-up with participants. The reorganization was also aimed at strengthening JVS–Boston's employer services by developing a centralized employer account management system that would consolidate contacts, relationships and knowledge about employers in one department.

Building on a long history with area employers, JVS–Boston also established sector-based employer advisory boards that helped the agency craft its occupational skills training curriculum. And during the study, JVS–Boston received an earmark grant to increase the agency's capacity to work with employers, including hiring a full-time employer-relations staff person.

Participants in JVS–Boston's occupational skills training programs—medical assistant, computerized accounting and office skills—were initially included in the study, but the office skills program was dropped early on due to loss of funding. Established in the early 1990s, these three programs provided technical skills training as well as job readiness workshops and basic skills support; they ranged in length from 20 to 22 weeks. Halfway through the study, in response to changes in the labor market, JVS–Boston combined the medical assistant and computerized accounting programs into a medical office program.

JVS–Boston also provided strong support to students by offering case management and referrals to outside agencies, as well as access to other services (e.g., tax preparation assistance) at the program site. Committed to providing long-term follow-up, JVS–Boston staff continued to help program graduates stay in their jobs or find new ones. In the follow-up survey, 90 percent of JVS–Boston participants reported having been contacted after graduation, while 31 percent reported having been contacted at least once a month and 30 percent said they had been contacted more often. This level of contact was the highest among the three programs in the study.

Study Participants

Study participants at JVS–Boston were primarily women (88 percent); 61 percent of all participants had been on welfare at some point, and almost half were on welfare when they enrolled in the program (see Table 12). Among JVS–Boston study participants, women primarily enrolled in the medical office track, while men primarily chose the computerized accounting track. Among male study participants, 21 percent had been on welfare at some point, and 15 percent were on welfare when they enrolled. Most JVS–Boston study participants

Table 12
Baseline Characteristics of the Follow-Up Sample, JVS–Boston

	Total	Control Group	Treatment Group
N	328	147	181
Response Rate	73%	66%	80%
Gender			
Male	12%	14%	11%
Female	88%	86%	89%
Race/Ethnicity and Foreign-Born Status			
African American	53%	56%	50%
Latino	19%	21%	18%
White	17%	13%	20%*
Other	11%	10%	13%
Foreign Born	41%	38%	44%
Age			
18 to 24	31%	35%	28%
18 to 26[a]	41%	44%	39%
25 to 54	65%	61%	69%
55 and Older	4%	4%	3%
Average Age	31.6	31.1	32.0
Education			
More Than a High School Diploma	18%	15%	21%
High School Diploma	55%	55%	54%
GED	19%	21%	17%
Less Than a High School Diploma	8%	9%	7%
Other Characteristics			
Married	22%	16%	27%**
Ever on Welfare	61%	65%	59%
On Welfare at Baseline	49%	52%	48%
Has Access to a Vehicle	31%	28%	33%
Average Number of Children in Household	1.5	1.6	1.5
Moved in Last Two Years	50%	48%	51%
Completed Other Training Before Baseline	19%	22%	17%
Homeless in Year Prior to Baseline	7%	9%	6%
Ever Convicted of a Crime	4%	6%	3%
Formerly Incarcerated[b]	n.a.	n.a.	n.a.
Employment History at Baseline			
Average Months Employed Year Prior to Baseline	5.5	5.1	5.9
Employed at Baseline	23%	21%	25%
Worked Full-Time All 12 Months Prior to Baseline	3%	3%	3%
Average Months Working Full-Time Year Prior to Baseline	2.4	2.3	2.5
Total Earnings Year Prior to Baseline	$7,075	$7,098	$7,055

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

[b] Formerly incarcerated individuals were not eligible for the training program included in the study.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

had either a high school diploma (55 percent) or a GED (19 percent); another 18 percent had also completed some postsecondary education, and only 8 percent had not finished high school. A sixth-grade reading level was required for entry into all programs included in the study.

JVS–Boston also served a large number of young adults. Among study participants, almost one third were between ages 18 and 24, and almost half were between 18 and 26. The 18- to 26-year-olds were almost entirely female (96 percent) and had less education than JVS–Boston participants overall. Fifteen percent had less than a high school education, and only 4 percent had any postsecondary education.

Overall, the women at JVS–Boston were less educated than the men. Only 16 percent of women had some postsecondary education, compared with 35 percent of men, and 8 percent had less than a high school education, compared with 5 percent of men. The male participants were also older (with a median age of nearly 40), and 70 percent were immigrants. In fact, a high proportion of JVS–Boston's study participants were immigrants (41 percent), with the highest concentrations coming from Ethiopia, Albania, China, the Dominican Republic and Haiti.

JVS–Boston participants were, as a group, the most economically disadvantaged of the three sites in the study. On average, JVS–Boston study participants worked just 5.5 months in the year before the baseline survey was conducted and just 2.4 months full-time. Only 3 percent had worked full-time for the entire year prior to baseline. Overall, their total earnings averaged just $7,075 in the year prior to baseline.

The overall response rate at JVS–Boston was 73 percent; however, a considerable difference existed in the response rates of program participants (80 percent) and members of the control group (66 percent). As a result of these differences in response rates, treatments in the follow-up sample were slightly more likely to be white and more likely to be married (see Table 12). With these exceptions, there did not appear to be any systematic differences in the characteristics of the participant and control groups in the follow-up sample at JVS–Boston (see Appendix B for more details).

Key Findings

JVS–Boston's strategy was to provide participants with job-specific occupational skills through an intensive five-and-a-half-month training program (the longest training in the study) and to supplement this training with a high level of support. JVS–Boston offered substantial support during and after the program. It was able to guide participants into employment opportunities thanks to its knowledge of the healthcare sector. JVS–Boston's results reflect this approach: Program participants saw 21 percent earnings gains over the two-year period and a 35 percent earnings gain in the second year alone, largely as a result of their being more likely to find employment than their control group counterparts. They also worked more hours and were more likely to earn at least $11 an hour. Young adult program participants did particularly well, perhaps reflecting the high level of support provided by program staff; these younger participants earned almost 50 percent more than young adult controls. African American participants and participants who had ever received welfare also saw earnings gains, entirely due to working more months and more hours. We did not see any significant effects for foreign-born program participants, who were older, disproportionately male and more educated than the overall sample. The number of men at JVS–Boston was too small to be analyzed separately.

These results are explored in detail on the following pages:

1. **JVS–Boston program participants earned significantly more than their control group counterparts over the entire study period, with most gains occurring in the second year.**

JVS–Boston program participants earned $4,339 (or 21 percent) more than controls during the 24-month study period, with almost all of the gains ($4,237) occurring in the second year (see Table 13 on page 33). As shown in Figure 10, earnings were not significantly higher until the 11th month, reflecting the five-and-a-half months participants were involved in full-time training. During the second year, however, participants earned 35 percent—$332 per month on average—more than controls.

Figure 10
Total Earnings by Month, JVS–Boston

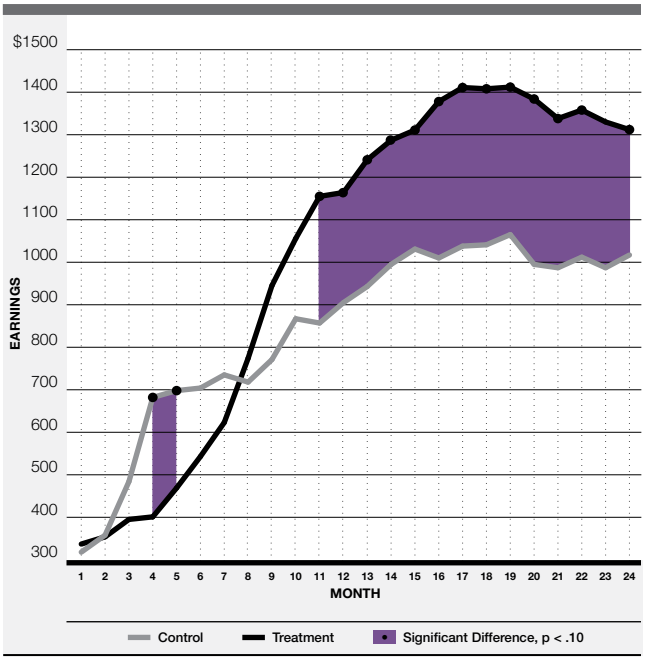
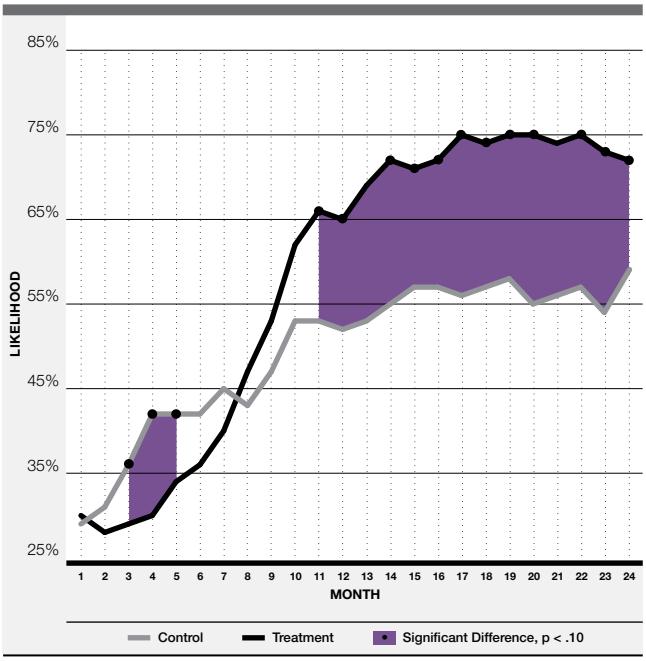


Figure 11
Likelihood of Employment by Month, JVS–Boston



2. JVS–Boston program participants were significantly more likely to have been employed and worked more months and more hours than controls.

JVS–Boston participants were significantly more likely to work than were controls. By the second year, the likelihood that a JVS–Boston participant would be employed in a given month was slightly above 70 percent, compared with about 55 percent for controls (see Figure 11). In the second year of the study, participants worked nearly two months more than controls and 335 more hours, about 28 more hours a month (see Table 13 on the next page).

3. Program participants at JVS–Boston were significantly more likely than their control group peers to work in jobs that paid at least $11 an hour.

Over the entire study period, JVS–Boston participants were significantly more likely to work in jobs offering wages of at least $11 an hour and worked more than two more months in these jobs than did controls. Figure 12 shows that, beginning in month eight of the study period, and lasting through its

Figure 12
Likelihood of Working a Job Paying at Least $11 an Hour by Month, JVS–Boston

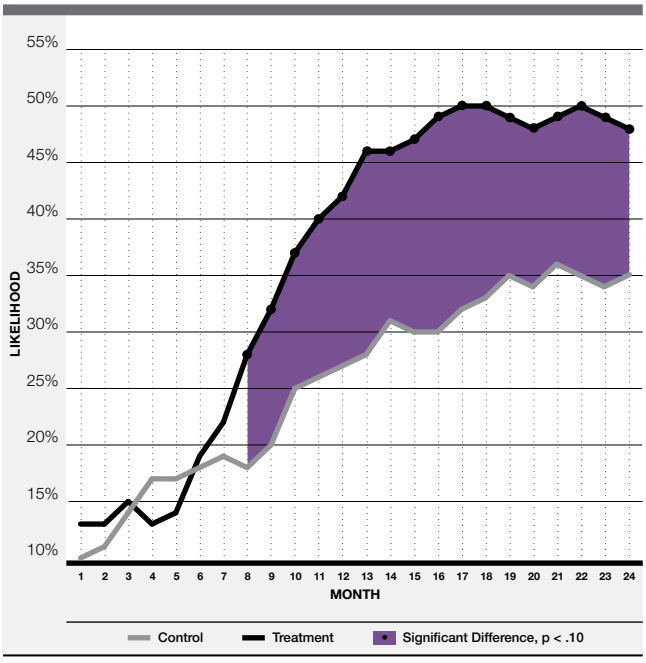


Table 13
Employment Outcomes, JVS–Boston

	Total Sample (N=313)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings			
Total Earnings, 24 Months	$4,339**	$20,186	$24,525
Total Earnings, Months 13–24	$4,237***	$12,098	$16,335
Ever Employed			
Ever Employed, 24 Months	10%**	78%	88%
Ever Employed, Months 13–24	10%**	72%	82%
Months Employed			
Months Employed, 24 Months	1.6	12.3	13.8
Months Employed, Months 13–24	1.9***	6.8	8.7
Hours Worked			
Total Hours Worked, 24 Months	298*	1,704	2,003
Total Hours Worked, Months 13–24	335***	980	1,315
Hourly Wage—$11 or More			
Months Working a Job Paying at Least $11 an Hour, 24 Months	2.2**	6.1	8.4
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.6***	4.0	5.6
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	12%**	47%	59%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	12%*	43%	55%
Hourly Wage—$13 or More			
Months Working a Job Paying at Least $13 an Hour, 24 Months	0.7	3.3	4.0
Months Working a Job Paying at Least $13 an Hour, Months 13–24	0.6	2.2	2.7
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	2%	27%	29%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	3%	24%	27%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 14
Likelihood of Working a Job Offering Benefits, JVS–Boston

	Total Sample (N=313)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Likelihood of Working a Job Offering Benefits, 24 Months	8%	62%	70%
Likelihood of Working a Job Offering Benefits, Months 13–24	8%	57%	65%
Months Working a Job Offering Benefits, 24 Months	1.3	8.7	10.0
Months Working a Job Offering Benefits, Months 13–24	1.2*	5.4	6.6

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

end, program participants had a significantly higher likelihood of working in a job paying at least $11 an hour than did controls. JVS–Boston program participants were not more likely than controls to work in a job paying at least $13 an hour.

4. Program participants at JVS–Boston were not more likely than controls to work in jobs that offered benefits.

There were no significant differences in the rate that JVS–Boston participants or controls were offered any benefits, either during the study period or at the time of the follow-up survey (see Table 14). In fact, at follow-up, 90 percent of both participants and controls had some type of health insurance, either through public or private sources. Among other factors, this may be a result of Massachusetts' legislation requiring individuals to have health insurance and subsidizing insurance for low-income individuals.[17]

5. African Americans, young adults and program participants who had received welfare earned significantly more than their control group counterparts.

a. JVS–Boston program participants who were young adults earned significantly more than controls—not because they were more likely to be employed but because they worked more months and more hours.

To explore the potential of sector-focused training for young adults, we examined the program's effects among JVS–Boston participants who were between ages 18 and 24 (about one in three) and between 18 and 26 (almost half).

The findings for both young adult age groups differ from those for the overall sample but follow a similar pattern. First, both groups of young adult JVS–Boston participants earned significantly more than did their control group counterparts. Among those ages 18 to 24, these gains were significant only in the second year, with program participants earning $4,935 (or 46 percent) more than controls (see Table 15 on page 35). Among those ages 18 to 26, program participants also earned significantly more both during the entire two-year study ($7,895, or 42 percent) and in the second year ($6,638, or 64 percent).

While young adult participants were not more likely to have ever worked during the study period, they did work during significantly more months and for more hours. Young adult program participants and controls were equally likely to have worked in jobs that paid at least $11 an hour, but program participants worked more months in those jobs.

b. JVS–Boston participants who had received welfare at some point experienced significant earnings gains, but only in the second year.

JVS–Boston program participants included a significant number of people who had received welfare:

Table 15
Employment Outcomes, Selected Subgroups, JVS–Boston

	Foreign Born (N=130)			Women (N=276)			Young Adults 18–24 (N=98)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings									
Total Earnings, 24 Months	$87	$25,697	$25,784	$4,766**	$19,080	$23,846	$4,238	$20,681	$24,919
Total Earnings, Months 13–24	$1,932	$16,065	$17,997	$4,686***	$11,276	$15,962	$4,935**	$10,689	$15,624
Ever Employed									
Ever Employed, 24 Months	6%	80%	85%	10%**	77%	87%	4%	86%	89%
Ever Employed, Months 13–24	7%	76%	83%	10%*	71%	81%	2%	81%	84%
Months Employed									
Months Employed, 24 Months	1.2	13.7	14.9	1.8*	11.9	13.7	1.4	12.8	14.2
Months Employed, Months 13–24	1.6*	7.6	9.2	2.0***	6.6	8.6	2.8***	5.6	8.4
Hours Worked									
Total Hours Worked, 24 Months	-193	2,263	2,070	676	1,262	1,939	457	1,748	2,205
Total Hours Worked, Months 13–24	100	1,298	1,398	428	851	1,279	548***	784	1,332
Hourly Wage—$11 or More									
Months Working a Job Paying at Least $11 an Hour, 24 Months	1.9	7.7	9.6	2.4**	6.0	8.4	2.6*	4.3	6.9
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.3	5.3	6.6	1.8***	3.9	5.7	2.2**	2.7	4.9
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	6%	54%	60%	14%**	47%	61%	12%	40%	52%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	9%	50%	59%	14%**	42%	56%	19%	31%	50%
Hourly Wage—$13 or More									
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.4	3.7	5.1	1.0	3.2	4.2	-0.7	2.4	1.7
Months Working a Job Paying at Least $13 an Hour, Months 13–24	0.9	2.7	3.6	0.8	2.1	2.9	0	1.3	1.3
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	2%	30%	32%	4%	26%	30%	3%	24%	27%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	6%	26%	32%	5%	23%	28%	3%	21%	24%

Note: Small sample sizes prevented an analysis of men, Latino and formerly incarcerated participants at JVS–Boston.
Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 15 *continued*
Employment Outcomes, Selected Subgroups, JVS–Boston

	Young Adults 18–26[a] (N=130)			Ever on Welfare (N=194)			On Welfare at Baseline (N=156)			African American (N=164)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings												
Total Earnings, 24 Months	$7,895**	$18,833	$26,728	$3,544	$19,216	$22,760	$3,012	$18,327	$21,339	$2,751	$20,810	$23,561
Total Earnings, Months 13–24	$6,638***	$10,296	$16,934	$3,689**	$11,408	$15,097	$3,117	$11,196	$14,313	$3,459*	$11,725	$15,184
Ever Employed												
Ever Employed, 24 Months	5%	84%	89%	5%	79%	84%	6%	77%	83%	7%	81%	88%
Ever Employed, Months 13–24	4%	80%	84%	6%	71%	77%	7%	68%	75%	11%	73%	83%
Months Employed												
Months Employed, 24 Months	1.7	12.9	14.6	0.8	11.3	12.1	1.2	10.3	11.5	1.2	12.0	13.3
Months Employed, Months 13–24	2.8***	5.8	8.6	1.4*	6.5	7.8	1.6*	6.1	7.7	1.9**	6.6	8.4
Hours Worked												
Total Hours Worked, 24 Months	541**	1,718	2,259	396*	1,492	1,887	371	1,416	1,786	167	1,759	1,926
Total Hours Worked, Months 13–24	532**	827	1,359	355***	891	1,246	334**	855	1,188	269*	973	1,242
Hourly Wage—$11 or More												
Months Working a Job Paying at Least $11 an Hour, 24 Months	3.1**	4.3	7.4	1.4	5.3	6.7	0.9	5.3	6.1	1.6	6.3	7.9
Months Working a Job Paying at Least $11 an Hour, Months 13–24	2.2**	2.9	5.1	1.2*	3.4	4.6	1.0	3.4	4.4	1.3	4.9	5.2
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	5%	47%	52%	7%	46%	53%	6%	45%	51%	12%	47%	59%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	10%	40%	50%	7%	41%	48%	6%	40%	46%	11%	42%	53%
Hourly Wage—$13 or More												
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.0	1.9	2.9	0	3.2	3.2	-0.2	3.0	2.8	0.2	3.2	3.4
Months Working a Job Paying at Least $13 an Hour, Months 13–24	1.0	1.1	2.0	0.2	2.0	2.2	0.1	1.9	2.0	0.4	1.7	2.1
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	3%	22%	25%	-2%	27%	25%	-2%	26%	24%	0%	26%	26%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	3%	20%	23%	-1%	25%	24%	-2%	23%	21%	2%	21%	23%

Note: Small sample sizes prevented an analysis of men, Latino and formerly incarcerated participants at JVS–Boston.

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.0

61 percent reported having been on welfare at some point, and 49 percent were on welfare at the time of enrollment. Among those who had ever been on welfare, JVS–Boston participants experienced significant earnings gains compared with controls, but only in the second year. These participants were not more likely to have ever worked, but they did work 1.4 more months than controls and worked significantly more hours. These program participants were not more likely to have worked in a job that paid at least $11 an hour (see Table 15).

Among those who were on welfare at the time of enrollment, the same pattern emerges as for those who had ever received welfare: The size of the effect is similar, though the differences are not significant (probably because of the small sample size). Even with the small sample size, JVS–Boston participants who were on welfare when they enrolled in the program worked 1.6 more months and 334 more hours than controls in the second year.

c. African American program participants at JVS–Boston had significant earnings gains in the second year, which can be attributed to their working more hours than controls.

African American program participants at JVS–Boston had significantly higher earnings in the second year—$3,459, or 30 percent higher than African American controls. Though they were not more likely to have been employed at all during the study, they did work about 270 more hours and two more months than controls in the second year. African American program participants were not more likely than African American controls to have worked in higher-wage jobs.

d. Immigrants did not have significant earnings gains either over the 24 months of the study or in the second year alone.

Foreign-born participants at JVS–Boston did not have higher earnings than their control group counterparts. Foreign-born program participants earned approximately the same amount as program participants overall; however, foreign-born controls fared equally well, and there were no significant earnings impacts. This may be a result of foreign-born study participants at JVS–Boston being older, disproportionately male and better educated than JVS–Boston participants overall and perhaps better able to gain access to jobs on their own.

Summary

JVS–Boston's strategy of providing skills for and connections to Boston's vibrant healthcare sector led to higher earnings among the program's participants. JVS–Boston ran the longest program among the study sites, and its effects were seen primarily in the second year.

Per Scholas

Organizational Background

Per Scholas was founded in 1995, driven by a concern about the rapidly growing "digital divide." The organization's intention was to use technology to improve the lives of residents of the South Bronx—one of the poorest areas in the United States. Per Scholas was started by a business leader and a consortium of foundations with the mission of putting computer equipment and knowledge into the hands of disadvantaged students and families.

Per Scholas, a social venture, refurbishes "end of life" computers and then either sells them at a low price to community residents or distributes them to disadvantaged people through partnerships with nonprofits, schools and community colleges. At the time this study began, Per Scholas had distributed more than 30,000 computers, with 70 percent of its income coming from earned revenue.

Per Scholas' computer technician training program was launched in 1998. Connected to a network of community-based organizations across the city, the program was intended to provide disadvantaged people with the skills needed to compete for a growing number of local information technology (IT) jobs. The program was designed to prepare participants for jobs related to the repair and maintenance of personal computers, printers and copiers, as well as the installation and troubleshooting of computer networks. Businesses already donating computers were seen as prospects for helping with the placement of program graduates.

At first, Per Scholas did not focus on preparing participants to take the A+ certification exam,

but as the organization worked with businesses, the importance of this internationally recognized industry certification became apparent. Offered by CompTIA, a nonprofit trade association composed of manufacturers, distributors and IT employers, the A+ certification is used by such companies as Microsoft, HP, Cisco and Novell. In fact, some companies (e.g., CompuCom and Ricoh) have also made it mandatory for their service technicians. Per Scholas decided to use the A+ certification as a guide for curriculum development. During the study period, the skills and knowledge tested in the A+ exam changed several times, and staff quickly instituted the appropriate changes to the curriculum. Per Scholas pays the fee ($275 at the time of the study) for those who wish to take the test after completing training.

During the study period, Per Scholas launched a second technician training program in Miami as the first step in a broader replication effort. Only participants from the South Bronx program were included in the study.

Study Participants

Three quarters of Per Scholas' technician training study participants were men, reflecting the traditional hiring pattern in the IT industry (see Table 16 on next page). However, in contrast to the low numbers of African Americans and Latinos working in the target occupations, 91 percent of Per Scholas study participants were people of color: 50 percent African American and 41 percent Latino. Among the 26 percent of study participants born outside the United States, almost half were from the Caribbean, primarily from the Dominican Republic (20 percent) and Jamaica (18 percent). Another 25 percent came from South and Central America, while the rest were from Asia, Africa and Europe.

To be admitted to Per Scholas, candidates must have either a GED or a high school diploma and test at a tenth-grade level in both English and math—requirements that reflect both industry standards and the reading and math levels necessary to grasp the complex material included in Per Scholas coursework. As a result, 47 percent of Per Scholas' study participants had a high school diploma, 24 percent had a GED and just over a quarter (28 percent) had some postsecondary education. Fifty percent of foreign-born participants had some postsecondary education, compared with just 22 percent of native-born participants.

Per Scholas serves substantial numbers of young people. Among its study participants, one in four were between ages 18 and 24 and one in three were between 18 and 26. About one quarter of Per Scholas participants were employed when they began the program, with about 81 percent having worked at some time during the previous year. Lastly 17 percent had at some time been convicted of a crime.

Overall, 77 percent of the baseline sample at Per Scholas responded to the follow-up survey—79 percent of the program participants and 77 percent of the control group. As seen on Table 16, with two exceptions, there were no statistically significant differences between the baseline characteristics of the program participants and the control group at follow-up. (For a detailed description of the follow-up sample, see Appendix B.)

Key Findings

Per Scholas' strategy of providing its participants with skills, preparing them to obtain a recognized industry certification and offering internships and work experience is reflected in the program's effects. Not surprisingly, given the length of Per Scholas' training and the internship that often follows, program participants mainly saw effects in the second year. Program participants had significantly higher earnings and were significantly more likely to work—and work in jobs with higher wages—than their control group counterparts. Program participants also earned the A+ certification at higher rates, which may be a large part of the value contributed by Per Scholas. Latino, immigrant, and formerly incarcerated program participants earned significantly more than their control counterparts; immigrant and formerly incarcerated program participants fared particularly well. Young adults between ages 18 and 24 did not earn significantly more than their control group counterparts, though this was possibly due to small sample size. When the range is broadened to 18 to 26, program participants did have significantly higher earnings.

1. **Per Scholas program participants earned significantly more than controls, but only in the**

Table 16
Baseline Characteristics of the Follow-Up Sample, Per Scholas

	Total	Control Group	Treatment Group
N	345	170	175
Response Rate	78%	77%	79%
Gender			
Male	76%	77%	75%
Female	24%	23%	25%
Race/Ethnicity and Foreign-Born Status			
African American	50%	49%	50%
Latino	41%	42%	39%
White	3%	4%	3%
Other	6%	5%	7%
Foreign Born	26%	22%	30%
Age			
18 to 24	25%	23%	27%
18 to 26[a]	35%	35%	36%
25 to 54	74%	75%	73%
55 and Older	1%	2%	0%*
Average Age	32.5	32.9	32.2
Education			
More Than a High School Diploma	28%	29%	27%
High School Diploma	47%	48%	47%
GED	24%	22%	26%
Less Than a High School Diploma[b]	n.a.	n.a.	n.a.
Other Characteristics			
Married	17%	17%	17%
Ever on Welfare	13%	12%	14%
On Welfare at Baseline	5%	5%	6%
Has Access to a Vehicle	30%	30%	29%
Average Number of Children in Household	0.7	0.7	0.7
Moved in Last Two Years	30%	31%	30%
Completed Other Training Before Baseline	26%	26%	26%
Homeless in Year Prior to Baseline	6%	6%	6%
Ever Convicted of a Crime	17%	21%	14%
Formerly Incarcerated	13%	16%	9%**
Employment History at Baseline			
Average Months Employed Year Prior to Baseline	6.9	6.8	7.0
Employed at Baseline	26%	26%	26%
Worked Full-Time All 12 Months Prior to Baseline	9%	9%	9%
Average Months Working Full-Time Year Prior to Baseline	3.5	3.5	3.5
Total Earnings Year Prior to Baseline	$10,833	$11,501	$10,184

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

b Individuals without a high school diploma or GED were not eligible for the training program included in the study.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. $p < 0.10$ **$p < 0.05$ ***$p < 0.01$

Figure 13
Total Earnings by Month, Per Scholas

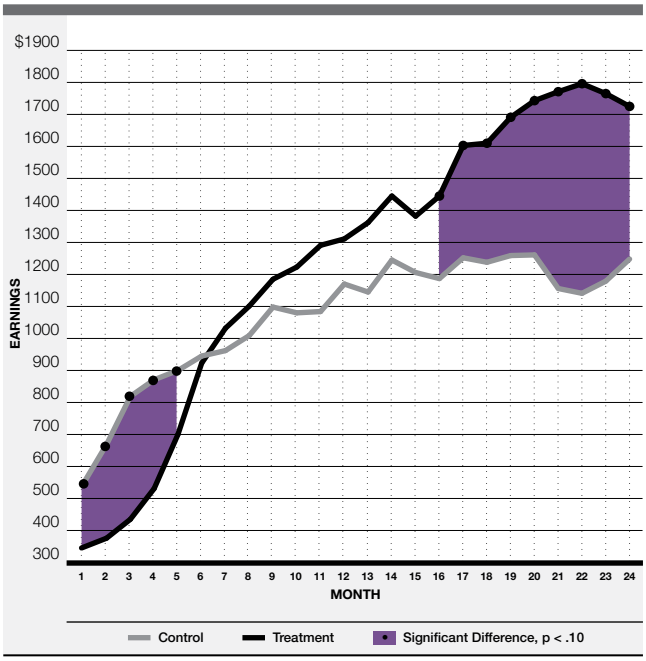


Figure 14
Likelihood of Employment by Month, Per Scholas

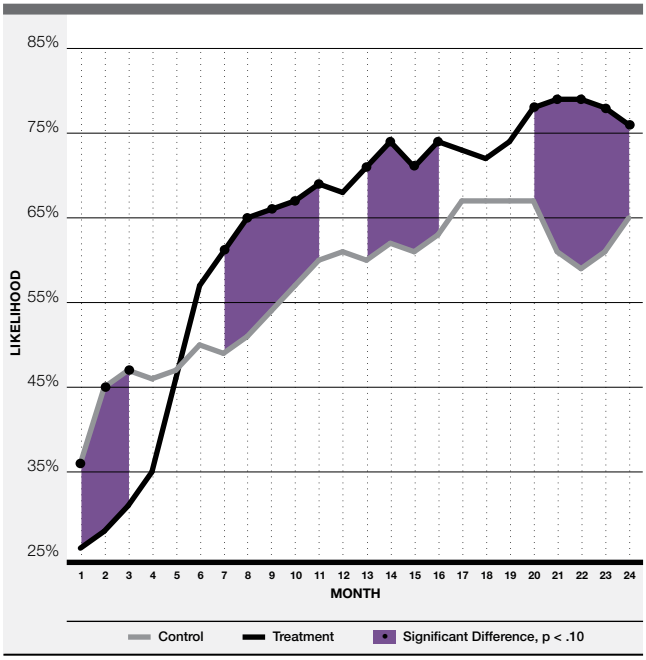


Figure 15
Likelihood of Working a Job Paying at Least $11 an Hour by Month, Per Scholas

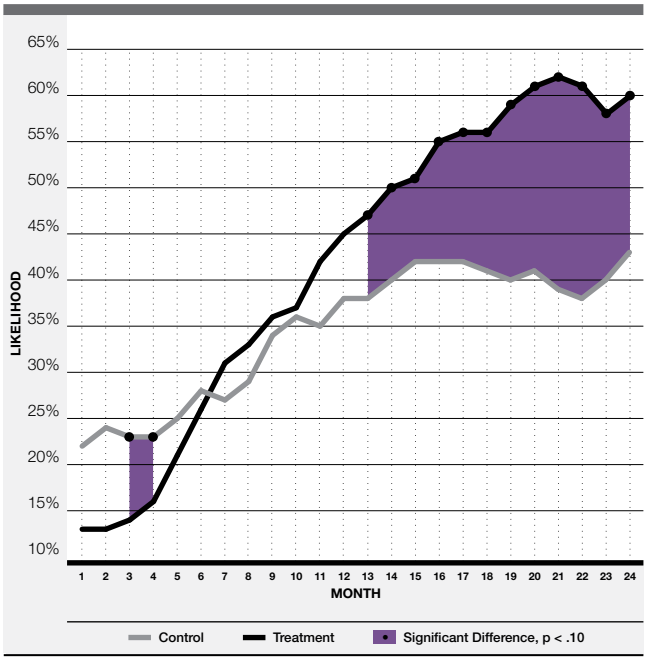
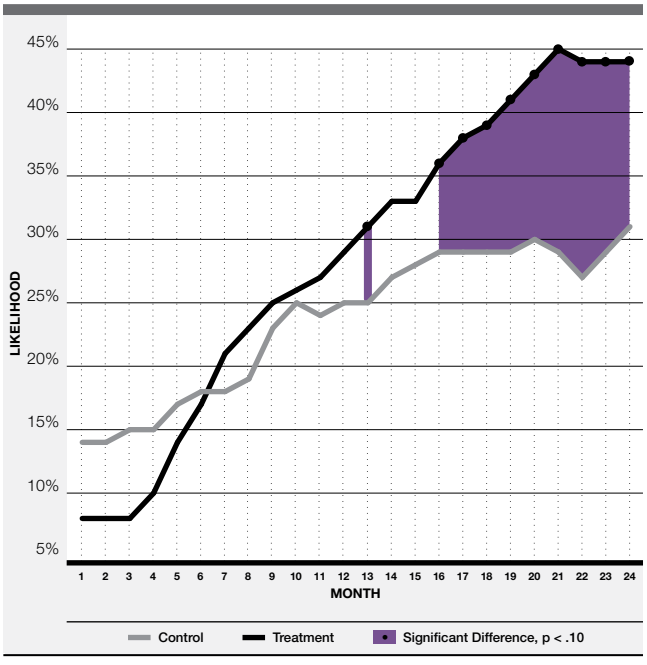


Figure 16
Likelihood of Working a Job Paying at Least $13 an Hour by Month, Per Scholas



second year; participants were more likely to work, worked more hours and more months, and worked in jobs with higher wages.

Per Scholas participants earned significantly more than controls ($4,663, or 32 percent), but only in the second year. In that second year, participants earned an average of almost $400 per month more than controls. As shown in Figure 13, the earnings gains occurred in the 16th month (as compared with the 8th month for the overall sample) and continued through the end of the study period.

A similar pattern occurred with regard to employment. While Per Scholas participants were not more likely than controls to be employed during the 24-month study period, they were more likely to be employed in the second year. As shown in Figure 14, beginning around the seventh month and continuing until the end of the study period (with the exception of a few months), Per Scholas participants were more likely to be employed: Between 65 percent and 80 percent were employed each month, compared with 55 percent to 70 percent of controls. Over the 24-month study period, program participants worked about 1.6 more months than did controls; in the second year, they were significantly more likely to work all 12 months (53 percent of Per Scholas participants versus 40 percent of controls).

Similarly, Per Scholas participants worked significantly more hours than did controls (249 hours, or about 21 hours per month), though only in the second year of the study period (see Table 17). Program participants at Per Scholas were significantly more likely to work in jobs that paid at least $11 an hour—their likelihood of working in these jobs was 11 percentage points higher than controls over the study period and 14 percentage points higher in the second year. Over the entire study period, Per Scholas program participants worked about two more months in jobs that paid at least $11 an hour; this impact occurred around month 13 and continued through the end of the study period (see Figure 15).

There was a similar pattern for jobs paying at least $13 an hour, particularly in the second year when the likelihood that a Per Scholas program participant worked in these jobs was 10 percentage points higher than for controls. The impact is observed somewhat later than for jobs paying at least $11 an hour, starting in the 16th month and continuing through the end of the study period (see Figure 16).

2. Per Scholas immigrant, formerly incarcerated, young adult (ages 18 to 26), Latino and male participants all earned significantly more than controls; effects were a result of different factors for each group.

Program participants at Per Scholas who were immigrants earned significantly more—almost $16,000 or 70 percent over the two-year study period and about $11,000 or 86 percent in the second year—compared with immigrant controls. They were significantly more likely to work, work more months (eight months more than controls during the study period) and work more hours (1,252 more than controls over the study period). Additionally, immigrant program participants were significantly more likely to work in jobs that paid at least $11 and $13 an hour, respectively. Over the entire study period, these participants worked about 6.6 more months than controls in jobs that paid at least $11 an hour and 4.5 more months in jobs that paid at least $13 an hour (see Table 18 on page 44).

Male Per Scholas participants also earned significantly more than their control counterparts ($5,100 or 34 percent), though only in the second year. Male program participants were more likely than male controls to work in jobs that paid at least $11 an hour over the entire study period; in the second year, male participants were also more likely to work in jobs that paid at least $13 an hour.

In the second year, formerly incarcerated program participants had significantly higher earnings (nearly $14,000 or 147 percent) than their control group peers. These participants were significantly more likely to work and worked 4.4 months more than did controls. Formerly incarcerated program participants were more likely to have worked in jobs paying $13 an hour or more, though they were not significantly more likely than formerly incarcerated controls to have worked in jobs paying at least $11 an hour.

Latino program participants earned $5,495 (or 36 percent) more than controls in the second year. They had a higher likelihood of employment and worked more months and more hours than controls. While Latino program participants were more likely to work in jobs that paid $11 an hour or more and worked more months in these jobs in the

Table 17
Employment Outcomes, Per Scholas

	Total Sample (N=337)		
	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings			
Total Earnings, 24 Months	$3,827	$25,992	$29,819
Total Earnings, Months 13–24	$4,663***	$14,680	$19,343
Ever Employed			
Ever Employed, 24 Months	5%	77%	83%
Ever Employed, Months 13–24	9%*	73%	81%
Months Employed			
Months Employed, 24 Months	1.6*	12.5	14.1
Months Employed, Months 13–24	1.4**	6.9	8.3
Hours Worked			
Total Hours Worked, 24 Months	225	2,003	2,228
Total Hours Worked, Months 13–24	249**	1,098	1,347
Hourly Wage—$11 or More			
Months Working a Job Paying at Least $11 an Hour, 24 Months	2.1**	6.9	9.0
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.9***	4.0	5.9
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	11%**	49%	60%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	14%***	46%	60%
Hourly Wage—$13 or More			
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.6*	4.5	6.1
Months Working a Job Paying at Least $13 an Hour, Months 13–24	1.4***	2.7	4.1
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	7%*	37%	44%
Ever Worked a Job Paying at Least $13 an Hour, Months 3–24	10%**	33%	43%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

second year, they were not significantly more likely to work in jobs that paid at least $13 an hour.

Young adult program participants between ages 18 and 26 also earned significantly more than controls during the second year ($6,625 or 45 percent). They did not work significantly more hours but were significantly more likely to have worked in jobs that paid at least $11 an hour and worked about 1.9 more months than controls in those jobs.[18] When defined as 18 to 24 year-olds, there were no significant differences between young adult program participants and controls, though this is likely due to small sample sizes.

African American program participants did not see higher earnings than controls over the entire study period, or in the second year. However, beginning in the 21st month and continuing through the end of the study period, African American program participants did see significant earnings gains. Because these impacts occurred later—impacts for all program participants at Per Scholas began in the 16th month—they did not translate into statistically significant earnings gains overall.

Women participants saw substantial earnings gains, but these were not statistically significant, likely due to small sample sizes.

3. Per Scholas participants were significantly more likely to gain the A+ certification than were controls.

The value of the Per Scholas program lies, at least in part, in its ability to help people earn the A+ certification: 55 percent of Per Scholas participants received the A+ certification, compared with just 9 percent of controls (see Table 19 on page 46).

Across all subpopulations, Per Scholas participants were more likely to receive the A+ certification than were their control counterparts. Interestingly, while female program participants were more likely than female controls to receive the A+ certification, female participants at Per Scholas gained the certification at significantly lower rates than male participants (40 percent for women versus 60 percent for men).

4. Per Scholas participants spent more time in jobs that offered benefits than did controls.

Per Scholas program participants worked in jobs with benefits for about 1.8 more months than did controls over both the entire study period and in the second year alone (see Table 20 on page 46). Per Scholas program participants were not more likely than controls to work in jobs that offered medical benefits, but at the time of the follow-up survey, 78 percent of program participants had health insurance, compared with 66 percent of controls—a significant difference.

Summary

Per Scholas' connections to local businesses and its focus on equipping participants with the skills and certification necessary to gain entry-level jobs in the IT sector led to significant earnings gains for participants. Its employment and earnings effects were seen the latest among the study sites, perhaps a result of the 15-week training that was frequently followed by internships.

Table 18
Employment Outcomes, Selected Subgroups, Per Scholas

	Men (N=257)			Women (N=80)			Young Adults 18–24 (N=85)			Latino (N=141)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings												
Total Earnings, 24 Months	$3,839	$26,911	$30,750	$4,614	$22,187	$26,801	$184	$29,821	$30,005	$6,291	$26,677	$33,057
Total Earnings, Months 13–24	$5,101**	$15,181	$20,282	$3,377	$13,046	$16,423	$1,339	$17,566	$18,905	$5,495**	$15,285	$20,780
Ever Employed												
Ever Employed, 24 Months	5%	78%	83%	9%	74%	82%	3%	77%	80%	17%**	70%	87%
Ever Employed, Months 13–24	9%	72%	81%	9%	71%	79%	3%	79%	82%	17%*	66%	83%
Months Employed												
Months Employed, 24 Months	1.3	12.5	13.8	3.6*	11.4	14.9	-0.7	15.5	14.8	3.6**	11.8	15.4
Months Employed, Months 13–24	1.2*	7.0	8.2	2.0*	6.6	8.6	-0.3	8.6	8.3	2.2**	6.7	8.9
Hours Worked												
Total Hours Worked, 24 Months	115	2,090	2,205	824**	1,462	2,285	183	2,285	2,468	704**	1,822	2,526
Total Hours Worked, Months 13–24	210	1,140	1,350	500**	832	1,332	108	1,302	1,410	457***	1,013	1,470
Hourly Wage—$11 or More												
Months Working a Job Paying at Least $11 an Hour, 24 Months	2.8**	6.4	9.2	1.1	7.0	8.1	0.7	7.4	8.2	1.9	7.1	9.0
Months Working a Job Paying at Least $11 an Hour, Months 13–24	2.3***	3.8	6.1	1.1	4.2	5.3	1.7	4.1	5.8	2.1**	4.0	6.1
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	11%**	52%	63%	12%	41%	53%	8%	54%	62%	16%*	46%	62%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	14%**	48%	62%	15%	38%	53%	11%	51%	62%	21%**	41%	62%
Hourly Wage—$13 or More												
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.8*	4.7	6.6	1.5	3.2	4.7	0.4	4.5	4.9	1.0	5.1	6.1
Months Working a Job Paying at Least $13 an Hour, Months 13–24	1.7***	2.8	4.5	0.7	2.3	2.9	1.1	2.5	3.6	1.3	3.0	4.3
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	5%	42%	47%	14%	21%	35%	5%	38%	43%	5%	38%	43%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	9%*	38%	47%	14%	18%	32%	7%	37%	44%	8%	34%	42%

Note: Small sample sizes prevented an analysis of former welfare recipients at Per Scholas.
Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 18 *continued*
Employment Outcomes, Selected Subgroups, Per Scholas

	Young Adults 18–26[a] (N=119)			Foreign Born (N=86)			Formerly Incarcerated (N=44)			African American (N=168)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings												
Total Earnings, 24 Months	$7,436	$25,704	$33,140	$15,846**	$22,660	$38,506	$11,522	$24,733	$36,255	$720	$26,164	$26,885
Total Earnings, Months 13–24	$6,625**	$14,835	$21,460	$11,029***	$12,788	$23,817	$13,914**	$9,433	$23,347	$3,074	$14,538	$17,612
Ever Employed												
Ever Employed, 24 Months	11%	75%	86%	22%**	70%	92%	18%*	69%	87%	-5%	82%	77%
Ever Employed, Months 13–24	12%	72%	84%	30%***	62%	92%	27%**	54%	81%	0%	77%	77%
Months Employed												
Months Employed, 24 Months	1.4	14.1	15.5	8.3***	9.0	17.2	6.4*	8.3	14.7	-0.7	13.4	12.8
Months Employed, Months 13–24	0.9	7.8	8.7	5.1***	4.9	9.9	4.4**	3.9	8.3	0.1	7.4	7.5
Hours Worked												
Total Hours Worked, 24 Months	413	2,139	2,552	1,252***	1,535	2,787	433	1,819	2,252	-227	2,221	1,994
Total Hours Worked, Months 13–24	274	1,190	1,464	867***	762	1,629	537	784	1,320	22	1,204	1,225
Hourly Wage—$11 or More												
Months Working a Job Paying at Least $11 an Hour, 24 Months	1.6	6.5	8.1	6.6***	5.2	11.8	1.1	7.0	8.1	1.1	7.1	8.2
Months Working a Job Paying at Least $11 an Hour, Months 13–24	1.9*	3.8	5.6	5.1***	2.7	7.8	2.7	2.7	5.4	1.2	4.2	5.4
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	17%*	44%	61%	44%***	35%	79%	2%	54%	56%	3%	52%	55%
Ever Worked a Job Paying at Least $11 an Hour, Months 13–24	19%*	42%	61%	45%***	32%	77%	18%	38%	56%	4%	49%	53%
Hourly Wage—$13 or More												
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.5	4.1	5.6	4.5**	3.5	8.0	5.0*	3.1	8.1	1.3	4.3	5.6
Months Working a Job Paying at Least $13 an Hour, Months 13–24	1.4	2.5	4.0	3.1**	2.2	5.3	4.5***	1.1	5.4	1.1	2.7	3.7
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	13%	33%	46%	31%**	27%	58%	21%*	35%	56%	4%	37%	41%
Ever Worked a Job Paying at Least $13 an Hour, Months 13–24	14%	32%	46%	30%**	24%	54%	33%***	23%	56%	6%	34%	40%

Note: Small sample sizes prevented an analysis of former welfare recipients at Per Scholas.
[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.
Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 19
Likelihood of Receiving A+ Certification, Per Scholas

	Treatment Impact	Control Group	Treatment Group
Total Sample (N=337)	45%***	10%	55%
Men (N=257)	50%***	10%	60%
Women (N=80)	32%***	8%	40%
African American (N=168)	43%***	10%	53%
Latino (N=140)	43%***	11%	54%
Formerly Incarcerated (N=44)	46%***	4%	50%
Foreign Born (N=86)	58%***	11%	69%
Young Adults 18 to 24 (N=85)	48%***	11%	60%
Young Adults 18 to 26[a] (N=119)	52%***	8%	60%

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.
Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Table 20
Likelihood of Working a Job Offering Benefits, Per Scholas

	Treatment Impact	Control Group	Treatment Group
Likelihood of Working a Job Offering Benefits, 24 Months	5%	64%	69%
Likelihood of Working a Job Offering Benefits, Months 13–24	8%	59%	67%
Months Working a Job That Offered Benefits, 24 Months	1.8*	9.0	10.8
Months Working a Job That Offered Benefits, Months 13–24	1.8***	5.2	7.0

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Programmatic Approaches

Chapter V

Each organization in the study employed a unique strategy and crafted its program to respond to local circumstances. In this section, we describe some common elements of all three programs, identified through site visits, focus groups and interviews, and discuss why they are important to each organization's strategy. While all three programs focused to some degree on each of these elements, they were implemented differently at each organization and, in some cases, were stronger at one than another.

As we have discussed in the previous chapters, all three programs achieved positive outcomes, though each had differing effects for different types of job seekers. It may be the case that an organization's strength in implementing one of the following common elements can help compensate for limitations in another area—or that limitations or strengths in one area may be key to the organization's ability to serve some populations more effectively than others.

Common Elements

While further research is needed to explore these elements, it seems that a good understanding of and connection to industry needs, careful screening to identify appropriate clients, a sector-focused approach to training, individualized support services and the organizational capacity to put all of these ingredients together are what make these programs successful. Each of these elements is explored in more detail in the following passages.

1. Strong organizational capacity—with the ability to adapt.

Workforce organizations operate at the nexus between disadvantaged workers, local employers and the public and private agencies that have resources to invest. Each organization in the study had capacities—resources, staffing, relationships, institutional memory—that enabled it to understand the specific needs of employers, target appropriate candidates and devise an intervention using public and private funding sources. While the programmatic elements we discuss in more depth in this section are critical, each organization's ability to understand and deal with change—sometimes referred to as adaptive capacity or the ability to ask, listen, reflect and adapt[19]—underlies its success.

For example, changes in the local economy or funding situation throughout the study meant that each organization needed to adapt its approach. A downturn in Milwaukee's construction industry led WRTP to scale back its construction program and invest in developing new training in hazardous waste removal; this new training provided certifications that, according to staff, would give participants an edge in the marketplace. At Per Scholas, a number of large employers began outsourcing their IT services to staffing agencies during the study period. Per Scholas staff therefore had to build relationships with these agencies and determine which offered good opportunities for its graduates and which were more exploitative. At JVS–Boston, changes and cutbacks in funding—which sometimes led to staff layoffs—meant staff repeatedly had to rethink how to continue to deliver a high level of support to participants.

A visit to these organizations today would reveal that these kinds of strategic readjustments continue to occur. For example, to meet the needs of a local employer, Per Scholas has adapted its curriculum to prepare participants to work with Apple computers. JVS–Boston has created stronger connections between its preemployment and incumbent worker trainings and expanded its internship program to keep participants engaged during longer job search periods. WRTP is launching a unionized temporary staffing agency that will give workers a way to gain experience and make connections, while giving unionized employers a way to hire temps.

The capacity of these organizations to adapt and change has developed over time and was made possible by investments from public and private funders. For example, WRTP was a longtime recipient of funding from the Annie E. Casey Foundation through its Jobs Initiative program. With these resources, it was able to experiment with the intermediary approach that we have described; another investment by the US Department of Labor allowed WRTP to adapt this approach to additional sectors. Funding and support from private foundations also

gave Per Scholas flexibility to develop its program without the constraints often imposed by public dollars. Per Scholas' ability to offer participants paid internships through its recycling facility, as well as computers on which to practice their repair skills, came from its role as a recycling center and social venture. JVS–Boston brought decades of experience to delivering workforce services, and even as it weathered funding cutbacks and staff layoffs, its diverse funding base provided critical stability. During the study, JVS–Boston also received funds earmarked for developing its capacity to work more closely with employers. These funds allowed JVS–Boston to deepen its understanding of the healthcare sector.

Although each organization experienced a change in executive leadership during the two-year study period, the senior management team and a cadre of frontline staff remained consistent and engaged in adapting and refining the organization's approach. These organizations brought a set of mature capacities and professional relationships that were critical to their success.

2. A strong link to local employers that results in an understanding of the target occupation and connections to jobs.

An effective sectoral strategy rests on linking to the workforce needs of local employers. Organizations in the study forged this link in various ways.

WRTP brought together employers and union members to identify sectors' human resource needs; the organization hired many of its own staff members from targeted industries and organized along industry sector lines. WRTP also brought employers and union members together to identify each targeted sector's needs and develop appropriate training programs. This led naturally to WRTP's ability to work collaboratively with individual employers, sets of employers and union representatives.

JVS–Boston's links to the healthcare sector were built through its long history of placing people in jobs with Boston-area employers, as well as through the incumbent worker training it offered to several major healthcare providers. JVS–Boston also worked closely with three area hospitals to ensure that the training program's curriculum was relevant to current industry needs.

Per Scholas connected to the IT sector through its role as a recycling center for "end of life" computers, and its job developers built strong relationships with major employers. The adaptations made by Per Scholas to its training program, in keeping with changes to the A+ certification exam, ensured that its curriculum was up to date and that graduates would be able to meet employers' technical needs.

Each organization's approach to helping program participants connect to local jobs was also shaped by the target sector and by the nature of the organization's links with that sector. For example, getting a job in Milwaukee's construction industry requires a specific understanding of the skills and aptitudes needed for jobs in the various building trades, their individual hiring processes and their relationships with key actors in the industry. WRTP's strong union and industry networks meant that employers often notified the organization about upcoming hiring, and staff were able to respond by sending appropriate candidates. Staff could also walk participants through the different union processes so that they knew how to get their name on a hiring list, register for an exam or do whatever might be needed for a particular trade. In addition, major publicly funded construction projects often include employment goals that encourage local hiring or greater diversity within the sector. With its connections to the community, WRTP was able to help employers meet such goals.

In the IT sector, where hands-on experience is valued by those making hiring decisions, Per Scholas provided internship opportunities to about half of its graduates, the majority of which were completed at the Per Scholas facility itself. Per Scholas job developers also submitted resumes on behalf of participants and brokered interviews, leading to multiple hires at companies such as Time Warner Cable. As local companies began to rely more heavily on staffing organizations for IT needs, Per Scholas also developed links with the staffing companies.

JVS–Boston's strategy focused on finding employment for its participants at small- and medium-size businesses, such as doctor's offices and community medical centers. Participants were encouraged to use skills they had learned in job readiness training, including networking skills. Staff provided

resources—leads, lists and websites—to participants for guided but self-directed job searches.

Each organization thus created opportunities for its participants by using its knowledge of the target sector (or sectors) and its connections to local employers.

3. Job readiness, basic skills and hands-on technical skills training offered through the lens of a specific occupation or sector.

Effective adult education is essential to the success of sector-focused training programs. Rather than offering job readiness, basic skills and technical skills training separately, WRTP, JVS–Boston and Per Scholas all addressed these needs together, through the lens of their targeted sectors.

For example, WRTP's construction trades training was an 80-hour course that included technical material, contextualized math, safety awareness and instruction on the use of relevant tools and machines. At JVS–Boston, participants took courses in basic computer skills as well as in medical terminology and anatomy, and they received hands-on training using medical billing software. Basic skills classes were offered for those with lower academic skills scores. On their first day at Per Scholas, participants took apart a computer and then, over the course of the week, put it back together—an accomplishment that entitled them to keep the computer. Throughout the program, instructors presented problems likely to arise on the job and invited participants to solve them using both technical manuals and hands-on experimentation. This instructional technique is what Per Scholas' staff believe is the key to students' mastery of the complex coursework.

Built into each program was a focus on job readiness. At WRTP, industry coordinators conducted courses called "The Essentials," in which participants learned about the culture and practices of the given sector and target occupation—typically from an instructor who had worked in that sector and had the credibility and experience needed to convey the everyday realities of the job. Per Scholas adhered to a strict attendance and punctuality policy—six times late and you were out—and offered life skills training in a wide range of areas, including interview preparation, resume help, listening and speaking skills and teamwork. At JVS–Boston, staff offered similar job readiness courses and reinforced the courses' content by covering it in technical classes as well.

At Per Scholas and JVS–Boston, which operate full-time training programs that run for a set number of weeks, all staff focused on teaching the range of skills needed by participants to be successful: Technical staff taught job readiness skills, and job readiness staff taught from an industry perspective. The focus on industry sectors and occupations played a critical integrative function for the staff in structuring and delivering training.

4. Recruitment, screening and intake processes that result in a good match between the applicant, the program and the target occupation.

Making the right match between the job seeker and the job is critical to effective workforce development. In the organizations in this study, this process began with outreach and recruitment efforts, both of which were integral to each organization's operation and required considerable staff resources.

WRTP, JVS–Boston and Per Scholas each established a screening process that helped identify candidates who had both the ability to benefit from its program and the potential to be successful in the targeted occupation. This required an extensive outreach and recruitment effort and staff involvement in the intake process. Program entrance requirements reflected both a given industry's requirements (e.g., at WRTP, candidates for construction jobs must have a driver's license with no more than five violation points) and the basic skills standards that staff felt were necessary to master the technical aspects of training.

Group orientations and basic skills testing were typically followed by a multistep process that, to varying degrees, mimicked applying for a job. Although none of the organizations used a specific career assessment tool, each interviewed candidates (twice, in some cases) to explore their career goals and identify any challenges—such as childcare or transportation issues—that might prevent success in training or on the job.

Each organization reported that candidates left the process at various stages. Of these individuals,

many were ineligible because they did not meet basic skills requirements, while a smaller number opted out as they learned more about the program, the target industry and specific employment opportunities. The process was one of mutual selection: Candidates considered the program, and the program staff assessed the candidates. Those who got through the entire process were likely to be accepted, with some exceptions. Ultimately, the organizations in the study were successful at finding candidates who were a good match for the occupations and could benefit from the services on offer.

It is important to remember that participants in this study were assigned to the program or to the control group after the entire selection process was completed. Until this study, it has been impossible to know if careful targeting (common among sectoral programs) results in serving participants who would likely be successful even without the help of the program. This study allows us to see that, despite the careful targeting of qualified participants, the programs still provided significant benefits to those they served. In fact, the programs' ability to so carefully target participants who were an appropriate match for the target occupation (in terms of interest, ability and qualifications) is a critical piece of their success.

5. Individualized services to support training completion and success on the job.

For disadvantaged job seekers and workers, help with childcare or transportation or a referral for housing or legal services can be critical to staying in training or keeping a job. All three organizations had mechanisms in place to deal with these needs, though delivery of the services varied. At Per Scholas, for example, a case manager met with each student at least once during the first few weeks of classes to identify any specific needs the student might have; after that, instructional or job development staff alerted the case manager when a student needed additional assistance. At JVS–Boston, though staffing responsibilities changed during the study period, employment specialists also served as case managers and helped students gain access to a range of services. Volunteers also played a significant role in tutoring and mentoring students and in providing assistance with financial issues (e.g., qualifying for the Earned Income Tax Credit). Both JVS–Boston and Per Scholas had formal agreements with a number of support agencies, such as food banks, family service centers and agencies that provide clothing for interviews.

WRTP's approach to providing these individual services was quite different. To furnish support for its students, WRTP tapped a variety of public and nonprofit service agencies and contracted with outside organizations to provide case management. For participants in its construction and manufacturing tracks, WRTP relied on WIA and Temporary Assistance for Needy Families (TANF) case managers, who in turn provided assistance with childcare and transportation. For participants in its healthcare track, WRTP contracted with a local community development agency to provide supportive services. Training coordinators also provided support as necessary.

Common Challenges

Each organization faced its own local challenges as it implemented the elements we have discussed; they also faced an important common challenge—balancing the demands of employers and job seekers.

Sector-focused training programs seek to meet two needs: helping disadvantaged workers gain skills that will lead to decent jobs and supplying trained workers who can meet employers' demand for a high-quality workforce. The relative strengths of the program elements at each organization clustered around either the demand side (strong links to local employers that resulted in an understanding of the target occupation and connections to jobs) or the supply side (training offered through an occupational/sector lens and strong individual supports).

WRTP's approach clearly started with the demand side, as staff had strong familiarity with the perspective of area employers. The organization had strong links to employers and connections to jobs. JVS–Boston's approach, for its part, started from the supply side, as the organization had for years offered training and employment services to disadvantaged workers and job seekers. Its strengths lay in its ability to provide strong support services and intensive training. Per Scholas' social venture approach enabled it to focus on the supply side

through its mission to serve disadvantaged residents and on the demand side through its recycling center. The organization's strengths lay in its ability to combine training experience with knowledge of business operations.

Not surprisingly, each organization was challenged by the need to understand and respond to the side (demand or supply) with which it was less familiar. For example, early in the study, WRTP worked with a large nonprofit to offer students case management services. When that nonprofit ran into financial difficulties and closed, WRTP changed tactics and began working with a combination of public and private agencies; it also asked staff to take on additional coordinating duties. Providing participants with case management and other support services presented a particular challenge as WRTP seeks to keep its focus on industry needs and to avoid duplicating the efforts of other nonprofits and public agencies. The organization is now adding capacity to improve communications and coordination with community and social service agencies to ensure its participants' needs are being met.

As a human services agency with a long history of operating under government contracts targeting specific disadvantaged populations, JVS–Boston already knew how to support students through training; building its capacity to serve employers proved more challenging. Its employment specialists were responsible both for case management and for helping participants find jobs. Per Scholas divided staff roles so that case managers and instructors worked with participants while job developers and account executives focused on fostering employer contacts.

Having funds earmarked for building the organization's capacity to serve employers enabled JVS–Boston to hire a full-time employer liaison to work more closely with employers and deepen its sector strategy. But the challenge often came—as at Per Scholas—in making sure that adequate communication existed among staff members who were oriented either to client services or to employer services.

Conclusions and Implications for Further Research

Chapter VI

This study's findings contribute to a larger body of literature about the effectiveness of employment programs. In recent years, there has been little consensus about the value of job training in raising the employment and earnings of disadvantaged adults and youth.[20] The conventional wisdom among policymakers since the early 1990s has been that not much works.[21] In reality, results of previous studies have been mixed.

Much of the research that has shaped the employment and training field has been focused on programs for welfare recipients: The Greater Avenues for Independence (GAIN) study, for example, showed stronger impacts for strategies that emphasized immediate employment than those emphasizing education, though in many cases the education approach did not include occupational training.[22] This study, as well as other factors, led to public policies that emphasized rapid attachment to the labor market, leaving low-income individuals with few opportunities to gain the skills needed to access better-paying jobs.

The 1993 National Job Training Partnership Act (JTPA) study, while largely viewed as indicating that job training did not work, in fact showed increases in annual earnings for those engaged in classroom or on-the-job training.[23] These gains were mostly driven by employment rates, with stronger effects for women than for men and no significant impacts for youth (ages 16 to 21). The Workforce Investment Act, which replaced JTPA, likewise reflected a bias in favor of helping people find immediate employment, resulting in fewer people having the opportunity to gain occupational skills.[24]

Evidence about the effectiveness of employment strategies has also emerged from other public policy efforts: The evaluation of Jobs-Plus, an initiative in which employment and support services were delivered within public housing developments (combined with financial incentives to work), showed strong earnings impacts for participants, particularly among immigrant men, in sites where the model was fully implemented.[25] The evaluation of the National Job Corps program showed earnings increases for older youth (ages 20 to 24).[26] Recent studies of programs for the formerly incarcerated have shown some effects on recidivism but few for labor market success.[27]

This study has a number of findings that are important for practitioners, funders and policymakers interested in improving labor market outcomes for disadvantaged workers and job seekers.

Mature, nonprofit-led sector-focused programs can increase the earnings of disadvantaged populations.

This study provides compelling evidence that nonprofit-led sector-focused training programs can increase the earnings of a range of disadvantaged populations. Although earnings gains varied across sites and for different groups, program participants earned significantly and substantially (30 percent in the second year) more than their control group counterparts. These earnings gains are large in comparison to those generally seen in research on training programs, though reviews of that research show that the size of earnings impacts varies considerably.[28] The earnings gains observed for program participants in this study were not only due to the increased likelihood of participants finding employment but also a result of program participants being more likely to work at jobs with higher wages. Further analysis of the relationship between wages and higher earnings will be presented in forthcoming reports (see Appendix F for initial modeling).

Results of the study also demonstrate that this approach can provide disadvantaged people with access to industry-relevant skills and steady employment. Although there has been significant growth in both the number of programs that target specific industry sectors and the range of institutions that operate or sponsor them (e.g., community colleges, Workforce Investment Boards and employer associations), early sectoral efforts were largely led by community-based nonprofits. It is important to note that the programs in this study are mature, nonprofit-led sector-focused programs and are not representative of all efforts that often fall under the umbrella of sectoral training.

It is also important to recognize that the programs in this study were more than simply job training programs. Training was only one of a set of key elements: Each organization had strong connections

to local employers and identified specific job opportunities for which they trained program participants. Each organization targeted people who would be a good match for the occupation and the training, provided supports, and offered skills training through the lens of a specific sector. This study points to the promise of programs that combine these elements.

Variation in approaches can be effective, but result in different effects on earnings.

The programs in this study varied in length, populations served and target industry/occupation. Each offered a mix of services with differing emphasis on making connections between participants and employers, providing supportive services, and training in occupationally relevant skills. The longer-term training programs, JVS–Boston and Per Scholas, placed a stronger emphasis on skills, whereas WRTP emphasized connecting participants to jobs through its networks of unions and employers. These strategies influenced earnings: WRTP's participants showed early earnings gains that were largely a result of higher wages, while participants at Per Scholas and JVS–Boston had earnings gains that came later and were a result of participants' increased likelihood of finding a job and working more consistently or at higher wages.

Mature, nonprofit-led sector-focused programs can be effective with a range of disadvantaged workers and job seekers.

The three programs in the study served a range of un- and underemployed people, including men and women, African Americans, Latinos, immigrants, people who were formerly incarcerated, welfare recipients and young adults. Across the three organizations studied, we saw differing impacts for various groups. At WRTP, African Americans, women and formerly incarcerated participants experienced significant earnings gains, while men, young adults and participants who had been on welfare did not. At JVS–Boston, the program showed impacts for young adults, African Americans, women and those who had been on welfare, but not for immigrants. At Per Scholas, immigrants, men, Latinos, formerly incarcerated individuals and young adults (18-26) had significant earnings gains, while sample sizes for women and young adult (18-24) participants prevent a meaningful analysis; African Americans at Per Scholas did not see significant earnings gains, as earnings impacts for this subgroup occurred only toward the end of the study period.

Nonprofit organizations can play a critical role in delivering workforce services. The three programs in this study demonstrated an adaptability that allowed them to connect disadvantaged job seekers to employers using a mix of strategies and a range of public and private funding sources.

Since the studies of the Center for Employment Training in San Jose in the early 1990s and the subsequent study of its replication,[29] few rigorous studies have focused on nonprofit-led workforce efforts. Yet, in many urban areas where unemployment and poverty levels are high, nonprofits play a significant role in delivering workforce services. While the three programs in the study did not follow a common model, we found that their ability to combine key elements—good understanding of and connection to industry needs, careful screening to identify appropriate clients, a sector-focused approach to training and individualized support services—seemed to contribute to success. The organizations' ability to keep pace with changes in the local economy, funding agencies and partners was also a key ingredient.

Implications for Further Research

While this study presents evidence of strong impacts, these findings suggest the need for additional research about the effectiveness of sector programs for disadvantaged people. Further analyses using the data from this study will be conducted to address some of these questions; others will have to be answered through future studies.

Can this approach be scaled?

Considering the substantial numbers of disadvantaged people who could potentially benefit, the organizations in the study served small numbers. Scaling up—either for these organizations or by other organizations adopting this approach—presents some unique challenges, as sector programs are by their very nature *flexible*, relying on clearly identified local/regional employer demand as well as available funding (either public or private) to provide services. The ability to achieve scale is also limited by demand for workers in the targeted sector or occupation.

While this study demonstrates the effectiveness of three distinct approaches to sector-focused programming and points to certain common elements that likely played a role in their success, more rigorous research could tell us with greater certainty which of the common elements we identified are indeed essential, if there are other features we missed and which combinations of elements are most effective (and cost-effective) in various situations.

At the same time, an increasing number of organizations are developing sectoral programs; additional studies are needed to help inform and shape these programs to increase the likelihood that they can replicate the impacts seen in this study. This research could illuminate how the common elements function in various program contexts. For example, while all three programs in the study forged strong connections to local employers, they did so in different ways. Programs were developed to respond to divergent needs in the local labor market; there was diversity in how organizations engaged employers (e.g., through advisory committees, individual contacts, etc.), and employers worked with the organizations in several ways (e.g., advising on technical curriculum development, providing work experience opportunities, etc.). Similar differences exist in the other common elements we identified in the study. Developing a framework detailing the range of practices undertaken by sector programs can help answer key questions about when, where and how these programs might be scaled, thereby reaching significantly more people.

Additional research is also needed to understand the costs of these programs. This is particularly challenging given that sector programs are often part of larger organizations that provide assets (for example, space or leadership) that are accounted for in a variety of ways. In addition, services offered by outside organizations—such as childcare or transportation assistance—are often paid for by resources from different agencies. It is also challenging to estimate the costs of developing intelligence and relationships with employers—a component that we found to be critical to success. A better understanding of both in-kind and direct costs will be important in efforts to bring sectoral programs to scale.

What about sector programs led by other types of institutions?

While our findings show the promise of sectoral programs run by experienced nonprofit organizations that demonstrate the ability to adapt and respond to local circumstances, research is needed about the effectiveness of sectoral efforts undertaken by other types of institutions, such as community colleges, WIBs, state agencies and employer associations. For example, several cities have been experimenting with sector-focused One-Stops. A non-experimental study of those receiving services from New York City's Workforce1 Center found that those who participated in programming that was focused on the transportation industry had higher job placement rates, higher hourly wages and more hours worked per week than those who participated in the more general Workforce1 Career Center.[30] Additional research, including experimental studies, on sector programs could shed light on their effectiveness when provided by a range of institutions.

What about the role of industry certifications?

Both Per Scholas and WRTP offered training that prepared participants to obtain industry-recognized certifications—a strategy that may have played a major role in participants' earnings gains. Further research is needed to understand how industry certifications affect earnings and wage gains and the role workforce organizations can play in helping disadvantaged workers and job seekers gain access to jobs once they have attained a certification. Further analysis using data from this study is forthcoming.

What strategies are effective for various groups of job seekers?

Given their flexible design, sector-focused training programs both targeted and were effective for many disadvantaged populations. More needs to be understood about what blends of services are effective for different groups. For example, while none of the three programs identified itself as "youth-serving," all three sites did in fact serve significant numbers of young adults. Young adults saw earnings impacts overall, but when broken down by site only JVS–Boston and Per Scholas (when defined as 18 to 26 year-olds) had young adult participants who earned significantly more than their control group counterparts. At WRTP, young adult controls and

young adult participants fared equally in terms of earnings (although young adult participants were more likely to work in a higher-paying job). It may be that the difference between the three programs' results reflects the variation in services available to young adults through each; those at WRTP may have needed services beyond that program's short-term training and job brokering, such as the longer-term skills investment and strong support offered at the other two programs. It is critical to better understand what contributed to Per Scholas' and JVS–Boston's success. What is the most effective mix of services for young adults? Does this vary by sector? Or by the age of the young adult? Does training young adults and adults together—as the programs in the study did—play a role in their success?

Similarly, while none of the organizations specifically targeted ex-prisoners, 17 percent of the study participants were people who had been formerly incarcerated, with concentrations at Per Scholas (13 percent of its participants) and WRTP (37 percent of its participants across all three training tracks). At both sites, formerly incarcerated participants earned significantly more in the second year (nearly $14,000 or 147 percent at Per Scholas, and about $4,800 or 49 percent at WRTP) than controls. Overall, formerly incarcerated program participants earned 42 percent more than controls in the second year. Few studies have shown employment effects for those returning from prison; this study shows that sector-focused training programs—appropriately targeted and tailored—can be a positive pathway into jobs for the formerly incarcerated. More needs to be understood about how sector-focused programs can better serve these individuals. What is the appropriate blend of services? Are additional strategies for working with employers needed? Does participating in a sector-focused program also lower recidivism rates? What type of formerly incarcerated people benefit most from participation?

Similar questions exist for the other subgroups we examined. Immigrants, for example, also fared differently at the two sites where substantial numbers were served. What services seem to be effective for foreign-born participants? What role might the occupation or sector play?

What about impacts over time?

While this study's 24-month span allowed us to examine the immediate impact of each strategy, longer-term studies would be valuable. Do the earnings gains seen in the second year grow or diminish in the years that follow? Do wages increase over time as a result of training or access to higher-wage jobs? If not, at what point do we see these impacts disappear? Do these longer-term earnings patterns look different across different industries? What additional interventions might ensure that initial success in the labor market will lead to further career advancement? Longer-term studies may cast a different light on the effectiveness of each approach. How do the effects of a skills training approach differ from a job brokering approach over five years? Ten years?

Concluding Thoughts

Sector-focused programs aim to connect disadvantaged job seekers and low-skilled workers to employment opportunities, addressing unmet hiring needs of local employers and improving participants' prospects in the labor market. This study is the first random assignment evaluation of nonprofit-led sector-focused efforts, focusing on three distinct programs across the country: an employer/union association, a social venture and a human service organization. These programs had strong effects for participants, including higher earnings and better jobs (as measured by hourly wages and access to benefits). As we emerge from the Great Recession, which has disproportionately affected disadvantaged workers, these strategies and the organizations that implement them may represent a key element in America's economic recovery—for its workers and its employers.

Endnotes

1. Low-wage workers are defined as those who are paid a wage such that, even with full-time, full-year employment, their annual earnings fall below the poverty line for a family of four. See Loprest, Pamela, Gregory Acs, Caroline Ratcliffe and Katie Vinopal. 2009. *ASPE Research Brief: Who Are Low-Wage Workers?* Washington, DC: US Department of Health and Human Services, Office of Human Services Policy, Office of the Assistant Secretary for Planning and Evaluation.

2. A 2009 survey conducted by Manpower, Inc., found that 19 percent of United States employers reported having trouble finding skilled workers to fill vacancies. See Manpower, Inc. 2009. *2009 Talent Shortage Survey Results*. Manpower, Inc. For a discussion of the challenges facing manufacturers looking for skilled workers, see Jusko, Jill. "The Training Imperative." *Industry Week*, March 17, 2010. For a discussion of the shortage of healthcare workers in California, see Lauer, George. "Shortage of Allied Health Care Workers Strains California Clinics." *California Healthline*, January 27, 2009.

3. Holzer, Harry J. and Robert I. Lerman. 2007. *America's Forgotten Middle Skill Jobs: Education and Training Requirements for the Next Decade and Beyond*. Washington, DC: The Workforce Alliance.

4. For Public/Private Ventures' study, see Roder, Anne with Carol Clymer and Laura Wyckoff. 2008. *Targeting Industries, Training Workers and Improving Opportunities: The Final Report from the Sectoral Employment Initiative*. Philadelphia, PA: Public/Private Ventures. For the Aspen Institute's study, see Zandniapour, Lily and Maureen Conway. 2002. *Gaining Ground: The Labor Market Progress of Participants of Sectoral Employment Development Programs*. Washington, DC: Aspen Institute.

5. Conway, Maureen. 2007. *Sector Strategies in Brief*. Washington, DC: The Aspen Institute.

6. Details about each program's eligibility requirements are discussed in Chapter IV.

7. For a discussion of differential attrition, see Appendix B.

8. Although we refer to these individuals as program participants, a small subgroup of those assigned to the treatment group did not participate in the training, but their outcomes were included along with those who did participate in the training.

9. Repeated use of welfare is common. An analysis by the Urban Institute found that 21.9 percent of those who leave welfare return within two years. For more information, see Loprest, Pamela. 2002. *Who Returns to Welfare?* Washington, DC: Urban Institute.

10. None of the programs in the study included welfare recipients who had been mandated to attend the training.

11. See Cohen, Patricia. "Long Road to Adulthood is Growing Even Longer." *New York Times*. June 11, 2010. While the 18 to 24 range is most commonly used, a growing number of projects are expanding the definition to extend to 26 year-olds. See Bill and Melinda Gates Foundation. 2008. *Post-Secondary Education+: An Initiative to Dramatically Expand Social Mobility in America*. Bill and Melinda Gates Foundation, United States Program, Special Initiatives.

12. Participants who completed some college but did not obtain a degree are included in the high school only category.

13. As with any analyses of subpopulations, smaller sample sizes reduce our ability to detect impacts for program participants as compared to controls. However, in some instances the differences between program participants and controls are close to zero or negative, suggesting that our lack of significant findings should not be attributed to small sample size (though we cannot know for sure). When we discuss programs' lack of impacts with specific subgroups, we limit our discussion to those instances for which the size and direction of the differences suggest that small sample size is not the primary reason we find no impacts.

14. Differences between program participants and controls were analyzed using regression analysis, an approach that controlled for characteristics such as gender, age, race and education, as well as employment history in the year prior to the study (e.g., earnings and employment status).

15. According to a report by the Center on Wisconsin Strategy and the Wisconsin Council on Children and Families, the state's labor force consisted of 16 percent union members in 2003, compared with 24 percent in the early 1980s. For more information, see Center on Wisconsin Strategy and the Wisconsin Council on Children and Families. 2006. *Pulling Apart: Wisconsin's Growing Income Inequality*. Madison, WI: Center on Wisconsin Strategy and the Wisconsin Council for Children and Families. In metropolitan Milwaukee, unionization rates declined 11.3 percent between 1986 and 1996. See Levine, Marc V. and Sandra J. Callaghan. 1998. *The Economic State of Milwaukee: The City and Region*. Milwaukee, WI: Center for Economic Development at the University of Wisconsin, Milwaukee.

16. Incumbent worker training refers to training for currently employed workers.

17. This bill was passed in 2006 and took effect in 2007. From 2005 to 2008, the proportion of Massachusetts residents with insurance increased from 89 to 97 percent. For more information, see Walker, Emily P. "Small Percentage Still Uninsured in Massachusetts." *Medpage Today*. March 12, 2010.

18. Interestingly, young adults were not more likely to work or more likely to work more months or hours. In analyzing month-to-month data (not presented), young adult participants appear to have worked significantly more hours and earned higher wages in a few of the last six months of the second year. When taken together with differences that did not reach significance in other months, we see higher earnings for this group in the second year.

19. Letts, Christine W., William P. Ryan and Allen Grossman. 1999. *High Performance Nonprofit Organizations: Managing Upstream for Greater Impact.* New York: John Wiley and Sons.

20. Holzer, Harry. 2008. *Workforce Development as an Antipoverty Strategy: What Do We Know? What Should We Do?* Washington, DC: Urban Institute.

21. King, Christopher. 2008. *Does Workforce Development Work?* Baltimore, MD: Annie E. Casey Foundation.

22. For more information on the GAIN program, see Riccio, Jim, Daniel Friedlander, Stephen Freedman with Mary E. Farrell, Veronica Fellerath, Stacey Fox and Daniel J. Lehman.1994. *Benefits, Costs, and Three-Year Impacts of a Welfare-to-Work Program.* New York, NY: MDRC.

23. US Department of Labor. 1993. *The National JTPA Study: Title II-A Impacts on Earnings and Employment at 18 Months.* Washington, DC: US Department of Labor.

24. King, Christopher. 2004. "The Effectiveness of Publicly Financed Training in the United States: Implications for WIA and Related Programs." In C.R. O'Leary, R.A. Straits and S.A Wandner (eds.). *Job Training Policy in the United States.* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

25. Bloom, Howard S., James A. Riccio, and Nandita Verma with Johanna Walter. 2005. *Promoting Work in Public Housing: The Effectiveness of Jobs-Plus.* New York, NY: MDRC.

26. Schochet, Peter Z., John Burghardt and Sheena McConnell. 2006. *National Job Corps Study and Longer-Term Follow-Up Study: Impact and Benefit-Cost Findings Using Survey and Summary Earnings Records Data.* Princeton, NJ: Mathematica Policy Research.

27. Redcross, Cindy, Dan Bloom, Gilda Azurdia, Janine Zweig and Nancy Pindus. 2009. *Transitional Jobs for Ex-Prisoners: Implementation, Two-Year Impacts, and Costs of the Center for Employment Opportunities (CEO) Prisoner Reentry Program.* New York, NY: MDRC.

28. LaLonde, Robert. 1995. "The Promise of U.S. Employment and Training Programs." *Journal of Economic Perspectives*, 9(2), 149-168, Nashville, TN: American Economic Association; King, "The Effectiveness of Publicly Financed Training in the United States: Implications for WIA and Related Programs."

29. For more information on the original study, see Cave, George and Fred Doolittle. 1991. *Assessing JOBSTART: Interim Impacts of a Program for School Dropouts.* New York, NY: MDRC; Burghardt, John, Anu Rangarajan, Anne Gordon and Ellen Kisker. 1992. *Evaluation of the Minority Female Single Parent Demonstration*, Vol. 1, Summary Report. Princeton, NJ: Mathematica Policy Research; Walsh, Stephen, Deana Goldsmith, Yasuyo Abe and Andrea Cann. 2000. *Evaluation of the Center for Employment Training Replication Sites: Interim Report.* New York, NY: MDRC. For more information on the CET replication, see Miller, Cynthia, Johannes M. Bos, Kristin E. Porter, Fannie M. Tseng and Yasuyo Abe. 2005. *The Challenge of Repeating Success in a Changing World: Final Report on the Center for Employment Training Replication Sites.* New York, NY: MDRC.

30. See Henderson, Kathryn, Crystal MacAllum and Mustafa Karakus. 2010. *Workforce Innovations: Outcome: Analysis of Outreach, Career Advancement and Sector-Focused Programs.* New York, NY: NYC Center for Economic Opportunity.

Appendices

Appendix A
Selection of the Study Sites

To select the sites for the Sectoral Employment Impact Study, we asked experts in the workforce development field to nominate organizations that met the following criteria:

1. The organization offers a training program targeting an occupation or cluster of occupations within a sector.
2. The training takes no longer than one year to complete.
3. The organization provides placement services in the targeted sector or occupation, and the jobs targeted pay $8 an hour or more.
4. The organization has at least 100 graduates per year.
5. The organization is considered a high performer in terms of graduation and placement rates.
6. The program has been in operation for at least three years.

This process yielded 25 nominations. The programs targeted a variety of sectors, the most common being healthcare, manufacturing, information technology (IT), telecommunications and construction. We sent each of these 25 organizations an invitation to participate in the planning phase of the study; the organizations were asked to submit a letter of interest that included a description of their program and key outcomes from the past year. Ten organizations responded, representing the IT, healthcare, manufacturing and financial services sectors. One of the 10 subsequently decided not to participate, and we eliminated 2 others based on the content of their letter of intent.

P/PV then conducted one-and-a-half-day visits to the remaining seven organizations to verify program data; gather more information about program services, recruitment and intake procedures; and discuss with the directors and staff the reasons they might wish to participate in a random assignment evaluation. Four organizations were invited to submit proposals to participate in the impact study. After further discussions about the study's design, three chose to participate and were included in the impact study.

This selection process was designed to yield well-established sectoral training programs with good reputations in the field. The findings of this study should not, therefore, be seen as representative of all sectoral employment programs, but of experienced nonprofit providers that offer a range of services beyond simple technical instruction.

Appendix B
Sample Selection, Randomization and the Follow-Up Sample

Baseline Sample

The results of this study are intended to demonstrate the impact of the three sectoral programs on their participants. Thus, the control group needed to be representative of what we might expect from program participants had these training programs not existed. To ensure that this was the case, each member of the study sample went through the entire application process for the program to which he or she had applied, which included a paper application, an interview and/or an assessment, to determine if he or she was eligible to participate. Each of the three sites was asked to recruit 450 potential trainees. Each applicant recruited was asked to sign a form giving consent to participate in the study. A total of 1,328 applicants were recruited—459 at JVS–Boston, 454 at Per Scholas and 415 at WRTP—and 42 either declined to consent to the study (and therefore could not be served by the site) or could not be located for a baseline interview. Eligible applicants were referred to an outside firm that administered a baseline survey by phone and then assigned each applicant at random into either the treatment group, which received all of the services provided by the study site, or the control group, which received no services from the study program.

At the time of the baseline survey, a total of 1,286 applicants were interviewed; 450 at JVS–Boston, 443 at Per Scholas and 393 at WRTP. (One person was recruited and interviewed but dropped out of the study before randomization at Per Scholas.) The strength of a random assignment research design is that it ensures that the two groups (treatments and controls) are the same, assuming that the sample is big enough, the randomization procedure is successful, and attrition from the study between baseline and follow-up is low. That is, no differences should exist in the average characteristics of the members of each group, both in the overall sample and within each site, except for the provision of the treatment. Appendix Table 1 shows selected characteristics for members of the treatment and control groups for the total sample and from each of the three sites at baseline. We performed chi-square and t-tests to measure differences between treatments and controls and found a few small differences at each site; however, no systematic pattern of differences was visible between treatment and control groups in the overall sample or at any site.

Another way to test for differences between the treatment and control groups is to use linear regression. We used all of the measured characteristics at baseline to predict assignment into the treatment group (control was the reference category). The regression coefficients in Appendix Table 2 showed that no systematic differences existed between the treatment and control groups at baseline. None of the coefficients for the total sample were significant, and with two exceptions, none were significant at any of the sites. We assume, therefore, that the randomization effectively produced two equal groups at baseline.

Appendix Table 1
Characteristics of Study Participants at Baseline

	Total Sample		JVS–Boston		Per Scholas		WRTP	
	Control Group	Treatment Group	Control Group	Treatment Group	Control Group	Treatment Group	Control Group	Treatment Group
Sample Size (N)	641	644	224	226	221	221	196	197
Gender								
Male	47%	46%	15%	10%	76%	76%	52%	55%
Female	53%	54%	85%	90%	24%	24%	48%	45%
Race/Ethnicity and Foreign-Born Status								
African American	58%	59%	51%	49%	48%	51%	78%	79%
Latino	25%	22%	24%	20%	43%	39%	5%	3%
White	11%	12%	14%	18%	3%	3%	16%	16%
Other	6%	8%	11%	13%	6%	7%	2%	2%
Foreign Born	24%	25%	40%	45%	26%	25%	4%	3%
Age								
18 to 24	29%	30%	33%	32%	24%	28%	30%	28%
18 to 26[a]	38%	37%	42%	43%	34%	35%	38%	32%
25 to 54	68%	69%	64%	65%	74%	72%	67%	71%
55 and Older	3%	2%	3%	3%	2%	0%	3%	1%
Average Age	32.2	32.0	31.4	31.2	33.0	32.0	32.2	33.1
Education								
More Than a High School Diploma	17%	19%	14%	20%	30%	26%	7%	9%
High School Diploma	53%	53%	54%	56%	47%	47%	59%	56%
GED	22%	22%	22%	16%	23%	28%	22%	22%
Less Than a High School Diploma	8%	6%	10%	8%	n.a.	n.a.	13%	12%
Other Characteristics								
Married	16%	18%	18%	24%	17%	15%	12%	16%
Ever on Welfare	37%	37%	64%	59%	14%	15%	32%	38%
On Welfare at Baseline	24%	23%	51%	48%	5%	5%	16%	13%
Has Access to a Vehicle	42%	45%	27%	31%	29%	29%	73%	80%*
Average Number of Children in Household	1.2	1.3	1.6	1.4	0.7	0.8	1.3	1.6*
Moved in Last Two Years	43%	43%	53%	49%	30%	30%	45%	49%
Completed Other Training Before Baseline	27%	23%*	23%	16%*	26%	26%	33%	27%
Homeless in Year Prior to Baseline	7%	7%	9%	8%	5%	6%	6%	8%
Ever Convicted of a Crime	22%	20%	6%	2%*	21%	14%*	42%	46%
Formerly Incarcerated	17%	15%	n.a.	n.a.	16%	9%*	36%	38%
Employment History at Baseline								
Average Months Employed Year Prior to Baseline	6.7	6.8	5.4	5.7	6.8	7.0	7.9	7.8
Employed (Part-Time or Full-Time) at Baseline	31%	33%	20%	23%	26%	28%	49%	51%
Worked Full-Time All 12 Months Prior to Baseline	9%	10%	3%	3%	10%	9%	17%	20%
Average Months Working Full-Time in Year Prior to Baseline	3.4	3.4	2.3	2.3	3.6	3.7	4.4	4.4
Total Earnings Year Prior to Baseline	$9,786	$9,450	$6,748	$6,816	$11,264	$10,397	$11,592	$11,409

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix Table 2
Regression of Treatment on Selected Baseline Characteristics

	Total Sample	JVS–Boston	Per Scholas	WRTP
Male	0.00967	-0.160*	0.0248	0.0687
	(0.0390)	(0.0836)	(0.0630)	(0.0710)
Latino	-0.0458	-0.0626	-0.0501	-0.132
	(0.0380)	(0.0642)	(0.0531)	(0.145)
White	0.0185	-0.0112	-0.0259	-0.00765
	(0.0503)	(0.0802)	(0.151)	(0.0805)
Other Race	0.0498	0.0164	0.0509	0.210
	(0.0600)	(0.0827)	(0.104)	(0.217)
Foreign Born	-0.000240	0.00619	-0.00870	-0.0301
	(0.0397)	(0.0618)	(0.0597)	(0.157)
Age	-0.000774	-0.00226	-0.00167	0.00206
	(0.00158)	(0.00289)	(0.00275)	(0.00284)
Less Than a High School Diploma	-0.0536	-0.0450	-0.529	-0.0185
	(0.0578)	(0.0893)	(0.360)	(0.0813)
More Than a High School Diploma	-0.00296	0.0688	-0.0666	0.0678
	(0.0409)	(0.0766)	(0.0582)	(0.0994)
Married	0.0221	0.0541	-0.0237	0.0504
	(0.0419)	(0.0753)	(0.0711)	(0.0802)
Ever Received Welfare	0.0194	-0.00838	0.0314	0.114
	(0.0392)	(0.0661)	(0.0815)	(0.0712)
Access to a Vehicle	0.0399	0.0520	0.00318	0.0988
	(0.0331)	(0.0556)	(0.0556)	(0.0668)
Moved in Two Years Prior to Baseline	0.00780	-0.0301	0.00915	0.0570
	(0.0297)	(0.0501)	(0.0550)	(0.0538)
Completed Other Training Program Prior to Baseline	-0.0527	-0.0557	0.000644	-0.115**
	(0.0337)	(0.0646)	(0.0571)	(0.0574)
Ever Convicted of a Crime	-0.0117	-0.113	-0.0666	0.0663
	(0.0573)	(0.136)	(0.102)	(0.0849)
Formerly Incarcerated	-0.0377	n.a.	-0.130	-0.0285
	(0.0631)	n.a.	(0.112)	(0.0865)
Number of Children in Household	0.00898	-0.0157	0.0120	0.0235
	(0.0120)	(0.0216)	(0.0236)	(0.0189)
Ever Homeless in Year Prior to Baseline	0.0160	-0.00727	0.0466	0.0457
	(0.0571)	(0.0905)	(0.106)	(0.106)
Employed at Baseline	0.0277	-0.00233	0.0303	0.0539
	(0.0337)	(0.0638)	(0.0584)	(0.0581)
Total Earnings in Year Prior to Baseline	-1.46e-06	2.36e-07	-2.10e-06	-6.73e-07
	(1.46e-06)	(2.88e-06)	(2.22e-06)	(2.93e-06)
JVS–Boston	-0.00124			
	(0.0478)			
Per Scholas	0.0350			
	(0.0469)			
Constant	0.503***	0.634***	0.606***	0.206*
	(0.0731)	(0.115)	(0.113)	(0.125)
Observations	1262	434	439	389
R-squared	0.010	0.037	0.030	0.044
F	0.61	0.75	0.64	0.94
Probability of < F	0.9087	0.7604	0.8706	0.531

Standard errors in parentheses.
Asterisks (*) indicate statistically significant differences between treatments and controls. *** p<0.01, ** p<0.05, * p<0.1

Follow-Up Sample

Respondents were surveyed a second time between 24 and 30 months after the baseline survey was conducted. An outside survey firm used information from the sites (for treatments) and other sources (baseline survey, administrative records, follow-up response cards) to locate baseline respondents for the follow-up survey. With all randomized studies, there is a concern that sample attrition between the baseline and follow-up surveys will affect the random nature of the sample and, possibly, the comparability between the treatment and control groups. Overall, this study had a 79 percent response rate at follow-up. That is, of the 1,285 people interviewed and randomized at baseline, 1,014 were interviewed at follow-up. Of those in the treatment group, 82 percent responded to the follow-up survey, versus 75 percent of the control group.

To assess whether the participants in the treatment and control groups who remained in the study at follow-up were equivalent, we compared these two groups on all measured baseline characteristics (e.g. age, race and gender), using chi-square and t-tests. These tests (first two columns of Appendix Table 3) show that, with only three exceptions, no statistically significant differences existed between the groups on any of the characteristics at baseline. Treatments in the total sample were more likely than controls to be married and to be immigrants and less likely to have ever been incarcerated. These bivariate differences in the follow-up sample could indicate that treatments were less disadvantaged than controls. We also tested the differences between these groups using linear regression (first column of Appendix Table 4), and when holding all other characteristics constant, none of the characteristics differed between the two groups. Further, the p-value of the F-statistic for the full study sample is close to 1, indicating that no overall patterns of differences existed between the two groups. While the treatment and control groups could have differed on characteristics not measured, the lack of differences on characteristics related to outcomes led us to assume that the random assignment remained intact in the follow-up sample. However, to account for any possible bias introduced by attrition, we included the characteristics in which bivariate differences were observed with the rest of the explanatory variables in the regression models of the outcomes.

Response rates varied somewhat at each site. At WRTP, the overall response rate was very high (87 percent), and response rates for both the treatment and control groups were quite similar (88 percent for the treatment group and 85 percent for the control group). Bivariate analysis (i.e., chi-square and t-tests) revealed three characteristics in which treatments and controls were different at follow-up: age 18 to 26, on welfare at baseline, and the number of children in the household. Linear regression analysis showed that none of these characteristics were significant predictors of treatment status when other variables were held constant (see Appendix Table 4).

At Per Scholas, the overall response rate was 78 percent (79 percent for the treatment group and 77 percent for the control group). A comparison of the baseline characteristics for the follow-up sample showed a higher proportion of the formerly incarcerated and those 55 or older in the control group. No other statistically significant differences were observed between the groups in any other baseline characteristic. Again, multivariate analyses showed that neither the difference in the proportion of formerly incarcerated nor the difference in the proportion of those older than 55 at Per Scholas is a significant predictor of treatment status when other variables are held constant. There was no evidence of systematic differences in baseline characteristics between Per Scholas or WRTP treatments and controls in the follow-up sample.

Finally, while the overall response rate at JVS–Boston was 73 percent, a large difference existed in the response rates of treatments (80 percent) and controls (66 percent). Relative to controls, treatments in the follow-up sample were slightly more likely to be white and more likely to be married at baseline. In linear regression analysis, the two groups did not differ on any baseline characteristics and the p-value of the F-statistic was close to 1, indicating that no systematic baseline differences were observed between the treatment and control groups in JVS–Boston's follow-up sample.

As with the analysis for the total sample, we controlled for any characteristics in which we observed follow-up differences between treatments and controls in multivariate analyses of outcomes to account for any bias introduced by attrition from the baseline sample.

Appendix Table 3
Characteristics of Study Participants at Follow-Up

	Total Sample		JVS–Boston		Per Scholas		WRTP	
	Control Group	Treatment Group	Control Group	Treatment Group	Control Group	Treatment	Control Group	Treatment Group
Sample Size (N)	485	529	147	181	170	175	168	173
Response Rate	75%	82%	66%	80%	77%	79%	85%	88%
Gender								
Male	49%	46%	14%	11%	77%	75%	51%	53%
Female	51%	54%	86%	89%	23%	25%	49%	47%
Race/Ethnicity and Foreign-Born Status								
African American	61%	59%	56%	50%	49%	50%	78%	79%
Latino	23%	20%	21%	18%	42%	39%	4%	3%
White	11%	13%	13%	20%*	4%	3%	16%	17%
Other	5%	7%	10%	13%	5%	7%	2%	2%
Foreign Born	21%	26%**	38%	44%	22%	30%	4%	3%
Age								
18 to 24	29%	27%	35%	28%	23%	27%	31%	26%
18 to 26[a]	39%	35%	44%	39%	35%	36%	39%	30%*
25 to 54	68%	71%	61%	69%	75%	73%	67%	73%
55 and Older	3%	1%	4%	3%	2%	0%*	2%	1%
Average Age	32.0	32.5	31.1	32.0	32.9	32.2	31.8	33.3
Education								
More Than a High School Diploma	17%	19%	15%	21%	29%	27%	6%	9%
High School Diploma	54%	53%	55%	54%	48%	47%	60%	57%
GED	21%	22%	21%	17%	22%	26%	21%	23%
Less Than a High School Diploma	7%	6%	9%	7%	n.a.	n.a.	13%	11%
Other Characteristics								
Married	15%	20%**	16%	27%**	17%	17%	11%	17%
Ever on Welfare	36%	38%	65%	59%	12%	14%	35%	40%
On Welfare at Baseline	23%	22%	52%	48%	5%	6%	18%	11%*
Has Access to a Vehicle	44%	47%	28%	33%	30%	29%	71%	78%
Average Number of Children in Household	1.2	1.3	1.6	1.5	0.7	0.7	1.3	1.6*
Moved in Last Two Years	41%	44%	48%	51%	31%	30%	46%	51%
Completed Other Training Before Baseline	27%	23%	22%	17%	26%	26%	32%	27%
Homeless in Year Prior to Baseline	7%	7%	9%	6%	6%	6%	7%	8%
Ever Convicted of a Crime	24%	20%	6%	3%	21%	14%	42%	45%
Formerly Incarcerated	20%	15%*	n.a.	n.a.	16%	9%**	37%	38%
Employment History at Baseline								
Average Months Employed Year Prior to Baseline	6.7	6.9	5.1	5.9	6.8	7.0	8.0	7.9
Employed (Part-Time or Full-Time) at Baseline	33%	34%	21%	25%	26%	26%	49%	52%
Worked Full-Time All 12 Months Prior to Baseline	10%	11%	3%	3%	9%	9%	17%	21%
Average Months Working Full-Time Year Prior to Baseline	3.4	3.5	2.3	2.5	3.5	3.5	4.4%	4.5
Total Earnings Year Prior to Baseline	$10,171	$9,599	$7,098	$7,055	$11,501	$10,184	$11,514	$11,667

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

In some cases, percentages may not add up to 100 because of rounding.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix Table 4
Regression of Treatment on Selected Baseline Characteristics at Follow-Up

	Total Sample	JVS–Boston	Per Scholas	WRTP
Male	0.00899	-0.139	-0.00644	0.0367
	(0.0437)	(0.0986)	(0.0723)	(0.0781)
Latino	-0.0289	-0.0109	-0.0474	-0.105
	(0.0440)	(0.0777)	(0.0612)	(0.167)
White	0.0351	0.0470	-0.0794	-0.0245
	(0.0553)	(0.0940)	(0.159)	(0.0854)
Other Race	0.0599	0.0251	0.0802	0.176
	(0.0712)	(0.103)	(0.123)	(0.235)
Foreign Born	0.0383	-0.0187	0.110	-0.0807
	(0.0455)	(0.0765)	(0.0675)	(0.165)
Age	0.000723	0.000842	-0.00189	0.00375
	(0.00178)	(0.00330)	(0.00317)	(0.00319)
Less Than a High School Diploma	-0.0540	-0.0376	-0.616	-0.0335
	(0.0660)	(0.108)	(0.521)	(0.0889)
More Than a High School Diploma	-0.00244	0.0213	-0.0702	0.0855
	(0.0455)	(0.0855)	(0.0661)	(0.108)
Married	0.0386	0.115	-0.0175	0.0804
	(0.0475)	(0.0911)	(0.0799)	(0.0889)
Ever Received Welfare	0.0315	0.00126	0.0678	0.0781
	(0.0443)	(0.0798)	(0.0945)	(0.0760)
Access to a Vehicle	0.0383	0.0595	-0.00482	0.0793
	(0.0369)	(0.0650)	(0.0634)	(0.0704)
Moved in Two Years Prior to Baseline	0.0354	0.0323	-0.0165	0.0870
	(0.0334)	(0.0588)	(0.0625)	(0.0580)
Completed Other Training Program Prior to Baseline	-0.0396	-0.0187	0.00699	-0.0974
	(0.0380)	(0.0791)	(0.0651)	(0.0615)
Ever Convicted of a Crime	0.0525	0.0889	0.0252	0.0713
	(0.0652)	(0.182)	(0.121)	(0.0904)
Formerly Incarcerated	-0.103	n.a.	-0.203	-0.0483
	(0.0707)	n.a.	(0.132)	(0.0925)
Number of Children in Household	0.0128	-0.00565	0.000311	0.0251
	(0.0133)	(0.0250)	(0.0281)	(0.0200)
Ever Homeless in Year Prior to Baseline	-0.0118	-0.0623	0.0346	0.0211
	(0.0648)	(0.115)	(0.119)	(0.110)
Employed at Baseline	0.0231	0.00428	0.00477	0.0552
	(0.0375)	(0.0725)	(0.0667)	(0.0633)
Total Earnings in Year Prior to Baseline	-1.62e-06	3.40e-07	-2.36e-06	1.57e-07
	(1.60e-06)	(3.20e-06)	(2.49e-06)	(3.17e-06)
JVS–Boston	0.0242			
	(0.0527)			
Per Scholas	0.0326			
	(0.0520)			
Constant	0.430***	0.503***	0.629***	0.176
	(0.0816)	(0.136)	(0.129)	(0.134)
Observations	995	315	343	337
R-squared	0.017	0.040	0.037	0.047
F	0.73	0.49	0.56	0.86
Probability of < F	0.7925	0.9615	0.9248	0.6263

Standard errors in parentheses.
Asterisks (*) indicate statistically significant differences between treatments and controls. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Study Versus Nonstudy Participants

At all three sites, some people were served who were not included in this study. Each site encountered significant resistance to the randomization process from recruitment partners. JVS–Boston had traditionally received a large number of referrals and funding through the Individual Training Account (ITA) program of its local WIA career center. When the career center staff learned about the randomization process, it stopped sending clients to JVS–Boston, resulting in a significant loss of revenue for the program. To make up for lost applicants, JVS–Boston increased its own recruitment activities. Later in the study period, JVS–Boston brokered a deal with the career center that allowed ITA clients who were recruited by JVS–Boston and referred to the career center to be entered into the study. Applicants who were recruited by the career center and referred to JVS–Boston were provided services but excluded from the study. JVS–Boston estimates that the total number of applicants who were provided services but held out of the study was relatively small—fewer than 40.

At the beginning of the study, WRTP was providing more training in the healthcare and manufacturing trades, and only offered a limited number of construction programs. Initially, WRTP's member building trade unions refused to allow participants in their fast-track program to be referred to WRTP for training and entered into the randomization process. Fast-track clients differed from other WRTP candidates because they had begun the process of joining the union and had passed at least three of the six tests required for entry. Unlike the typical WRTP applicants, fast-track candidates were not required to go through the regular application and eligibility process. During the first year of the study period, these fast-track clients were excluded from the study. When WRTP decided to offer more construction training in response to changes in the Milwaukee labor market during the second year of the study, staff convinced the building trade unions to allow the fast-track applicants to go through the regular application process and be submitted for random assignment.

During the study period, Per Scholas funded its work primarily through private foundation support. Some of these funding sources came with particular requirements to serve a specific number of clients during a particular time period. Over the course of the study, and particularly in the beginning, the lengthy process of randomization presented a challenge to Per Scholas in meeting these funder-mandated goals. In certain instances, Per Scholas excluded applicants from the study who would otherwise be eligible so that the organization could meet its immediate enrollment goals. The total number of excluded participants was significantly less than 10 percent of the overall sample (fewer than 40 individuals over the two-year enrollment period).

While we do not know the impact of these exclusions on our findings, certain factors mitigate any concern we might have. At JVS–Boston, the loss of the career center as a recruitment partner led the organization to identify other recruitment partners, and staff members reported that although the source of the applicants had changed, the characteristics of applicants to the program were identical to those of applicants before the study began. We are confident that the loss of referrals from the career center did not significantly change the population being served.

As a group, the union fast-track program members excluded from the study at WRTP were somewhat different from the individuals who typically entered the program from other referral sources. For instance, because of their fast-track status, these applicants bypassed WRTP's exhaustive screening process. When WRTP began admitting fast-track applicants later in the study, these applicants were subject to the same eligibility criteria as all study participants and were not submitted for randomization unless those criteria were met. The exclusion of fast-track program applicants from the early part of the study means that the findings at WRTP are representative only of those applicants who went through the normal eligibility and application process.

The number of potential participants excluded at Per Scholas was quite small and, according to the staff at Per Scholas, those excluded were not substantively different from those participants who were randomized.

Appendix C
Study Methodology

Computing Monthly Earnings and Employment

As part of the follow-up survey, respondents were asked to list every job they had held since they completed the baseline survey. For each job listed, respondents were asked the starting and ending wage, the number of days and total hours worked in a typical week, the date they began the job and, if applicable, the date it ended. Employment in each month of the study was calculated by determining if respondents worked at least one job in that particular month. The hours worked in each month were calculated by adding together the weekly hours for each job worked in that month. Finally, monthly earnings were calculated by multiplying the ending wage by the hours worked per month for each job. The earnings for all jobs worked in each month were then summed to produce the total monthly earnings. Earnings over the entire study period (24 months) and for the second year alone were calculated by summing the earnings for the appropriate months in those time periods. We also calculated earnings using the starting wage. This calculation did not materially change the results of the analyses. While using the ending wage may slightly overestimate the total earnings for each study participant, we believe that this overestimation is equal for both treatment and control group members.

Adjusting Earnings and Hours Worked for Multiple Jobs

In some instances, respondents held more than one job in a particular month. In the average month, 7 percent of respondents held more than one job. Each of these cases was investigated individually, by examining the hours worked and the dates of employment for each job. Often, multiple jobs meant that the respondent worked a primary job as well as a secondary job for fewer hours a month (e.g., as a bouncer in a nightclub on weekends) or worked two part-time jobs simultaneously. In these cases, the hours worked and earnings from the multiple jobs were left as they had been reported. In other cases, respondents had single months during which they were working one full-time or near full-time job followed by a different full-time or near full-time job. In most of these instances, the end date of one job and the start date of the second job happened to fall in the same month. We considered these "job switching" months, and because it was unlikely that the respondent worked both jobs at the same time, the hours worked and earnings for the particular month were calculated by taking the average from the two jobs.

Calculating the Hourly Wage in the Primary Job

Because respondents sometimes worked multiple jobs in a given month, we used the hourly wage from the primary job (i.e., the job worked the most hours in each month) in our analyses of the likelihood of working a job that pays at least $11 and $13 an hour, respectively. In rare instances, the hourly wage for the primary job was either quite small or unusually large, typically as a result of the respondent being paid for a specific task and not by the hour. These were usually odd jobs like cleaning a house or babysitting, and such outlier occurrences often skewed the wage data up or down. To account for these outlier wages, we eliminated the top and bottom 1 percent of the hourly wages for the primary job for all analyses involving this variable.

Estimation of the Model

Estimation of the impact of participating in sectoral training programs relied heavily on multivariate analysis. The multivariate model used to estimate the impact of sectoral training on the continuous outcomes (i.e., earnings, months employed, months with benefits, etc.) took the following form:

$$(1)\ Y_2 = a + b_1Y_1 + b_2X + b_3T + e_i$$

Where:
- Y_2 = the follow-up value of the continuous outcome of interest
- Y_1 = the baseline value of the variable of interest
- X = a vector of explanatory variables
- T = whether the study participant received sectoral training
- a, b = coefficients
- e_i = stochastic disturbance term with a mean of zero and a constant variance

The explanatory variables (X) included in the model were demographic variables—gender, race, age, educational attainment, etc.—measured at baseline. (For an example of the full model, see tables in Appendix G.)

The use of ordinary least squares (OLS) regression was not warranted when the dependent variable was dichotomous—e.g., whether the study participants were ever employed or ever worked at a job that offered benefits. In such cases, logistic regression analysis, using maximum likelihood estimation, was used to estimate the treatment impact by specifying the linear function for logit (logarithm of the odds)

of having a positive response (e.g., ever finding a job). The following model was used:

(2) Log $(p/1\text{-}p) = a + b_1Y_1 + b_2X + b_3T + e_i$

Where: p = the probability that $Y_2 = 1$
1-p = the probability that $Y_2 = 0$
1, b_i, T, X, and e_i are defined as in equation (1) but on a logit scale

In both the OLS and logistic regression models, explanatory variables controlling for preexisting differences among the study participants (i.e., age, children in the household, race, gender) were included.

In addition to estimating the effect of training on the outcomes of interest for the overall sample using equations (1) and (2), we conducted a series of analyses for selected subgroups as well as for each site individually. In these cases, regression models were tested only for the specific subgroup or for respondents at the specific site.

The key finding in this set of analyses is whether participation in sectoral training had an impact on various outcome measures. For each model, we produced an estimated value for the outcome of interest. The outcomes presented for program participants in this report represent the average of the estimated value of each outcome of interest for all members of the treatment group. Control group means represent the program participant average minus the regression coefficient on the treatment variable. In the discussion of results, we indicate whether an impact is statistically different from zero by labeling nonzero estimates as “significant.” In this report, this term is reserved for estimates that are not equal or zero at a 0.10 or greater level of confidence using a two-tailed test. These “significant” impacts are indicated in the tables with an asterisk (*) and in figures using shading.

Appendix D
Employment Outcomes for Selected Subgroups

Appendix Table 5
Employment Outcomes, Selected Subgroups, All Sites

	Men (N=476)			Women (N=518)			Young Adults 18—24 (N=281)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings									
Total Earnings, 24 Months	$3,734	$28,218	$31,952	$5,752***	$20,505	$26,257	$2,918	$22,001	$24,919
Total Earnings, Months 13-24	$3,777***	$15,495	$19,272	$4,555***	$11,710	$16,265	$3,092**	$12,532	$15,624
Ever Employed									
Ever Employed, 24 Months	3%	83%	86%	8%***	83%	90%	4%	86%	89%
Ever Employed, Months 13-24	6%	78%	84%	6%**	78%	84%	2%	81%	84%
Months Employed									
Months Employed, 24 Months	1.0	13.9	14.9	1.8***	13.2	15.0	0.3	14.0	14.2
Months Employed, Months 13-24	1.0**	7.5	8.4	1.7***	7.1	8.8	1.0*	7.4	8.4
Hours Worked									
Total Hours Worked, 24 Months	94	2,395	2,489	405***	1,789	2,194	183	2,026	2,205
Total Hours Worked, Months 13-24	166*	1,270	1,436	349***	982	1,330	237**	1,095	1,332
Hourly Wage—$11 or More									
Months Working a Job Paying at Least $11 an Hour, 24 Months	1.6**	7.0	8.6	2.8***	5.9	8.7	2.7***	4.4	7.0
Months Working a Job Paying at Least $11 an Hour, Months 13-24	1.3***	4.0	5.3	1.8***	3.6	5.4	2.0***	2.7	4.7
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	10%**	49%	59%	18%***	41%	59%	18%***	35%	53%
Ever Worked a Job Paying at Least $11 an Hour, Months 13-24	10%**	46%	56%	17%***	38%	55%	19%***	31%	50%
Hourly Wage—$13 or More									
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.1	4.5	5.6	1.6**	3.1	4.6	1.1	2.1	3.3
Months Working a Job Paying at Least $13 an Hour, Months 13-24	0.9**	2.6	3.5	1.0**	1.9	2.9	1.0**	1.2	2.2
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	6%*	36%	42%	10%**	22%	32%	9%*	23%	32%
Ever Worked a Job Paying at Least $13 an Hour, Months 13-24	6%*	33%	39%	10%**	20%	30%	9%*	20%	29%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix Table 5, *continued*
Employment Outcomes, Selected Subgroups, All Sites

	Young Adults 18–26[a] (N=367)			African American (N=597)			Formerly Incarcerated (N=215)			Ever on Welfare (N=364)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings												
Total Earnings, 24 Months	$5,281***	$21,447	$26,728	$2,252	$24,891	$27,143	$5,947*	$22,760	$28,707	$2,630	$22,454	$25,084
Total Earnings, Months 13-24	$4,737***	$12,197	$16,934	$2,577**	$13,595	$16,172	$4,769***	$11,472	$16,241	$2,668**	$12,536	$15,204
Ever Employed												
Ever Employed, 24 Months	5%	84%	89%	1%	87%	87%	7%	83%	90%	1%	86%	87%
Ever Employed, Months 13-24	4%	80%	84%	2%	82%	84%	9%	77%	86%	2%	80%	82%
Months Employed												
Months Employed, 24 Months	0. 8	13.8	14.6	0.4	14.1	14.5	2.0*	13.3	15.2	0.4	13.4	13.8
Months Employed, Months 13-24	1.3**	7.4	8.6	0.8**	7.5	8.3	1.4**	7.0	8.4	1.0*	7.2	8.2
Hours Worked												
Total Hours Worked, 24 Months	240	2,019	2,259	65	2,184	2,248	264	2,143	2,407	221	1,915	2,136
Total Hours Worked, Months 13-24	261***	1,098	1,359	143*	1,163	1,306	215	1,106	1,321	232**	1,054	1,285
Hourly Wage—$11 or More												
Months Working a Job Paying at Least $11 an Hour, 24 Months	2.5***	4.8	7.3	1.6**	6.2	7.8	1.6	5.1	6.8	1.3	6.5	7.8
Months Working a Job Paying at Least $11 an Hour, Months 13-24	1.8***	3.0	4.8	1.1***	3.6	4.7	1.3*	2.5	3.8	1.0*	3.8	4.8
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	16%***	37%	53%	9%***	42%	55%	10%*	42%	52%	10%	43%	53%
Ever Worked a Job Paying at Least $11 an Hour, Months 13-24	18%***	33%	51%	11%**	40%	51%	12%**	36%	48%	10%	39%	49%
Hourly Wage—$13 or More												
Months Working a Job Paying at Least $13 an Hour, 24 Months	1.7**	2.3	4.0	0.9	3.4	4.2	2.3**	2.4	4.7	0.2	3.7	3.9
Months Working a Job Paying at Least $13 an Hour, Months 13-24	1.3***	1.4	2.6	0.7**	1.9	2.6	1.7***	1.1	2.8	0.3	2.2	2.5
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	11%**	20%	31%	7%*	26%	33%	15%***	26%	41%	4%	25%	29%
Ever Worked a Job Paying at Least $13 an Hour, Months 13-24	10%**	19%	29%	7%*	23%	30%	14%***	21%	35%	4%	23%	27%

[a] Since definitions of "youth" and "young adults" vary among practitioners, researchers and funders, we analyzed the data according to two groupings: ages 18 to 24 and ages 18 to 26.

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.

Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix Table 5, *continued*
Employment Outcomes, Selected Subgroups, All Sites

	On Welfare at Baseline (N=223)			Foreign Born (N=233)			Latino (N=215)		
	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean	Treatment Impact	Control Group Mean	Treatment Group Mean
Earnings									
Total Earnings, 24 Months	$3,265	$18,817	$22,082	$7,821**	$23,760	$31,581	$6,219**	$24,567	$30,786
Total Earnings, Months 13-24	$3,286**	$10,977	$14,263	$6,375***	$14,254	$20,629	$4,817**	$14,523	$19,340
Ever Employed									
Ever Employed, 24 Months	1%	83%	84%	11%**	78%	89%	13%**	74%	87%
Ever Employed, Months 13-24	1%	77%	78%	15%***	73%	87%	11%*	71%	82%
Months Employed									
Months Employed, 24 Months	0.4	11.5	11.9	4.0***	12.0	16.0	2.6**	12.2	14.8
Months Employed, Months 13-24	1.2*	6.5	7.7	2.9***	6.6	9.6	1.8**	6.9	8.7
Hours Worked									
Total Hours Worked, 24 Months	214	1,629	1,843	430**	1,946	2,376	601**	1,767	2,368
Total Hours Worked, Months 13-24	258**	934	1,192	429***	1,074	1,503	395***	1,020	1,416
Hourly Wage—$11 or More									
Months Working a Job Paying at Least $11 an Hour, 24 Months	1.4	5.3	6.7	4.3***	6.2	10.5	2.4*	6.6	8.9
Months Working a Job Paying at Least $11 an Hour, Months 13-24	1.2*	3.3	4.5	2.8***	4.2	7.0	2.0***	3.9	5.9
Ever Worked a Job Paying at Least $11 an Hour, 24 Months	10%	40%	50%	22%***	47%	69%	13%*	48%	61%
Ever Worked a Job Paying at Least $11 an Hour, Months 13-24	10%	36%	46%	22%***	44%	66%	17%**	42%	59%
Hourly Wage—$13 or More									
Months Working a Job Paying at Least $13 an Hour, 24 Months	0.1	2.8	2.9	3.3***	3.2	6.5	1.4	4.2	5.6
Months Working a Job Paying at Least $13 an Hour, Months 13-24	0.2	1.8	1.9	2.0***	2.3	4.3	1.2*	2.7	3.8
Ever Worked a Job Paying at Least $13 an Hour, 24 Months	1%	22%	23%	18%***	27%	45%	6%	33%	39%
Ever Worked a Job Paying at Least $13 an Hour, Months 13-24	0%	20%	20%	18%**	24%	42%	8%	30%	38%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix E
Supplementary Tables, WRTP

Appendix Table 6
Likelihood of Working a Job That Offers Medical Insurance, WRTP

	Treatment Impact	Control Group Mean	Treatment Group Mean
Likelihood of Working a Job Offering Medical Insurance, 24 Months	10%**	59%	69%
Likelihood of Working a Job Offering Medical Insurance, Months 13–24	9%*	54%	63%
Months Working a Job Offering Medical Insurance, 24 Months	1.7*	8.8	10.5
Months Working a Job Offering Medical Insurance, Months 13–24	0.8	4.6	654

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix Table 7
Likelihood of Working a Job Paying $15 an Hour or More, WRTP Construction-Track Participants

	Treatment Impact	Control Group Mean	Treatment Group Mean
Months Working a Job Paying $15 an Hour, 24 Months	1.7***	3.2	4.9
Months Working a Job Paying $15 an Hour, Months 13–24	1.6**	1.2	2.8
Ever Worked a Job Paying $15 an Hour, 24 Months	29%**	13%	42%
Ever Worked a Job Paying $15 an Hour, Months 13–24	26%**	12%	38%

Due to rounding, the treatment impact plus the control group mean may not equal the treatment group mean exactly.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix F
The Question of Displacement

One possible interpretation for the program participants' earnings impacts is that the program participants displace control group members from jobs that would have been equally available to members of both groups in the absence of the program. That is, program participants may have been more likely to obtain available jobs (and thus work more hours and have higher earnings overall) because they participated in a sector program that facilitated access, not because they gained skills that enabled them to move into higher-paying jobs. If that were the case, sectoral programs could simply be replacing an hour worked by a control group member with an hour worked in the same job by a program participant.

To test this interpretation, we compared the percentage increase in earnings for program participants with the percentage increase in hours worked. If displacement accounted for the earnings' increase, we would expect the percentage increase in hours to be about equal to or greater than the increase in earnings. This was not the case. Over the study period, program participants earned 18.5 percent more than controls and worked 11.7 percent more hours. Thus, the increase in hours worked accounts for about 64 percent of the increase in earnings over the entire study period (and about 75 percent of the higher earnings in the second year alone). This suggests that the higher earnings of program participants are not entirely attributable to their working more hours than controls. Appendix Table 8 presents comparisons of the percentage increase in earnings and hours worked for the entire sample and for participants at each of the three sites.

Appendix Table 8
Analysis of Percentage Gains in Earnings and Hours

	All 24 Months			Months 13-24		
	Treatment Group	Control Group	Percentage Difference	Treatment Group	Control Group	Percentage Difference
Total Sample						
Total Earnings	$28,934	$24,425	18.5%	$17,673	$13,662	29.4%
Total Hours	2,334	2,089	11.7%	1,380	1,130	22.1%
% Difference Hours / % Difference Earnings			63.5%			75.4%
JVS–Boston						
Total Earnings	$24,525	$20,186	21.5%	$16,335	$12,098	35.0%
Total Hours	2,003	1,704	17.5%	1,315	980	34.2%
% Difference Hours / % Difference Earnings			81.4%			97.6%
Per Scholas						
Total Earnings	$29,819	$25,992	14.7%	$19,343	$14,680	31.8%
Total Hours	2,228	2,003	11.2%	1,347	1,098	22.6%
% Difference Hours / % Difference Earnings			76.1%			71.3%
WRTP						
Total Earnings	$32,544	$26,289	23.8%	$17,349	$13,614	27.4%
Total Hours	2,789	2,548	9.5%	1,484	1,293	14.8%
% Difference Hours / % Difference Earnings			39.8%			53.8%

Appendix G
Regression Tables for the Overall Sample

Appendix Table 9
Regression Tables for the Overall Sample

	Total Earnings		Months Employed		Ever Employed–Logistic Regression		Total Hours Worked	
	24 Months	Months 13–24	24 Months	Months 13–24	24 Months	Months 13–24	24 Months	Months 13–24
Treatment	4,509***	4,011***	1.341***	1.298***	0.423**	0.387**	244.9**	250.2***
	(1,346)	(837.9)	(0.512)	(0.299)	(0.188)	(0.169)	(99.29)	(59.43)
Outcome at Baseline	0.721***	0.346***	0.552***	0.230***	0.268	0.406**	21.34***	8.378***
	(0.0647)	(0.0403)	(0.0590)	(0.0345)	(0.222)	(0.203)	(3.292)	(1.971)
Male	4,255**	2,225*	-0.378	-0.118	0.0890	0.0755	467.3***	232.0***
	(1,833)	(1,140)	(0.689)	(0.403)	(0.252)	(0.231)	(134.7)	(80.57)
Latino	1,897	1,096	0.446	0.187	-0.141	-0.127	236.4*	120.5
	(1,836)	(1,143)	(0.703)	(0.411)	(0.232)	(0.214)	(135.6)	(81.17)
White	3,091	1,036	1.595*	0.684	0.191	0.0577	301.4*	127.2
	(2,316)	(1,438)	(0.874)	(0.511)	(0.352)	(0.315)	(171.0)	(102.1)
Other Race	-3,636	135.1	-1.841	-0.300	0.357	0.135	-276.4	-23.13
	(3,033)	(1,897)	(1.161)	(0.679)	(0.428)	(0.376)	(223.8)	(134.6)
Foreign Born	1,777	1,429	0.650	0.434	0.0749	0.185	95.51	78.96
	(1,903)	(1,186)	(0.728)	(0.426)	(0.251)	(0.232)	(140.6)	(84.28)
Age at Baseline	12.48	2.586	0.00101	-0.00168	-0.00932	0.000268	2.219	1.464
	(75.23)	(46.74)	(0.0283)	(0.0165)	(0.0102)	(0.00947)	(5.541)	(3.310)
Married at Baseline	-1,153	-355.9	0.0828	0.0415	-0.162	-0.207	-238.9	-103.1
	(1,996)	(1,242)	(0.755)	(0.442)	(0.269)	(0.245)	(147.1)	(88.02)
More Than a High School Diploma at Baseline	5,426***	2,990**	0.0423	-0.103	-0.0418	-0.109	71.47	30.72
	(1,917)	(1,187)	(0.721)	(0.422)	(0.251)	(0.233)	(141.4)	(84.22)
Less Than a High School Diploma at Baseline	-726.3	102.8	-0.562	0.0130	0.410	-0.0979	-160.2	-1.089
	(2,772)	(1,725)	(1.059)	(0.620)	(0.497)	(0.364)	(203.9)	(122.0)
Ever on Welfare Prior to Baseline	551.5	-4.067	-0.658	-0.257	0.0803	0.00477	113.6	45.17
	(1,848)	(1,151)	(0.703)	(0.411)	(0.262)	(0.235)	(136.8)	(81.92)
Has Access to a Vehicle at Baseline	3,212**	1,601*	0.0554	0.0750	-0.104	-0.0385	171.7	91.58
	(1,544)	(962.0)	(0.584)	(0.342)	(0.209)	(0.190)	(113.2)	(67.78)
Number of Children in the Household at Baseline	-193.2	-309.4	-0.229	-0.180	0.0408	-0.0409	-36.72	-36.45
	(557.8)	(347.1)	(0.212)	(0.124)	(0.0831)	(0.0709)	(41.16)	(24.63)
Moved in 2 Years Prior to Baseline	2,159	604.1	0.751	0.150	0.480**	0.308*	186.7*	59.10
	(1,397)	(870.5)	(0.532)	(0.311)	(0.205)	(0.180)	(103.2)	(61.82)
Completed Another Training Program Prior to Baseline	-1,645	-909.5	0.177	0.155	-0.130	-0.153	-90.34	-29.78
	(1,593)	(991.6)	(0.606)	(0.355)	(0.220)	(0.198)	(117.6)	(70.41)
Ever Convicted of a Crime Prior to Baseline	-1,912	-1,749	-1.246*	-0.675	-0.264	-0.349	-264.8*	-170.6**
	(1,869)	(1,164)	(0.711)	(0.416)	(0.266)	(0.238)	(138.0)	(82.62)
JVS–Boston	-2,532	176.5	-2.968***	-0.680	-1.097***	-0.978***	-481.3***	-132.8
	(2,173)	(1,353)	(0.830)	(0.486)	(0.344)	(0.297)	(164.0)	(98.22)
Per Scholas	-1,165	770.8	-3.083***	-1.023**	-1.093***	-0.950***	-498.3***	-201.7**
	(2,146)	(1,337)	(0.823)	(0.481)	(0.321)	(0.286)	(162.1)	(97.07)
Constant	12,921***	7,570***	12.00***	6.540***	2.463***	1.935***	1,777***	956.9***
	(3,391)	(2,111)	(1.353)	(0.792)	(0.507)	(0.453)	(254.6)	(152.4)
Observations	985	983	976	976	997	997	983	981
R-Squared	0.188	0.142	0.154	0.092			0.126	0.077

Standard errors in parentheses.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Appendix G, *continued*
Regression Tables for the Overall Sample

	Months Working a Job Paying at Least $11 an Hour		Ever Worked a Job Paying at Least $11 an Hour—Logistic Regression		Months Working a Job Paying at Least $13 an Hour		Ever Worked a Job Paying at Least $13 an Hour—Logistic Regression	
	24 Months	Months 13–24	24 Months	Months 13–24	24 Months	Months 13–24	24 Months	Months 13–24
Treatment	2.048***	1.481***	0.538***	0.524***	1.208***	0.916***	0.359**	0.383***
	(0.547)	(0.324)	(0.133)	(0.133)	(0.468)	(0.284)	(0.143)	(0.147)
Outcome at Baseline	3.103***	1.478***	0.585***	0.512***	2.689***	1.430***	0.746***	0.693***
	(0.602)	(0.356)	(0.147)	(0.146)	(0.599)	(0.363)	(0.171)	(0.173)
Male	-0.120	-0.0803	0.114	0.119	0.846	0.454	0.423**	0.397**
	(0.742)	(0.439)	(0.180)	(0.180)	(0.633)	(0.384)	(0.191)	(0.196)
Latino	0.316	0.0995	0.0914	0.0544	0.431	0.431	0.0881	0.174
	(0.748)	(0.443)	(0.181)	(0.180)	(0.639)	(0.387)	(0.192)	(0.195)
White	2.825***	1.375**	0.371	0.495**	2.962***	1.621***	0.624***	0.822***
	(0.945)	(0.559)	(0.233)	(0.232)	(0.808)	(0.490)	(0.235)	(0.237)
Other Race	-0.746	-0.0339	-0.00273	0.0884	-0.372	0.0578	-0.199	0.0106
	(1.218)	(0.721)	(0.297)	(0.296)	(1.040)	(0.631)	(0.323)	(0.324)
Foreign Born	0.924	0.847*	0.174	0.193	0.190	0.252	0.0994	0.00245
	(0.775)	(0.459)	(0.188)	(0.188)	(0.662)	(0.401)	(0.198)	(0.202)
Age at Baseline	0.0518*	0.0243	0.00842	0.0117	0.0333	0.0173	0.00776	0.00681
	(0.0305)	(0.0180)	(0.00741)	(0.00740)	(0.0261)	(0.0158)	(0.00776)	(0.00792)
Married at Baseline	-0.468	-0.370	-0.296	-0.354*	0.578	0.417	-0.0136	0.00594
	(0.809)	(0.479)	(0.197)	(0.197)	(0.691)	(0.419)	(0.203)	(0.206)
More Than a High School Diploma at Baseline	1.065	0.522	0.351*	0.345*	0.934	0.498	0.433**	0.426**
	(0.776)	(0.459)	(0.191)	(0.189)	(0.663)	(0.402)	(0.190)	(0.192)
Less Than a High School Diploma at Baseline	-1.780	-0.980	-0.670**	-0.633**	-0.855	-0.682	-0.873**	-0.823**
	(1.127)	(0.667)	(0.287)	(0.294)	(0.964)	(0.584)	(0.382)	(0.400)
Ever on Welfare Prior to Baseline	-0.402	-0.281	-0.151	-0.108	0.00939	-0.0251	-0.00643	0.0252
	(0.752)	(0.445)	(0.183)	(0.183)	(0.642)	(0.389)	(0.197)	(0.202)
Has Access to a Vehicle at Baseline	2.001***	1.056***	0.337**	0.339**	1.694***	0.779**	0.299*	0.344**
	(0.624)	(0.369)	(0.153)	(0.152)	(0.532)	(0.323)	(0.162)	(0.166)
Number of Children in the Household at Baseline	-0.186	-0.155	0.0263	0.00180	0.267	0.123	0.104*	0.0696
	(0.228)	(0.135)	(0.0552)	(0.0554)	(0.194)	(0.118)	(0.0586)	(0.0608)
Moved in 2 Years Prior to Baseline	-0.293	-0.191	0.0608	0.0433	-0.144	-0.259	0.0159	0.0260
	(0.569)	(0.337)	(0.138)	(0.138)	(0.486)	(0.295)	(0.148)	(0.152)
Completed Another Training Program Prior to Baseline	0.0614	-0.278	0.0334	-0.0270	0.0790	-0.114	0.126	0.0485
	(0.648)	(0.384)	(0.156)	(0.157)	(0.553)	(0.336)	(0.167)	(0.172)
Ever Convicted of a Crime Prior to Baseline	-1.004	-0.648	-0.200	-0.266	-0.626	-0.375	-0.0690	-0.0981
	(0.761)	(0.450)	(0.184)	(0.185)	(0.649)	(0.394)	(0.197)	(0.203)
JVS–Boston	-0.0496	0.741	0.307	0.202	0.0135	0.253	0.0934	0.131
	(0.882)	(0.522)	(0.216)	(0.216)	(0.753)	(0.457)	(0.237)	(0.244)
Per Scholas	0.334	0.841	0.173	0.220	1.414*	1.048**	0.381*	0.477**
	(0.878)	(0.520)	(0.213)	(0.213)	(0.751)	(0.456)	(0.227)	(0.233)
Constant	3.057**	1.810**	-1.045***	-1.199***	-0.305	-0.00837	-2.128***	-2.274***
	(1.367)	(0.809)	(0.335)	(0.336)	(1.166)	(0.707)	(0.368)	(0.378)
Observations	997	997	997	997	997	997	997	997
R-Squared	0.103	0.100			0.095	0.091		

Standard errors in parentheses.
Asterisks (*) indicate statistically significant differences between treatments and controls. *p < 0.10 **p < 0.05 ***p < 0.01

Public/Private Ventures
2000 Market Street, Suite 600
Philadelphia, PA 19103
Tel: (215) 557-4400
Fax: (215) 557-4469

New York Office
The Chanin Building
122 East 42nd Street, 42nd Floor
New York, NY 10168
Tel: (212) 822-2400
Fax: (212) 949-0439

California Office
Lake Merritt Plaza, Suite 1550
1999 Harrison Street
Oakland, CA 94612
Tel: (510) 273-4600
Fax: (510) 273-4619

www.ppv.org

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