The National Evaluation of Welfare-to-Work Strategies

Four-Year Impacts of Ten Programs on Employment Stability and Earnings Growth

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I. Introduction

This paper explores whether programs in the National Evaluation of Welfare-to-Work Strategies (NEWWS) helped welfare recipients attain employment stability and earn more over time. These outcomes (defined in greater detail below) are important prerequisites for achieving long-term self-sufficiency and have served as goals of welfare-to-work programs past and present. The need for programs to promote stable employment and earnings growth has grown stronger since passage of PRWORA, which imposes time limits on most families' eligibility to receive federally-funded welfare benefits. Further, as welfare caseloads continue to fall, administrators and policy makers face the greater challenge of achieving these goals when working with recipients with more serious barriers to employment and at greatest risk of exhausting their eligibility to receive benefits.

To meet the challenges of welfare reform, state and local administrators and policy makers require solid information on the types of welfare-to-work programs that help people maintain steady employment over several years and earn more over time. This paper helps address this need by describing useful ways of measuring employment stability and earnings growth and by analyzing the effects of ten welfare-to-work programs on these measures over a four-year follow-up period. The paper also describes ways of measuring unstable or sporadic employment and estimates program effects on these measures. Welfare recipients who work sporadically may benefit from additional pre- or post-employment services or financial incentives provided by welfare agencies.

Results are presented for ten programs operated in six sites: Atlanta, Georgia; Columbus, Ohio; Detroit and Grand Rapids, Michigan; Portland, Oregon; and Riverside, California.[1] Welfare recipients who enrolled in these programs were required to participate in employment-related activities and could incur financial sanctions (reductions in welfare benefits) for noncompliance.

Four programs (Atlanta, Grand Rapids, and Riverside Labor Force Attachment and Portland) were employment-focused. They encouraged rapid entry into the labor market in the hope that enrollees would work their way up to better jobs. The three Labor Force Attachment (or LFA) programs advocated work most strongly among the 10 programs. LFA program staff assigned nearly all enrollees to job clubs as their first activity and stressed the value of working even at low-wage jobs as a first step toward self-sufficiency. Portland's program, in contrast, encouraged enrollees to look for jobs that paid above minimum wage and offered potential for advancement. In addition, Portland's case managers had more discretion to assign some enrollees to skill-building activities as their first activity, although these activities were short-term and aimed at increasing employability. Program administrators in Portland hoped that these features would improve targeting of services: enrollees who would benefit from job search would go to job search; enrollees who would benefit from basic education would go to basic education.

The other six programs (Atlanta, Grand Rapids, and Riverside Human Capital Development, Columbus Integrated and Traditional, and Detroit) were education-focused. These programs sought to increase enrollees' skills and credentials before they looked for work. Over time,

[1] The eleventh program, Oklahoma City, had no effect on employment and earnings over five years of follow-up and was excluded from the analysis.

welfare recipients in the education-focused programs were expected to make up for forgone earnings by obtaining more jobs or higher-quality jobs than they could have obtained on their own.

As discussed in previous reports and papers, the NEWWS Evaluation uses a rigorous experimental design based on random assignment to estimate program effects. The paper compares the employment experiences of program group members to those of control group members, who were precluded from these programs' employment-related services and were not subject to the programs' mandatory participation requirements.[2] The paper discusses program-control group differences, or impacts, on several indicators of employment stability and earnings growth. The paper also considers whether employment- or education-focused programs produced positive effects for sample members who entered the program with one or more serious barriers to employment, as well as for more job-ready sample members.

It is important to keep in mind that any effects on employment stability and earnings growth were produced solely from programs' pre-employment services, messages, and mandates. In contrast to many programs that operate today, programs in NEWWS did not impose time limits on welfare eligibility and did not offer post-employment services to sample members who found jobs.[3] The difference is especially pronounced in Riverside and Portland. Currently, the welfare departments in these sites provide case management services and arrange for vocational training for welfare recipients who find jobs. Nonetheless, the results for NEWWS remain important. The mandatory character of the programs in NEWWS and their pre-employment services and messages are similar to those operated today. Furthermore, to the extent that these programs did make a difference (especially for welfare recipients facing serious barriers to employment), the need for additional pre- or post-employment services or financial incentives will be that much smaller.

II. Main findings

- Across all sites, a large majority of control group members worked for pay during the follow-up, but only about 20 to 40 percent experienced stable employment or increased their earnings over time.
- Over four years, all four employment-focused programs and four of six education-focused programs increased total earnings above control group levels. Portland achieved the largest gain, $4,025, or about $1,000 per year, an unusually large increase. The other programs led to middle-level increases that averaged about $300 to $500 per year.

[2] See Martinson, 2000, for a more comprehensive analysis of employment patterns for program group members over four years. Some control group members may have received services during year 4, after the end of the control embargo. Future reports and papers will explore this issue.

[3] From 1994 through 1996 Riverside and Portland's welfare agencies participated in the Post-Employment Services Demonstration (PESD). In PESD, welfare recipients who found jobs received counseling, help in obtaining transitional benefits, and job search assistance if they left employment. About a quarter of program group members in Portland received these services, but program group members in Riverside were excluded. See Rangarajan and Novak, 1999, for a description of the program and its effects on employment, earnings, and welfare receipt. In addition, Atlanta and Riverside offered program and control group members financial incentives that made it easier to combine work and welfare.

- Most programs achieved these earnings gains by helping sample members find work who would otherwise have remained jobless or by helping people start working sooner than they would have on their own. In general, programs had only small effects on measures of stable employment and earnings growth.
- Portland's more flexible employment-focused approach and its emphasis on finding good jobs led to the largest gains in stable employment and earnings growth among the 10 programs.
- Grand Rapids and Riverside LFA, more strongly work-oriented than Portland, met their primary goal of helping a large number of welfare recipients find work quickly. These programs produced only small gains in stable employment and earnings growth, however, because many program group members had trouble maintaining employment. Atlanta LFA was less successful at moving people into jobs quickly, but increased employment stability and earnings growth by as much as Grand Rapids and Riverside LFA. In Atlanta as in Portland, program group members who found employment were more likely to sustain their employment compared to their counterparts in the control group.
- Despite their emphasis on skill-building as a means to finding better jobs, education-focused programs led to only small increases in stable employment and had almost no effect on earnings growth. Three programs (Atlanta HCD, Columbus Integrated, and Detroit) had results similar to Atlanta LFA's: small gains in employment that were accompanied by similar increases in stable employment. Riverside HCD increased both types of employment — stable and unstable — similar to LFA. The other education-focused programs, Grand Rapids HCD and Columbus Traditional, had no effects.
- Programs did not achieve "delayed effects." Relatively few program group members remained jobless during years 1 and 2 and then achieved stable employment later in the follow-up — a possible employment pattern for programs that emphasized longer-term skill building activities. Similarly, few program group members worked sporadically in years 1 and 2 then advanced to stable employment in later years — a pattern expected of strongly employment-focused programs. Sample members who experienced these problems (along with those who never found work in four years) represent likely target groups for additional services and financial incentives to sustain employment.
- Portland's program led to the most consistent gains among different welfare populations, a notable achievement. Several other employment- and education-focused programs increased stable employment or earnings growth among sample members with more serious barriers to employment — also an encouraging finding. Programs did not do as well with sample members who entered the programs with fewer barriers to employment.

III. Analysis Issues

A. Analysis sample and follow-up period

The full impact sample for the NEWWS Evaluation includes 44,569 single parents in seven sites. Sample members were randomly assigned to research groups over approximately a two-year period in each site, beginning in June, 1991 in Riverside and ending in December, 1994 in Portland.[4]

The findings for this analysis pertain to an early cohort of the full impact sample in 6 sites whose members have four years of follow-up data (N=27,105). They represent from 61 percent (in Portland) to 91 percent (in Grand Rapids) of the full impact sample. Random assignment for the sample studied in this paper began in June, 1991, in Riverside, and ended in December, 1993, in Columbus and Portland. The results presented in this paper cover the calendar period from June, 1991 (the first sample member's entry into the study), through December, 1997.

B. Data sources

Estimates of employment and earnings are calculated with state-wide Unemployment Insurance (UI) earnings records. These data provide reasonably accurate and unbiased measures of program effects, including earnings that sample members obtained both within and outside of the counties in which they were randomly assigned. UI earnings records, however, are not available for out-of-state earnings or for jobs that are not usually covered by the UI system, such as self-employment, domestic service, or informal child care — work which may have been "off the books"— or for employers who do not report earnings. Further, UI records report earnings by calendar quarter and often overstate how long people actually worked. For instance, people who began working or changed jobs during a calendar quarter probably experienced weeks of joblessness during the quarter, which UI records do not capture. In addition, when using UI records to track trends in earnings over time, one cannot distinguish among the several changes in job characteristics (number of hours or weeks of work or hourly wages) that may have affected quarterly earnings.

C. Measuring impacts

The paper discusses program-control group differences, or impacts, for each program. All impact estimates are regression-adjusted for differences in sample members' baseline characteristics, prior earnings and employment, and prior welfare and Food Stamp receipt. Regression-adjustment improves the precision of the estimates and reduces their sensitivity to pre-random assignment differences between research groups that occur by chance. Differences between the program and control groups are considered statistically significant if there is less than a 10 percent probability that they could have occurred by chance. All impact estimates discussed in the text are statistically significant unless otherwise indicated. Rounding may cause slight discrepancies in the calculations of experimental-control differences reported below.

1) Experimental and nonexperimental effects

[4] See Freedman et al., 2000, Table 2.2, p.14 for sample sizes and random assignment dates.

This paper includes both experimental and nonexperimental comparisons of average values for program and control group members on measures of employment stability and earnings growth. Experimental comparisons are calculated with all sample members and include zeros for those who never worked for pay during the follow-up. The analysis also includes *nonexperimental* comparisons for program and control group members who worked for pay after random assignment.

In general, greater caution is required in interpreting these nonexperimental comparisons because employed program group members may differ from employed control group members with respect to observed pre-random assignment characteristics (for example, pre-random assignment employment experience) and unobservable characteristics (for example, assertiveness or self-confidence). In particular, when a program helps many welfare recipients find work who would otherwise have remained jobless, results for these program group members tend to lower program group averages and make any comparisons between employed program and control group members appear less positive. Under these circumstances, it is reasonable to interpret the absence of program-control group differences on non-experimental measures of employment stability and earnings growth as (modestly) positive. On the other hand, these results would suggest that enrollees may benefit from additional services or financial incentives that help people stay employed.

2) Consistent versus Mixed Effects

This paper looks at program effects on several measures of employment and earnings. Ideally, welfare-to work programs will lead to increases on all outcomes that are beneficial to welfare recipients (such as stable employment and earnings growth) and no increase in outcomes that are not beneficial (such as employment that ends quickly or decreases in earnings over time). These programs will be considered to have led to consistently positive effects. However, programs may help some people experience stable employment and earnings growth, whereas others may work sporadically and do not increase their earnings. If a program's overall impact on employment is sufficiently large, it may increase *both* the proportion of all sample members who experienced stable employment and the proportion who experienced unstable employment (or who experienced earnings growth or no growth). These programs will be described as having *mixed* effects. Programs may also produce little or no increase in percent employed, but program group members who work for pay may experience greater employment stability and earnings growth than their counterparts in the control group. These effects may also be interpreted as *mixed*.

IV. Findings on employment stability

A. Employment patterns for control group members [Tables 1 and 2, Appendix Tables 1 and 2][5]

Most control group members found work at some point in the follow-up but also experienced at least one spell of joblessness after they started their first job. In five sites, from 76 percent (Atlanta) to 85 percent (Grand Rapids) of control group members worked for pay during at least one quarter in years 1 to 4. The four-year employment rate was substantially lower in Riverside,

[5] Tables and figures for employment-focused programs appear in the body of the paper and tables and figures for education-focused programs appear in the appendix.

the site with the weakest labor market (61 percent). The typical control group member who found employment during years 1 to 4 began her first job toward the end of year 1 after random assignment. She subsequently left employment for at least a quarter, often within 9 months of starting work. Many control group members found work later in the follow-up, however.

There was considerable variation by site in how long control group members worked. Control group members in Riverside averaged only 4.23 quarters of employment (or a little over one year) over four years (or 16 quarters). Elsewhere, control group members worked longer: from 5.55 quarters in Detroit to 7.39 quarters (or close to two years) in Columbus. These measures include zeros for control group members who never worked for pay.

B. Impacts on employment [Table 1, Appendix Table 1]

Helping welfare recipients find employment was the primary goal of each program in the NEWWS evaluation. Each program succeeded in helping a large majority begin employment during years 1 to 4, but, as noted above, employment levels for control group members were also high. As a result, most programs achieved small increases in employment levels. Among employment-focused programs, Riverside LFA attained the largest gain in job finding, boosting the percentage of sample members who ever worked for pay by 9.6 percentage points above the control group level. In contrast, Grand Rapids LFA and Portland increased employment levels by about 3 percentage points and Atlanta LFA had no effect. Only three of six education-focused programs increased the proportion of sample members employed for at least one quarter, from 2.9 percentage points (Columbus Traditional) to 5.1 percentage points (Riverside HCD). For most programs, impacts on employment were largest in years 1 and 2 and then grew smaller, as increasing numbers of control group members found work.[6]

Programs can also benefit welfare recipients by helping them find jobs sooner than they would have on their own.[7] As expected, employment-focused programs had the largest effect. Among sample members who ever worked for pay, three programs reduced the average time to first job by a quarter or more, whereas Atlanta's decrease averaged half a quarter. (This is a nonexperimental measure.) Education-focused programs produced somewhat smaller reductions. In four programs (not Columbus Integrated or Traditional), employed program group members started working a fraction of a quarter sooner than their counterparts in the control group.

Most programs also increased the number of quarters in which sample members worked. Among the four employment-focused programs, the impact ranged from 0.61 quarters (Atlanta LFA) to 1.36 quarters (Portland). (This measure includes zeros for sample members not employed.) In contrast, education-focused programs led to gains of less than half a quarter.

[6] See Table 3 and Appendix Table 3 for impacts on employment for years 1 and 2.

[7] Programs that decrease time to first job may also help people get a head start on career advancement. Alternatively, welfare recipients may not benefit from starting jobs sooner, if, for example, they choose a worse job than they would have had they waited longer to begin working.

Table 1

Impacts of Employment-Focused Programs on Employment and Earnings During Years 1 to 4

Employment Outcome	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Ever employed (%)	80.5	76.1	4.4 ***	5.8
Quarters employed	6.85	5.94	0.90 ***	15.2
Earnings ($)	15,882	13,588	2293 ***	16.9
For those employed in years 1 to 4:				
Quarters to first job	*2.91*	*3.88*	*-0.97*	*-25.0*
Quarters employed	*8.51*	*7.81*	*0.70*	*8.9*
Percentage of quarters employed from first job to end of year 4 (%)	*65.0*	*64.4*	*0.6*	*0.9*
Earnings per quarter employed ($)	*2,319*	*2,286*	*32.9*	*1.4*
Sample size	7,475	10,050		
Atlanta LFA				
Ever employed (%)	78.6	76.5	2.1	2.7
Quarters employed	6.62	6.01	0.61 ***	10.2
Earnings ($)	14,515	12,807	1,708 ***	13.3
For those employed in years 1 to 4:				
Quarters to first job	*3.37*	*3.87*	*-0.51*	*-13.1*
Quarters employed	*8.43*	*7.86*	*0.57*	*7.2*
Percentage of quarters employed from first job to end of year 4 (%)	*66.7*	*64.8*	*1.9*	*2.9*
Earnings per quarter employed ($)	*2,192*	*2,131*	*61*	*2.9*
Sample size	1,666	1,725		
Grand Rapids LFA				
Ever employed (%)	87.8	84.8	3.0 **	3.6
Quarters employed	7.53	6.78	0.75 ***	11.0
Earnings ($)	15,574	14,173	1,401 **	9.9
For those employed in years 1 to 4:				
Quarters to first job	*2.66*	*3.69*	*-1.03*	*-27.8*
Quarters employed	*8.57*	*8.00*	*0.58*	*7.2*
Percentage of quarters employed from first job to end of year 4 (%)	*64.3*	*65.0*	*-0.7*	*-1.0*
Earnings per quarter employed ($)	*2,069*	*2,091*	*-22*	*-1.0*
Sample size	1,409	1,325		

(continued)

Table 1 (continued)

Employment Outcome	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside LFA				
Ever employed (%)	70.1	60.5	9.6 ***	15.8
Quarters employed	5.13	4.23	0.90 ***	21.3
Earnings ($)	12,475	10,565	1,910 ***	18.1
For those employed in years 1 to 4:				
Quarters to first job	*2.93*	*4.23*	*-1.31*	*-30.8*
Quarters employed	*7.32*	*6.99*	*0.33*	*4.7*
Percentage of quarters employed from first job to end of year 4 (%)	*56.0*	*59.4*	*-3.4*	*-5.7*
Earnings per quarter employed ($)	*2,432*	*2,498*	*-66*	*-2.6*
Sample size	2,496	2,475		
Portland				
Ever employed (%)	83.0	79.7	3.3 **	4.1
Quarters employed	7.22	5.86	1.36 ***	23.3
Earnings ($)	18,134	14,109	4,025 ***	28.5
For those employed in years 1 to 4:				
Quarters to first job	*3.13*	*4.28*	*-1.15*	*-26.8*
Quarters employed	*8.70*	*7.35*	*1.35*	*18.4*
Percentage of quarters employed from first job to end of year 4 (%)	*67.6*	*62.7*	*4.9*	*7.8*
Earnings per quarter employed ($)	*2,512*	*2,409*	*103*	*4.3*
Sample size	1,904	1,471		

(continued)

Table 1 (continued)

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

Differences between program group members and control group members shown in italics for "those employed in years 1 to 4" are not true experimental comparisons. Tests of statistical significance were not performed.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; and year 4, quarters 14 through 17. The follow-up period equals 16 quarters.

"Quarters to first job" is defined as the number of quarters between quarter 2 and the first quarter with earnings. Sample members who began working in quarter 2 have 0 quarters for this measure.

"Percentage of quarters employed from first job to end of year 4" is calculated by quarters employed/(16 - quarters to first job) * 100, for sample members who worked for pay during years 1 to 4.

The impact on quarters employed does not tell the whole story concerning whether programs increased employment stability. An increase may occur because more program group members were working compared to control group members (a positive effect) or because program group members started working sooner and had more quarters remaining in the follow-up in which they could have worked (often a positive effect as well). The measures that follow will show more directly whether programs helped sample members sustain employment.

C. Effects on short-term employment stability [Table 2, Appendix Table 2]

Prior research on employment patterns for welfare recipients suggests that many recipients leave employment within the first year after they began working — often around months 4 to 6. Furthermore, people who leave employment often experience long periods of joblessness before resuming employment.[8] Welfare-to-work programs without post-employment services may improve this pattern in several ways — for example, by helping enrollees find better jobs than they would have on their own, by providing referrals to reliable and good quality child care, or, perhaps, by convincing people to keep working even if jobs pay little and lack benefits.

For this analysis sample members who worked for four or more consecutive quarters during their first spell of employment are considered to have experienced stable employment in the short-term.[9] The percentage of program and control group members who achieved this positive result is

[8] Rangarjan, Schochet, and Chu, 1998, pp. 15-23. Findings cited in Strawn and Martinson, 2000, pp. 11-12.

[9] The four-year follow-up began in quarter 2 after random assignment and ended in quarter 17. Quarter 14 is the first quarter of year 4, the last quarter in which a sample member could begin working and remain

displayed at the bottom row of each panel. Also shown are the percentages of sample members who experienced less beneficial outcomes: no employment through the first quarter of year 3, or a first spell of employment that lasted only 1 to 3 quarters. The latter group is considered to have experienced unstable unemployment and represents a group that may benefit from post-employment services and financial incentives.

Results for control group members underscore the difficulty that welfare recipients face in attaining stable employment. In five sites, only about 30 percent of control group members worked for pay for four or more consecutive quarters during their first spell of employment. In these sites, a somewhat larger proportion of control group members (from 29 percent in Riverside to 48 percent in Grand Rapids) found employment but only worked for one to three quarters. Control group members in Columbus fared better: 40 percent worked for four or more quarters.

Among employment-focused programs, Portland's varied-first activity approach produced the largest and most consistent gains in short-term employment stability. Portland raised the percentage of sample members who worked for four or more quarters in their first employment spell by 6.7 percentage points and did not increase the proportion of sample members who only worked for a few months.

The three other employment-focused programs produced very different results. Atlanta LFA increased job finding by only 3.5 percentage points, the smallest gain among employment focused programs, but led to a larger increase in the measure of short-term employment stability of 5.9 percentage points, comparable to Portland's. The difference in these impacts suggests that Atlanta LFA benefited some program group members who would have found employment on their own — by increasing the length of their first employment spell.

Findings for Atlanta LFA may be considered *mixed*, since Atlanta LFA did not increase employment very much. Riverside LFA, arguably the most strongly employment-focused program in the evaluation, produced *mixed* results of a different sort. The program led to an unusually large increase in job finding, 10.6 percentage points, an important achievement. As shown in Table 2, Riverside LFA's approach also increased by 4.0 percentage points the proportion of sample members who achieved short-term employment stability. However, this small gain in stable employment was exceeded by a 6.7 percentage point increase in the proportion of sample members who began working but left employment after only 1 to 3 quarters. Results were less positive for Grand Rapids LFA, also a strongly employment-focused program. Like the other three employment-focused programs, Grand Rapids LFA increased job finding (by 5.5 percentage points above the control group average), but, unlike these programs, Grand Rapids LFA only increased unstable employment. Results for Riverside and Grand Rapids LFA suggest that strongly employment-focused programs require additional services (pre- or post-employment) or financial incentives to keep welfare recipients employed or help them move quickly to their next job.[10]

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employed during four quarters. Quarter 1 includes the date of random assignment. Earnings from quarter 1 are excluded from all measures in this paper because sample members may have worked prior to random assignment.

[10] As noted above, Riverside's welfare department has developed an ambitious post-employment program for welfare-recipients in recent years. In addition, California's statewide welfare program, CalWORKs, which began in 1998, includes relatively large disregards on earnings that allow most recipients to combine work and welfare.

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Table 2
Impacts of Employment-Focused Programs on Duration of First Employment Spell

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 3.25				
Not employed	22.5	29.0	-6.5 ***	-22.4
Employed	77.5	71.0	6.5 ***	9.1
First spell lasted 1 to 3 quarters	40.4	38.6	1.9 **	4.9
First spell lasted 4 or more quarters	37.1	32.4	4.6 ***	14.2
Sample Size	7,475	10,050		
Atlanta LFA				
Employed during years 1 to 3.25				
Not employed	25.4	28.9	-3.5 **	-12.0
Employed	74.6	71.1	3.5 **	4.9
First spell lasted 1 to 3 quarters	36.8	39.3	-2.5	-6.3
First spell lasted 4 or more quarters	37.8	31.9	5.9 ***	18.6
Sample Size	1,666	1,725		
Grand Rapids LFA				
Employed during years 1 to 3.25				
Not employed	14.9	20.4	-5.5 ***	-27.1
Employed	85.1	79.6	5.5 ***	6.9
First spell lasted 1 to 3 quarters	51.3	47.8	3.4 *	7.1
First spell lasted 4 or more quarters	33.9	31.8	2.1	6.6
Sample Size	1,409	1,325		
Riverside LFA				
Employed during years 1 to 3.25				
Not employed	33.4	44.1	-10.6 ***	-24.2
Employed	66.6	55.9	10.6 ***	19.0
First spell lasted 1 to 3 quarters	35.4	28.7	6.7 ***	23.3
First spell lasted 4 or more quarters	31.1	27.2	4.0 ***	14.6
Sample Size	2,496	2,475		
Portland				
Employed during years 1 to 3.25				
Not employed	19.7	26.6	-7.0 ***	-26.2
Employed	80.3	73.4	7.0 ***	9.5
First spell lasted 1 to 3 quarters	37.6	37.4	0.3	0.8
First spell lasted 4 or more quarters	42.7	36.0	6.7 ***	18.5
Sample Size	1,904	1,471		

(continued)

Table 2 (continued)

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3 quarters, 10 through 14; year 4, quarters 14 through 17.

The six education-focused programs also differed in their effects on short-term employment stability, although none of these programs attained consistently positive results like Portland's. The most successful programs, Atlanta HCD and Columbus Integrated, had mixed results. They led to small increases in job finding that were accompanied by gains (of 5.5 and 3.7 percentage points) in stable employment as large or larger than their impacts on percent employed. Riverside HCD, like LFA, produced the largest increase in percent employed (of 6.5 percentage points), but, unlike LFA, only increased unstable employment. The other three education-focused programs had little or no effect on job finding or employment stability.[11]

D. Effects on longer-term employment stability [Table 3, Appendix Table 3]

It is reasonable to assert that sample members who achieved a pattern of stable employment in the last years of follow-up have a better chance of attaining economic security in the future years than those who worked sporadically or not at all. Furthermore, time-limits on federally-funded welfare benefits increase the importance of developing welfare-to-work approaches that help greater numbers of welfare recipients reach (or regain) stable employment within five years.

This paper uses a somewhat complex measure to analyze longer-term employment stability. To be considered as having stable employment, a sample member had to have begun working for pay during years 1 or 2 *and* then worked for at least 6 of the 8 quarters (75 percent) in years 3 and 4. In essence, the measure captures the most likely ways in which sample members attained stable employment in the last years of follow-up. As discussed above, most program and control group members first became employed in years 1 or 2, although many left employment within a few months. For these sample members, the measure tests how often they began working again and then advanced to more stable employment in later years. Other sample members found work in years 1 or 2 and sustained employment in the short-term. This measure tests whether they continued to experience stable employment in later years. The next section discusses which of these two patterns was more common.

[11]Interestingly, within Atlanta, Grand Rapids, and Riverside, results for the LFA and HCD programs look similar. This finding suggests that labor markets, sample characteristics, or program characteristics that were shared by LFA and HCD in each site (such as child care policies) may sometimes affect employment patterns as much as programs' pre-employment strategies.

National Evaluation of Welfare-to-Work Strategies

Table 3
Impacts of Employment-Focused Programs on Employment in Years 1 and 2, and Employment Stability in Years 3 and 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	31.0	40.2	-9.2 ***	-22.9
Employed	69.0	59.8	9.2 ***	15.4
Not employed or unstable employment in years 3 and 4	34.0	30.2	3.9 ***	12.9
Stable employment in years 3 and 4	35.0	29.7	5.3 ***	17.9
Sample Size	7,475	10,050		
Atlanta LFA				
Employed during years 1 to 2				
Not employed	35.1	40.0	-4.9 ***	-12.2
Employed	64.9	60.0	4.9 ***	8.2
Not employed or unstable employment in years 3 and 4	30.3	29.3	1.1	3.7
Stable employment in years 3 and 4	34.5	30.7	3.8 **	12.4
Sample Size	1,666	1,725		
Grand Rapids LFA				
Employed during years 1 to 2				
Not employed	22.6	30.6	-8.0 ***	-26.1
Employed	77.4	69.4	8.0 ***	11.5
Not employed or unstable employment in years 3 and 4	38.2	33.2	5.1 ***	15.3
Stable employment in years 3 and 4	39.2	36.3	2.9 *	8.0
Sample Size	1,409	1,325		
Riverside LFA				
Employed during years 1 to 2				
Not employed	40.6	54.9	-14.3 ***	-26.0
Employed	59.4	45.1	14.3 ***	31.6
Not employed or unstable employment in years 3 and 4	36.7	26.8	9.9 ***	36.9
Stable employment in years 3 and 4	22.7	18.3	4.3 ***	23.7
Sample Size	2,496	2,475		

(continued)

Table 3 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Portland				
Employed during years 1 to 2				
Not employed	29.7	39.8	-10.1 ***	-25.4
Employed	70.3	60.2	10.1 ***	16.8
Not employed or unstable employment in years 3 and 4	33.6	33.8	-0.2	-0.7
Stable employment in years 3 and 4	36.7	26.4	10.4 ***	39.2
Sample Size	1,904	1,471		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; year 4, quarters 14 through 17.

Sample members who did not work for pay during years 1 and 2 were included in the "not employed" category, irrespective of the number of quarters they worked during years 3 and 4.

"Unstable employment" is defined as working from 1 to 5 quarters and "stable employment" is defined as working 6 or more quarters.

A third possibility (not captured by this measure) was that sample members did not work for pay during years 1 to 2 but then attained stable employment in later years. In nearly all sites and programs, however, only 1 to 3 percent of program and control group members experienced this employment pattern.[12] (Results not shown.) This finding underscores the limitations of welfare-to-work programs in helping recipients who encountered serious barriers to employment. These results are especially noteworthy for education-focused programs, which encouraged enrollees to forgo employment to complete longer-term skill-building activities.

Results for control group members varied considerably across the six sites. In Riverside, the site with the weakest labor market during the evaluation, only 18.7 percent of control group members found work in year 1 or 2 then worked during 75 percent or more of quarters during years 3 or 4. In contrast, in Columbus and Grand Rapids, sites with relatively strong labor markets, close to 40 percent of control group members attained longer-term stable employment. Control group averages in Atlanta, Detroit, and Portland fell in between — about 30 percent. Again, these

[12] In Detroit, 4.5 percent of program group members and 4.0 percent of control group members attained stable employment in years 3 and 4, without having worked for pay in years 1 and 2.

results underscore the difficulty that many welfare recipients experienced in attaining stable employment.

All four employment-focused programs improved sample members' chances of attaining longer-term employment stability to some extent. However, Portland produced consistent gains in employment stability, whereas Atlanta, Grand Rapids, and Riverside LFA achieved mixed results. The contrast in patterns for Portland and Riverside LFA is particularly instructive. Both programs increased employment levels by 10 percentage points or more in the first two years of follow-up, a historically large effect. Looking at all sample members (including zeros for those who did not work in years 1 and 2), Portland achieved a 10 percentage-point increase in this measure of longer-term employment stability, the same magnitude as its overall employment gain. In addition, the program had no effect on unstable employment in years 3 and 4, despite its large increase in job finding. These results constitute an important accomplishment. However, despite Portland's success, close to two-thirds of program group members did not experience stable employment.

Riverside LFA achieved an even bigger gain in job finding than Portland (14.3 percentage points) during the first two years of follow-up. In contrast to Portland, most Riverside LFAs (36.7 percent out of 59.4 percent) who began working in years 1 or 2 either did not work or worked sporadically in years 3 and 4. As a result, Riverside attained a small gain (of 4.3 percentage points) in stable employment in years 3 and 4, but a much larger increase in unstable employment (9.9 percentage points). As noted above, results for Riverside LFA suggest that many welfare recipients who find work with the help a strongly employment-focused welfare-to-work program require additional services or financial incentives to sustain employment.

The findings for Atlanta LFA and for Grand Rapids LFA mirror the differences between Portland and Riverside LFA. Atlanta LFA attained a smaller two-year increase in employment than the other three programs (4.9 percentage points). As in Portland, Atlanta's gain in employment was followed by an increase in stable employment in years 3 and 4 that was nearly as large and no increase in unstable employment. Grand Rapids LFA, like Riverside LFA, achieved a sizable gain in job finding during years 1 and 2 (of 8.0 percentage points). The program, however, produced only a small gain in longer-term employment stability (2.9 percentage points), and a larger increase unstable employment.

As discussed earlier, education-focused programs encourage welfare recipients to forgo working in the short-term to acquire skills and credentials to help them find better jobs. One sign that this strategy was paying off would be if program group members experienced greater employment stability later in the follow-up compared to their counterparts in the control group. (Education-focused program group members could also earn more on the job, an outcome discussed later in the paper.) In fact, four education-focused programs, Atlanta HCD, Columbus Integrated, Detroit, and Riverside HCD increased stable employment in years 3 and 4 — but their effects were small: from 2.6 to 3.9 percentage points. The first three of these programs led to small gains in job finding that were accompanied by small gains in stable employment. In contrast, Riverside HCD, like Riverside LFA, produced the largest overall gain in employment during years 1 and 2 among the six programs (8.0 percentage points) but increased both stable and unstable employment in years 3 and 4. Grand Rapids HCD only increased unstable employment, by a small amount, and Columbus Traditional had no effect on either pattern.

E. Linking short- and longer-term effects [Table 4, Appendix Table 4]

As discussed above, sample members who began working for pay in years 1 or 2 could have reached stable employment during the next two years after a period of cycling on and off employment. Alternatively they could have worked more or less continuously. It is important to determine which of these experiences was more common. Post-employment services may not be needed, if most sample members worked sporadically at first then achieved stable employment in the longer-term. It is also important to learn whether employment- or education-focused programs changed this pattern, for example, by helping more recipients move from unstable employment in the short-term to stable employment in the longer-term.

For this analysis, sample members who began working in year 1 or 2 and who were also employed in the last quarter of year 2 are characterized as experiencing stable employment in the short-term. As previously, those who worked 75 percent or more of the quarters in years 3 and 4 are considered to have attained longer-term stable employment.

In fact, relatively few sample members left employment by the end of year 2 and achieved employment stability later in the follow-up. For example, looking at the pooled results for employment-focused programs, a little over a quarter (26.1 percent) of program group members left employment before the end of year 2, but only 5.5 percent (or a little more than one fifth of this group) attained stable employment in years 3 and 4. This pattern occurred in each of the four programs; similar results can be seen for the six education-focused programs (Appendix Table 4). Furthermore, no employment- or education-focused program increased (by more than 1 or 2 percentage points) the chances of sample members leaving employment by the end of year 2 and then achieving stable employment in later years. Thus, sample members who found jobs then left employment relatively quickly constitute an at-risk group who may benefit from post-employment services and financial incentives.

Programs like Portland and, to a lesser extent, Atlanta LFA, increased longer-term employment stability by helping a portion of the program group move quickly into jobs and maintain stable employment over several years. Most likely, Portland's emphasis on finding jobs that paid above minimum wage and offered potential for advancement contributed to its success.[13] It should also be noted that working at the end of year 2 did not always lead to stable employment in later years. Even in Portland, nearly a third (14.5 percent / 46.3 percent) of program group members worked for pay during the last quarter of year 2, but experienced joblessness or unstable employment during the next two years. These sample members represent another group who may benefit from access to post-employment services and financial incentives.

[13] This assertion is consistent with findings cited in Strawn and Martinson, 2000, pp. 16-17.

Table 4
Impacts of Employment-Focused Programs on Employment in Years 1 and 2, Employment at End of Year 2, and Employment Stability in Years 3 and 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	31.0	40.2	-9.2 ***	-22.9
Employed	69.0	59.8	9.2 ***	15.4
No longer employed at end of year 2	26.1	23.0	3.1 ***	13.4
Not employed or unstable employment in years 3 and 4	20.6	18.0	2.6 ***	14.6
Stable employment in years 3 and 4	5.5	5.0	0.5	9.3
Still employed at end of year 2	42.9	36.8	6.1 ***	16.6
Not employed or unstable employment in years 3 and 4	13.4	12.2	1.3 **	10.3
Stable employment in years 3 and 4	29.5	24.6	4.8 ***	19.7
Sample Size	7,475	10,050		
Atlanta LFA				
Employed during years 1 to 2				
Not employed	35.1	40.0	-4.9 ***	-12.2
Employed	64.9	60.0	4.9 ***	8.2
No longer employed at end of year 2	23.1	22.5	0.6	2.6
Not employed or unstable employment in years 3 and 4	17.9	18.3	-0.4	-2.0
Stable employment in years 3 and 4	5.2	4.3	0.9	22.2
Still employed at end of year 2	41.7	37.4	4.3 ***	11.5
Not employed or unstable employment in years 3 and 4	12.4	11.0	1.5	13.2
Stable employment in years 3 and 4	29.3	26.4	2.9 *	10.9
Sample Size	1,666	1,725		
Grand Rapids LFA				
Employed during years 1 to 2				
Not employed	22.6	30.6	-8.0 ***	-26.1
Employed	77.4	69.4	8.0 ***	11.5
No longer employed at end of year 2	30.6	27.1	3.6 **	13.1
Not employed or unstable employment in years 3 and 4	22.3	18.3	4.0 ***	21.8
Stable employment in years 3 and 4	8.3	8.7	-0.4	-5.1
Still employed at end of year 2	46.8	42.4	4.4 **	10.4
Not employed or unstable employment in years 3 and 4	15.9	14.8	1.1	7.1
Stable employment in years 3 and 4	30.9	27.5	3.4 **	12.2
Sample Size	1,409	1,325		

(continued)

Table 4 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside LFA				
Employed during years 1 to 2				
Not employed	40.6	54.9	-14.3 ***	-26.0
Employed	59.4	45.1	14.3 ***	31.6
No longer employed at end of year 2	28.3	17.7	10.6 ***	59.7
Not employed or unstable employment in years 3 and 4	25.1	15.4	9.6 ***	62.5
Stable employment in years 3 and 4	3.2	2.3	0.9 *	40.7
Still employed at end of year 2	31.1	27.5	3.7 ***	13.4
Not employed or unstable employment in years 3 and 4	11.7	11.4	0.3	2.3
Stable employment in years 3 and 4	19.5	16.0	3.4 ***	21.3
Sample Size	2,496	2,475		
Portland				
Employed during years 1 to 2				
Not employed	29.7	39.8	-10.1 ***	-25.4
Employed	70.3	60.2	10.1 ***	16.8
No longer employed at end of year 2	24.0	25.4	-1.4	-5.7
Not employed or unstable employment in years 3 and 4	19.1	21.2	-2.1	-10.0
Stable employment in years 3 and 4	4.9	4.2	0.7	15.9
Still employed at end of year 2	46.3	34.8	11.6 ***	33.2
Not employed or unstable employment in years 3 and 4	14.5	12.6	1.9	14.8
Stable employment in years 3 and 4	31.9	22.2	9.7 ***	43.6
Sample Size	1,904	1,471		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: See Table 3.

V. Effects on longer-term earnings growth

This section considers how often welfare recipients earned more over time or achieved relatively high earnings in the final year of follow-up, two important indicators that recipients were making progress toward attaining economic security through employment. The section also examines whether employment- or education-focused focused programs improved recipients' chances of achieving these outcomes. It should be kept in mind that the analysis is based on calculations from UI earnings records and is limited. One cannot determine whether earnings gains occurred because program group members worked more hours or weeks than their counterparts in the control group or because program group members received higher hourly wages.

A. Effects on total earnings [Table 1, Appendix Table 1]

Cumulative earnings of control group members varied considerably by site. In Riverside, where the labor market was weakest, the typical control group member earned $10,565 over four years, or about $2,650 annually. Elsewhere, control group members earned about $2,000 to $7,000 more

over four years. Total earnings for control group members were highest in Columbus, averaging $17,359 or about $4,350 annually. These averages include zeroes for control group members who never worked for pay during the follow-up.

Portland's program attained the largest increase in total earnings over four years, $4,025, or about $1,000 per year, more than their counterparts in the control group, an unusually large effect. Portland's earnings gains exceeded by a wide margin impacts for the three LFA programs, which ranged from $1,401 per program group member in Grand Rapids to $1,910 in Riverside, or from $350 to $475 annually. Four out of six education-focused programs also increased earnings over four years: from $1,215 (Columbus Traditional) to $1,710 (Detroit) over four years, or from $300 or $425 per year. [14]

B. Effects on longer-term earnings growth [Table 5, Appendix Table 5]

This section considers whether employment- and education-focused programs helped welfare recipients earn more over time. The paper measures earnings growth by comparing the earnings of a sample member's first "measured" quarter of employment — i.e., a quarter that *does not* begin or end an employment spell — and her last "measured" quarter of employment.[15] Sample members were considered to have attained an increase if they earned $100 or more in their last measured quarter above what they earned in their first. They experienced a "decrease" when quarterly earnings went down by $100 or more and "no change" if the difference was less than + or - $100. Sample members who only worked for one or two consecutive quarters in each employment spell are categorized as having experienced "employment too unstable to measure" earnings changes, a negative outcome.

Once again, results differed for control group members in the six sites. In Riverside, only 20.0 percent of control group members experienced an increase in quarterly earnings over time. (The average includes zeros for control group members who never worked for pay in years 1 and 2 after random assignment.) Elsewhere, a higher percentage of control group members increased their quarterly earnings over time: from 24.8 percent (Detroit) to 36.4 percent (Columbus). The averages range from 44.3 percent (Detroit and Riverside) to 51.9 percent (Columbus), when only control group members who worked for pay after random assignment are included in the calculations. As with measures of employment stability, the findings on earnings growth show that many welfare recipients found it difficult to improve their standard of living through working.

[14] Four-year earnings for Grand Rapids and Riverside HCDs averaged about $600 more than for control group members, but these differences were not statistically significant.

[15] As noted above, measuring earnings growth with Unemployment Insurance wage records can be difficult, because data are recorded quarterly. Transitions into and out of jobs usually appear as quarters with relatively low earnings, because sample members worked only part of the time. Including quarters in which these transitions occurred depresses the mean value of earnings per quarter employed; worse, they can affect the calculation of changes in earnings over time. This analysis cannot identify quarters in which sample members switched jobs within a quarter, but can identify quarters that started or ended an employment spell. (They follow or precede a quarter with no earnings.) Quarter 17, the last quarter of follow-up, is included in the calculation if the sample member worked in quarter 16. First and last measured quarters could occur during the same employment spell or during different spells. For sample members with 4 or more measured quarters of employment, the average of the first two and the last two quarters were compared.

Table 5
Impacts of Employment-Focused Programs on Employment in Years 1 and 2, and Earnings Progression

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	31.0	40.2	-9.2 ***	-22.9
Employed	69.0	59.8	9.2 ***	15.4
Change in average earnings per quarter				
Employment too unstable to measure	16.7	15.1	1.6 **	10.3
No change	3.4	3.2	0.3	8.4
Decrease	15.5	12.8	2.8 ***	21.7
Increase	33.4	28.7	4.6 ***	16.0
Sample Size	7,475	10,050		
Atlanta LFA				
Employed during years 1 to 2				
Not employed	35.1	40.0	-4.9 ***	-12.2
Employed	64.9	60.0	4.9 ***	8.2
Change in average earnings per quarter				
Employment too unstable to measure	15.2	16.1	-0.9	-5.4
No change	2.7	3.1	-0.4	-13.8
Decrease	15.0	12.4	2.5 **	20.4
Increase	32.0	28.3	3.7 **	12.9
Sample Size	1,666	1,725		
Grand Rapids LFA				
Employed during years 1 to 2				
Not employed	22.6	30.6	-8.0 ***	-26.1
Employed	77.4	69.4	8.0 ***	11.5
Change in average earnings per quarter				
Employment too unstable to measure	18.3	15.5	2.8 **	18.4
No change	3.8	3.7	0.2	4.1
Decrease	17.2	16.0	1.2	7.4
Increase	38.0	34.2	3.8 **	11.1
Sample Size	1,409	1,325		

(continued)

Table 5 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside LFA				
Employed during years 1 to 2				
Not employed	40.6	54.9	-14.3 ***	-26.0
Employed	59.4	45.1	14.3 ***	31.6
Change in average earnings per quarter				
Employment too unstable to measure	20.3	13.7	6.5 ***	47.5
No change	2.8	2.6	0.2	8.7
Decrease	11.9	8.8	3.0 ***	34.6
Increase	24.4	20.0	4.5 ***	22.3
Sample Size	2,496	2,475		
Portland				
Employed during years 1 to 2				
Not employed	29.7	39.8	-10.1 ***	-25.4
Employed	70.3	60.2	10.1 ***	16.8
Change in average earnings per quarter				
Employment too unstable to measure	14.6	16.4	-1.8	-10.8
No change	3.5	2.2	1.2 **	54.8
Decrease	15.4	11.5	3.9 ***	34.0
Increase	36.9	30.1	6.8 ***	22.4
Sample Size	1,904	1,471		

(continued)

Table 5 (continued)

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; year 4, quarters 14 through 17.

This analysis estimates trends in earnings over four years during quarters in which the sample members had the greatest likelihood of working every week. It disregards earnings for the first and last quarter of each employment spell, because sample members are assumed to have worked only part of the time during these quarters. Earnings for quarter 17 are counted, however, if the sample member also worked in the previous quarter.

The difference in earnings for the earliest and latest quarters included in this analysis represents the "change in average earnings per quarter". For sample members with four or more of these earnings quarters, the change in average earnings is the difference in the mean of the first two and last two quarters included.

Sample members who did not work for pay during years 1 or 2 are counted as "not employed," irrespective of their earnings in later years. The remaining outcomes are defined as follows:

"Employment too unstable to measure": worked for pay during year 1 or 2, but with fewer than two earnings quarters included in this analysis.

"No change:" the difference in earnings between the first and last quarters was less than $100.

"Decrease:" earnings for the first quarter(s) exceeded earnings for the last quarter(s) by $100 or more.

"Increase:" earnings for the last quarter(s) exceeded earnings for the first quarter(s) by $100 or more.

Portland again made the biggest difference among the 10 programs, although impacts were not as large as for the measure of longer-term employment stability. Portland increased the portion of the sample with higher quarterly earnings over time by 6.8 percentage points above the control group level of 30.1 percent. Thus, about two-thirds of Portland's overall gain in job finding (6.8 percent / 10.1 percent) led to higher earnings over time. Furthermore, in Portland a slightly higher proportion of program than control group members who worked for pay after random assignment (52.5 percent versus 50.1 percent, results not shown) increased their quarterly earnings. These gains contributed to Portland's large increase in total earnings over four years.

As before, the contrast with Riverside LFA is instructive. As noted above, Riverside LFA attained an even larger increase in job finding in years 1 and 2, 14.3 percentage points, than Portland. However, Riverside LFA's strategy of encouraging all enrollees to start working as soon as possible led to a smaller impact on this measure of earnings growth than Portland's: 4.5 percentage points. Most LFAs in Riverside either worked sporadically or earned less per quarter over time. In addition, a smaller percentage of employed LFAs earned more over time compared to their counterparts in the control group (41.1 percent versus 44.3 percent, results not shown). Once again, these findings support decisions by Riverside's welfare department and by California's state government to expand post-employment services and increase financial incentives to work.

Results for Atlanta and Grand Rapids LFA were mixed. Atlanta LFA led to a relatively small increase in job finding in years 1 and 2, of 4.9 percentage points, but the program's gain in earnings growth was nearly as large (3.7 percentage points) and contributed to the program's increase in total earnings. As previously, impacts for Grand Rapids LFA more closely resembled Riverside LFA's. Grand Rapids LFA led to a gain in job finding in years 1 and 2 of (8.0 percentage points), but a considerably smaller increase in earnings growth (3.8 percentage points).

For the most part, results were disappointing for education-focused programs. Among the six programs, only Atlanta HCD attained a statistically significant increase in earnings growth — a small gain of 3.8 percentage points. The other education-focused programs had no effect on earnings growth.

C. Effects on long-term employment with relatively high earnings in year 4 [Table 6 and Appendix Table 6]

A more definite indicator that welfare recipients are advancing toward economic security is if they are working and receiving relatively high earnings. For this analysis, sample members are considered to have experienced long-term employment and relatively high earnings if they began working for pay during years 1 and 2 and also earned $10,000 or more in year 4. Earning $10,000 or more is considered an indicator of achieving stable and relatively well-paying employment, although a single parent with two children would have needed about $12,500 in earnings in 1996 (year 4 for many sample members) to reach the poverty threshold.[16] Again, it is important to note that few program or control group members who remained jobless in year 1 and 2 earned $10,000 or more in year 4 (results not shown).

[16] Sample members earning from $10,000 to $12,500 may have received above poverty-level income if they also received the Earned Income Tax Credit.

Table 6
Impacts of Employment-Focused Programs on Employment in Years 1 and 2, Employment at End of Year 2 and Employment Stability in Years 3 and 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	31.0	40.2	-9.2 ***	-22.9
Employed	69.0	59.8	9.2 ***	15.4
No longer employed at end of year 2	26.1	23.0	3.1 ***	13.4
Not employed or unstable employment in years 3 and 4	20.6	18.0	2.6 ***	14.6
Stable employment in years 3 and 4	5.5	5.0	0.5	9.3
Still employed at end of year 2	42.9	36.8	6.1 ***	16.6
Not employed or unstable employment in years 3 and 4	13.4	12.2	1.3 **	10.3
Stable employment in years 3 and 4	29.5	24.6	4.8 ***	19.7
Sample Size	7,475	10,050		
Atlanta LFA				
Employed during years 1 to 2				
Not employed	35.1	40.0	-4.9 ***	-12.2
Employed	64.9	60.0	4.9 ***	8.2
No longer employed at end of year 2	23.1	22.5	0.6	2.6
Not employed or unstable employment in years 3 and 4	17.9	18.3	-0.4	-2.0
Stable employment in years 3 and 4	5.2	4.3	0.9	22.2
Still employed at end of year 2	41.7	37.4	4.3 ***	11.5
Not employed or unstable employment in years 3 and 4	12.4	11.0	1.5	13.2
Stable employment in years 3 and 4	29.3	26.4	2.9 *	10.9
Sample Size	1,666	1,725		
Grand Rapids LFA				
Employed during years 1 to 2				
Not employed	22.6	30.6	-8.0 ***	-26.1
Employed	77.4	69.4	8.0 ***	11.5
No longer employed at end of year 2	30.6	27.1	3.6 **	13.1
Not employed or unstable employment in years 3 and 4	22.3	18.3	4.0 ***	21.8
Stable employment in years 3 and 4	8.3	8.7	-0.4	-5.1
Still employed at end of year 2	46.8	42.4	4.4 **	10.4
Not employed or unstable employment in years 3 and 4	15.9	14.8	1.1	7.1
Stable employment in years 3 and 4	30.9	27.5	3.4 **	12.2
Sample Size	1,409	1,325		

(continued)

Table 6 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside LFA				
Employed during years 1 to 2				
Not employed	40.6	54.9	-14.3 ***	-26.0
Employed	59.4	45.1	14.3 ***	31.6
No longer employed at end of year 2	28.3	17.7	10.6 ***	59.7
Not employed or unstable employment in years 3 and 4	25.1	15.4	9.6 ***	62.5
Stable employment in years 3 and 4	3.2	2.3	0.9 *	40.7
Still employed at end of year 2	31.1	27.5	3.7 ***	13.4
Not employed or unstable employment in years 3 and 4	11.7	11.4	0.3	2.3
Stable employment in years 3 and 4	19.5	16.0	3.4 ***	21.3
Sample Size	2,496	2,475		
Portland				
Employed during years 1 to 2				
Not employed	29.7	39.8	-10.1 ***	-25.4
Employed	70.3	60.2	10.1 ***	16.8
No longer employed at end of year 2	24.0	25.4	-1.4	-5.7
Not employed or unstable employment in years 3 and 4	19.1	21.2	-2.1	-10.0
Stable employment in years 3 and 4	4.9	4.2	0.7	15.9
Still employed at end of year 2	46.3	34.8	11.6 ***	33.2
Not employed or unstable employment in years 3 and 4	14.5	12.6	1.9	14.8
Stable employment in years 3 and 4	31.9	22.2	9.7 ***	43.6
Sample Size	1,904	1,471		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: See Table 3.

In general, the results were not encouraging. Among the six sites, only 11.9 percent (Riverside) to 23.5 percent (Columbus) of control group members began working in year 1 or 2 and earned $10,000 or more in year 4. Among employment-focused programs, each of the three LFA programs had no effect (or close to it) on the portion of sample members who worked in years 1 or 2 and then achieved relatively high earnings in year 4. Findings for Portland are somewhat more positive. In Portland, 24.2 percent of program group members started working in years 1 or 2 and earned $10,000 or more in year 4, a 5.7 percentage point increase over the control group level. Portland, however, also increased (by 4.4 percentage points) the portion of the sample who worked in years 1 or 2 but did not achieve relatively high earnings during year 4. Thus, the results for Portland were mixed.

Two education-focused programs, Detroit and Columbus Integrated, attained small net gains in this measure of longer-term earnings. The programs increased the proportion of sample members who worked in years 1 and 2 and earned $10,000 or more in year 4 (by 3.9 and 2.4 percentage points). Further, the two programs did not affect the likelihood of sample members no longer working or earning below $10,000. In contrast, Grand Rapids and Riverside HCD only increased the frequency of sample members experiencing employment with no earnings growth. Atlanta HCD and Columbus Traditional had little effect on these outcomes.

VI. Effects for subgroups [Figures 1 and 2, Appendix Figures 1 and 2]

The final section of this paper considers whether program effects on longer-term employment stability and earnings growth differed for subgroups defined by members' relative advantage in the labor market[17]:

1) Sample members with/without a high school diploma or GED certificate at random assignment; and

2) Sample members who worked/did not work for pay during the year before random assignment.

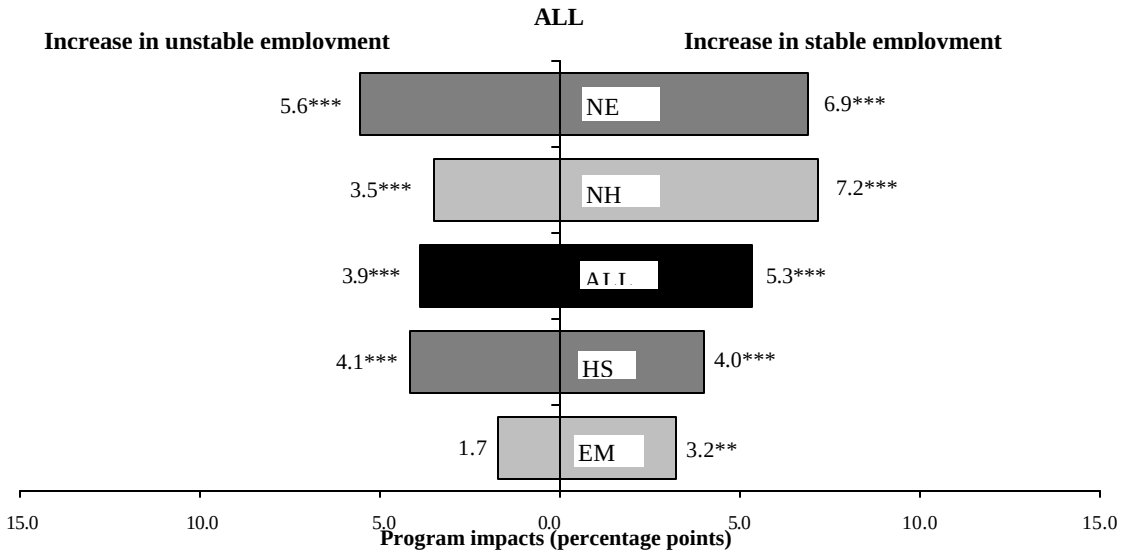
Figure 1 and Appendix Figure 1 display two effects on longer-term employment stability for each program. The right-facing bars show the gain in "stable employment" during years 3 and 4 (See Table 3), whereas the left-facing bars show the increase in "unstable employment." Figure 2 and Appendix Figure 2 display similar information for the measure of relatively high earnings in year 4 (See Table 6).

Among employment-focused programs, Portland attained consistent and positive effects on longer-term employment stability for each subgroup, a notable achievement. Furthermore, Portland's gains in stable employment were particularly large for members of the two more disadvantaged subgroups and were not accompanied by increases in unstable employment. Findings for Riverside LFA were mixed. For each subgroup, Riverside LFA led to relatively large increases in job finding,[18] especially for the more disadvantaged subgroups, but much smaller increases in stable employment. In contrast, for both Atlanta and Grand Rapids LFA, gains in longer-term stable employment (of about 5 percentage points) were concentrated among members of more disadvantaged groups.

[17] See Freedman et al., 2000, Chapter 11, and Michalopoulos and Schwartz, 2000, for an extended analysis of subgroup effects.

[18] One can calculate the effect on job finding by adding together the effects on stable and unstable employment.

Figure 1
Impacts of Employment-Focused Programs on Longer-Term Employment Stability, by Subgroup



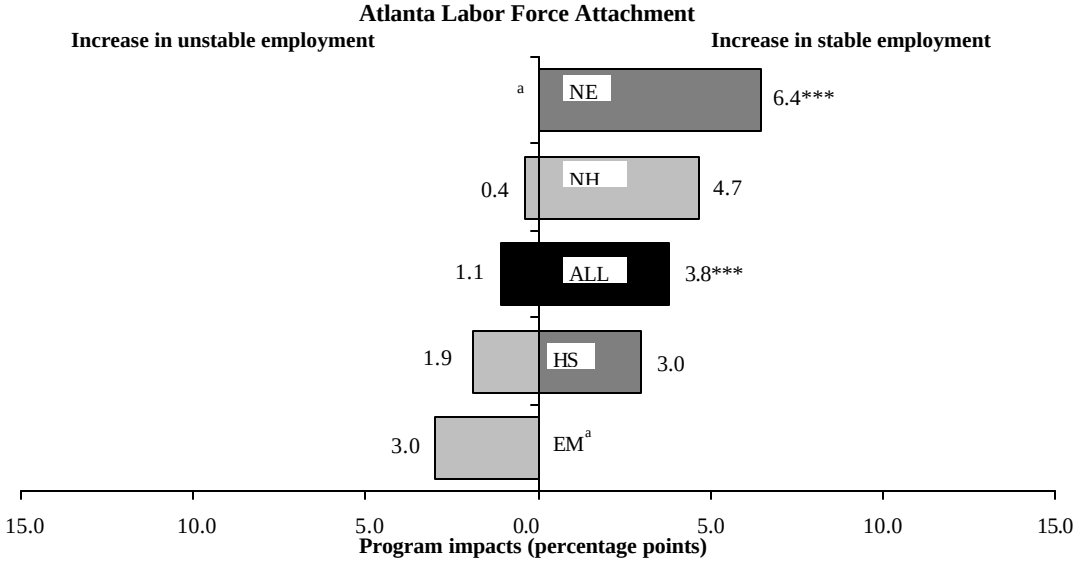


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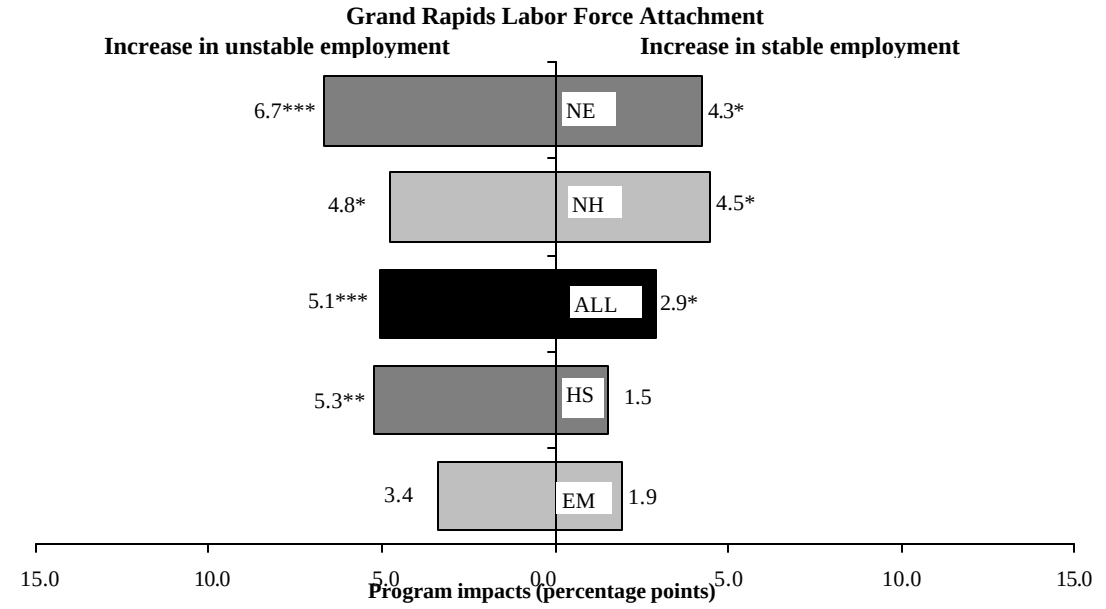
Figure 1(continued)



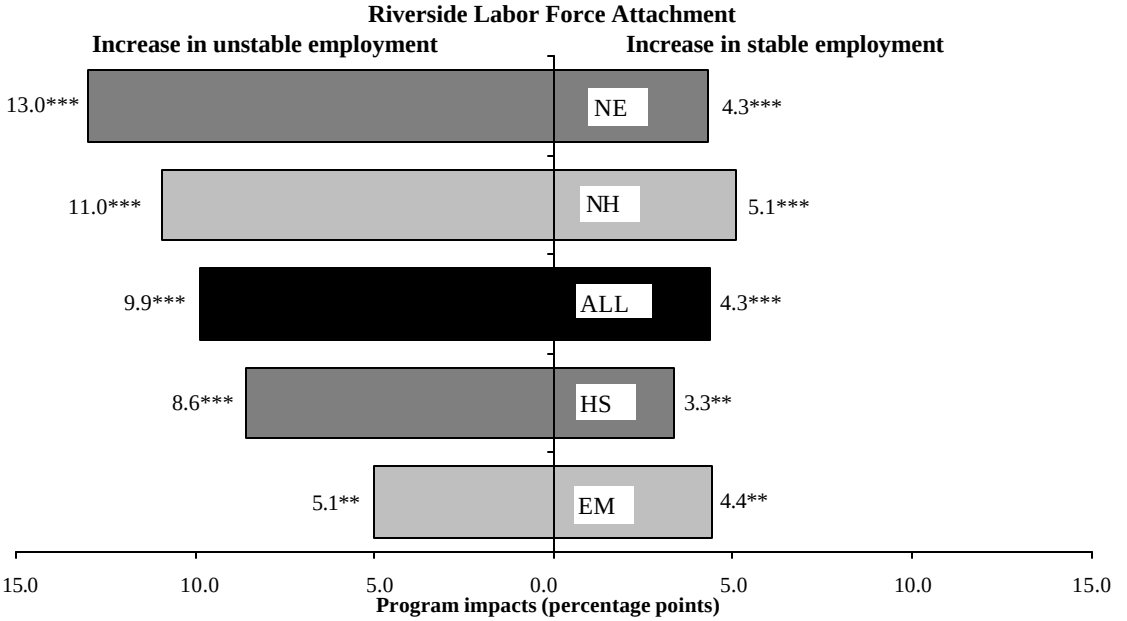


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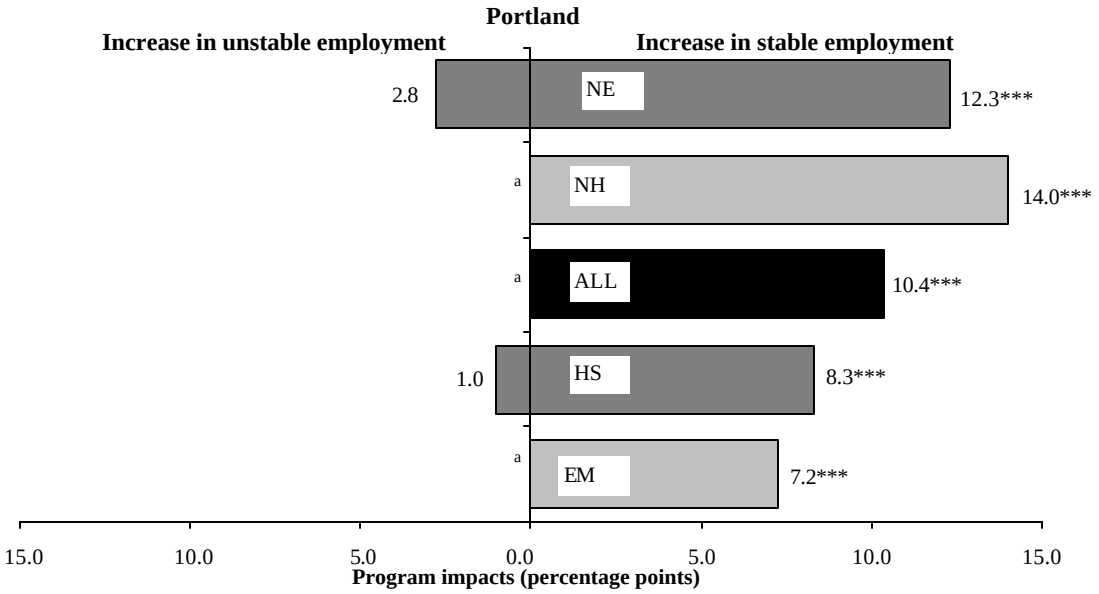
Figure 1 (continued)



NE: Not employed in year prior to random assignment

HS: High school diploma or GED

NH: No high school diploma or GED

EM: Employed in year prior to random assignment

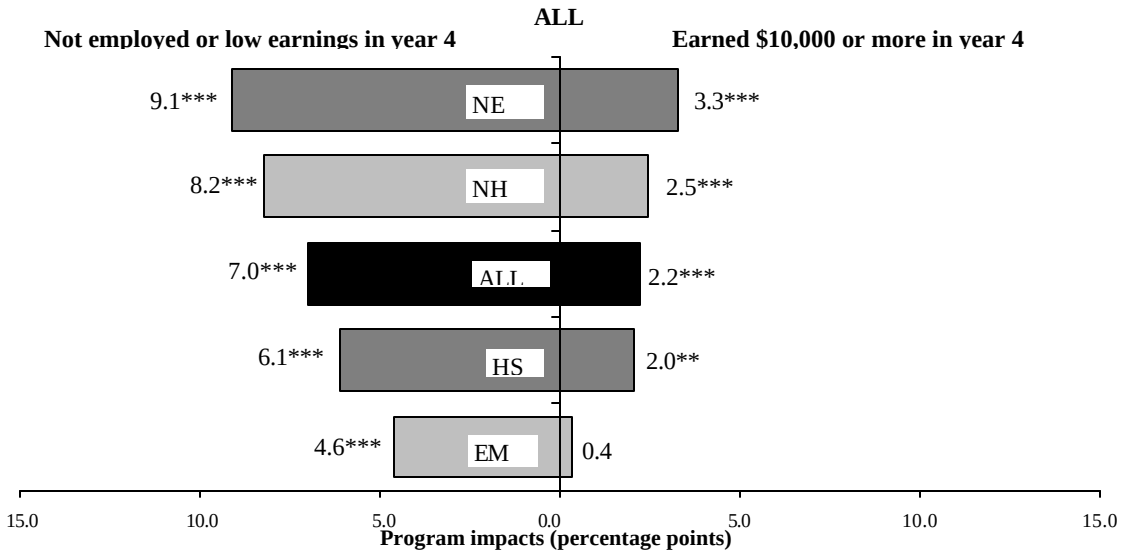
ALL: Full Sample

SOURCES: See Table 3.

NOTES: See Table 3.

[a]No change or decrease

Figure 2
Impacts of Employment-Focused Programs on Employment in Year 4 and Relatively High Earnings in year 4, by Subgroup



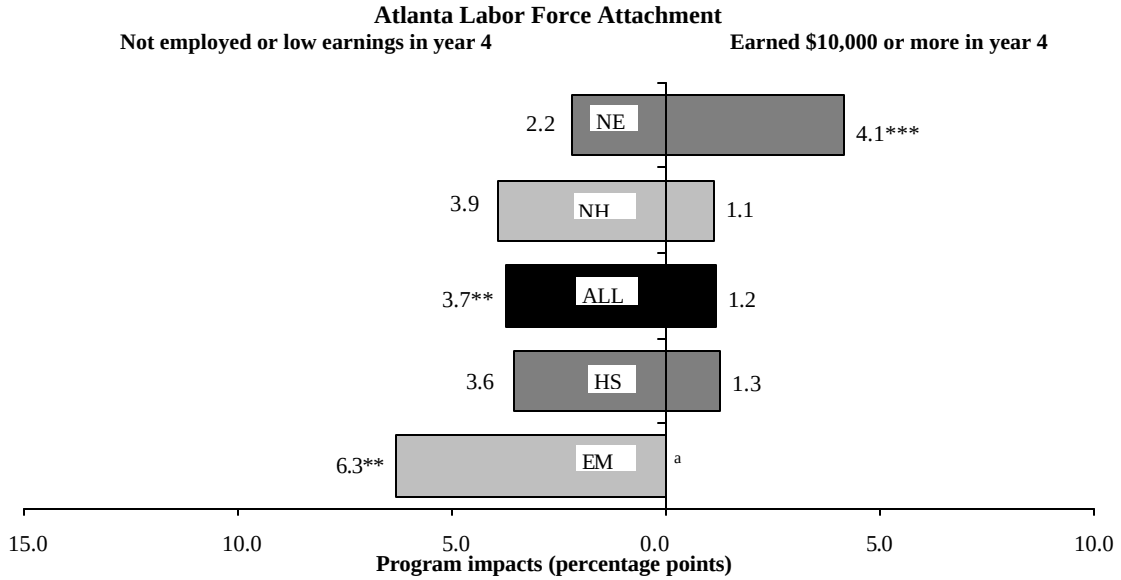


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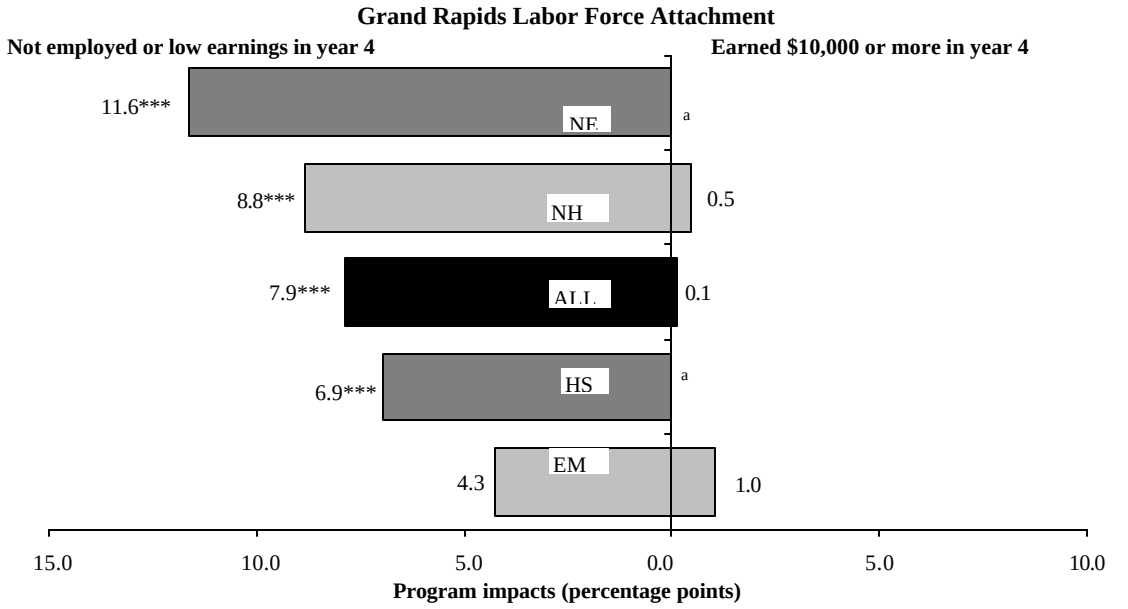
Figure 2 (continued)



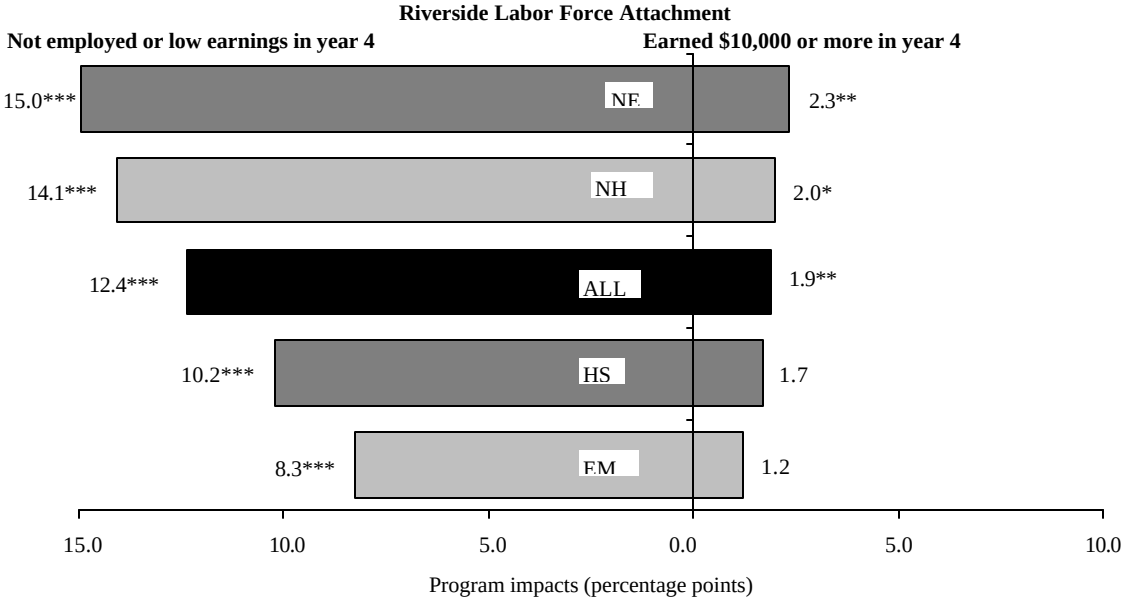


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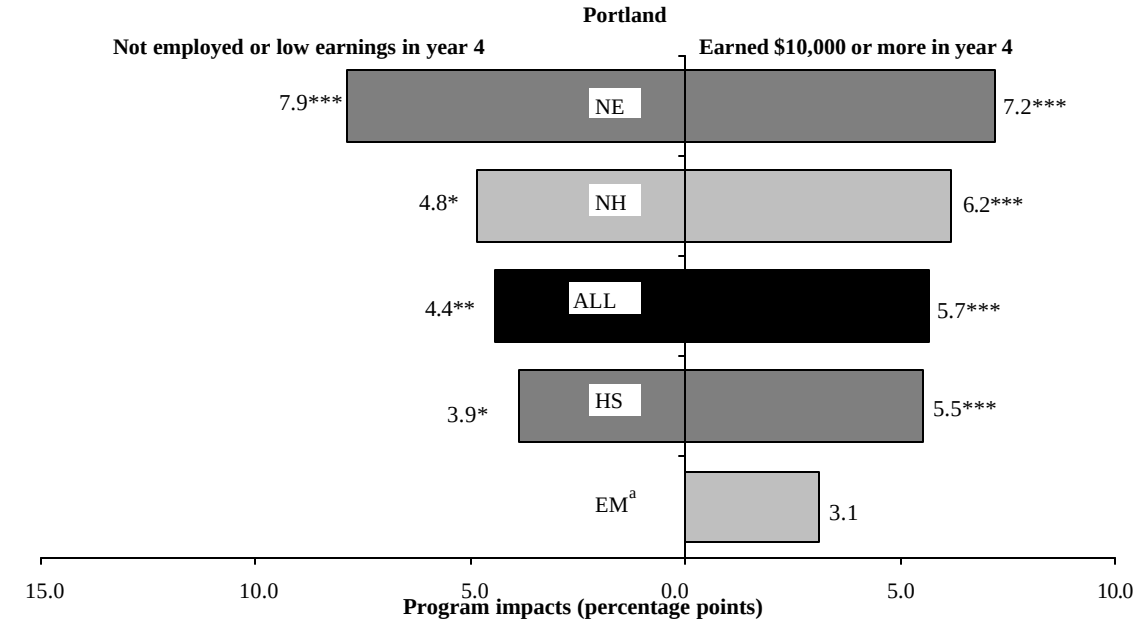
Figure 2 (continued)



NE: Not employed in year prior to random assignment

HS: High school diploma or GED

NH: No high school diploma or GED

EM: Employed in year prior to random assignment

ALL: Full Sample

SOURCES: See Table 5.

NOTES: See Table 5.

[a]No change or decrease

No education-focused program increased stable employment across all subgroups, although Detroit's program did so for each subgroup except high school graduates and GED recipients. Education-focused programs produced the most positive results for sample members who had not worked for pay in the year prior to random assignment, a relatively disadvantaged group. Four out of the six education-focused programs (Atlanta HCD, Columbus Integrated, Detroit, and Riverside HCD) produced impacts that ranged from 3.3 percentage points (Detroit) to 6.6 percentage points (Columbus Integrated). Less positively, only Detroit and Riverside HCD increased stable employment for non-graduates (the subgroup most often targeted for skill-building services). With two exceptions (high school graduates in Atlanta and sample members in Detroit who were employed in the year prior to random assignment), education-focused programs did not increase stable employment among less disadvantaged subgroups

Portland's program also achieved the most positive results on the measure of relatively high earnings in year 4. For each of the four subgroups, Portland increased the percentage with year 4 earnings of $10,000 or more by 6 to 7 percentage points. Atlanta LFA also produced a small increase in employment with higher earnings among sample members not employed in the year prior to random assignment, but had no effects for other subgroups. In contrast, for Grand Rapids and Riverside LFA, all or most of the increases in job finding led to employment with relatively low earnings in year 4. This pattern was seen for all subgroups.

In this analysis, perhaps the most positive outcome for education-focused programs is that four programs, Atlanta HCD, Columbus Integrated and Traditional, and Detroit, achieved a small gain (of about 3 to 5 percentage points) in earnings of $10,000 or more in year 4 for one or both of the more disadvantaged subgroups. Detroit's program also increased the portion with relatively high earnings in year 4 among sample members who worked for pay in the year before random assignment.

Appendix

National Evaluation of Welfare-to-Work Strategies

Appendix Table 1

Impacts of Education-Focused Programs on Employment and Earnings During Years 1 to 4

Employment Outcome	Program Group	Control Group	Difference (Impact)		Percentage Change (%)
All					
Ever employed (%)	78.2	76.1	2.1	***	2.7
Quarters employed	6.29	5.94	0.35	***	5.8
Earnings ($)	14,839	13,588	1250	***	9.2
For those employed in years 1 to 4:					
Quarters to first job	*3.61*	*3.88*	*-0.27*		*-6.9*
Remaining quarters of follow-up	*12.39*	*12.12*	*0.27*		*2.2*
Quarters employed	*8.05*	*7.81*	*0.24*		*3.0*
Percent of remaining quarters employed	*64.9*	*64.4*	*0.5*		*0.8*
Earnings per quarter employed ($)	*2,359*	*2,286*	*73*		*3.2*
Sample size	9,580	10,050			
Atlanta HCD					
Ever employed (%)	77.3	76.5	0.9		1.2
Quarters employed	6.47	6.01	0.46	***	7.6
Earnings ($)	14,400	12,807	1,594	***	12.4
For those employed in years 1 to 4:					
Quarters to first job	*3.59*	*3.87*	*-0.28*		*-7.3*
Remaining quarters of follow-up	*12.41*	*12.13*	*0.28*		*2.3*
Quarters employed	*8.37*	*7.86*	*0.50*		*6.4*
Percent of remaining quarters employed	*67.4*	*64.8*	*2.6*		*4.0*
Earnings per quarter employed ($)	*2,226*	*2,131*	*95*		*4.5*
Sample size	1,708	1,725			
Grand Rapids HCD					
Ever employed (%)	86.2	84.8	1.5		1.7
Quarters employed	7.09	6.78	0.31	*	4.6
Earnings ($)	14,778	14,173	605		4.3
For those employed in years 1 to 4:					
Quarters to first job	*3.21*	*3.69*	*-0.48*		*-13.0*
Remaining quarters of follow-up	*12.79*	*12.31*	*0.48*		*3.9*
Quarters employed	*8.22*	*8.00*	*0.22*		*2.8*
Percent of remaining quarters employed	*64.3*	*65.0*	*-0.7*		*-1.1*
Earnings per quarter employed ($)	*2,085*	*2,091*	*-6*		*-0.3*
Sample size	1,405	1,325			

(continued)

Appendix Table 1 (continued)

Employment Outcome	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside HCD				
Ever employed (%)	59.8	54.7	5.1 ***	9.3
Quarters employed	3.98	3.52	0.46 **	13.1
Earnings ($)	8,390	7,786	604	7.8
For those employed in years 1 to 4:				
Quarters to first job	*3.97*	*4.71*	*-0.74*	*-15.7*
Remaining quarters of follow-up	*12.03*	*11.29*	*0.74*	*6.5*
Quarters employed	*6.66*	*6.43*	*0.23*	*3.5*
Percent of remaining quarters employed	*55.3*	*57.0*	*-1.6*	*-2.9*
Earnings per quarter employed ($)	*2,107*	*2,212*	*-105*	*-4.7*
Sample size	1,195	1,131		
Columbus Integrated				
Ever employed (%)	85.4	81.3	4.1 ***	5.1
Quarters employed	7.79	7.39	0.41 **	5.5
Earnings ($)	19,017	17,359	1,658 **	9.6
For those employed in years 1 to 4:				
Quarters to first job	*3.04*	*2.79*	*0.25*	*9.1*
Remaining quarters of follow-up	*12.96*	*13.21*	*-0.25*	*-1.9*
Quarters employed	*9.13*	*9.09*	*0.04*	*0.4*
Percent of remaining quarters employed	*70.4*	*68.8*	*1.6*	*2.4*
Earnings per quarter employed ($)	*2,440*	*2,350*	*90*	*3.8*
Sample size	1,936	1,646		
Columbus Traditional				
Ever employed (%)	84.2	81.3	2.9 **	3.6
Quarters employed	7.63	7.39	0.24	3.2
Earnings ($)	18,574	17,359	1,215 *	7.0
For those employed in years 1 to 4:				
Quarters to first job	*2.92*	*2.79*	*0.13*	*4.8*
Remaining quarters of follow-up	*13.08*	*13.21*	*-0.13*	*-1.0*
Quarters employed	*9.06*	*9.09*	*-0.03*	*-0.3*
Percent of remaining quarters employed	*69.3*	*68.8*	*0.5*	*0.7*
Earnings per quarter employed ($)	*2,435*	*2,350*	*85*	*3.6*
Sample size	1,939	1,646		

(continued)

Appendix Table 1 (continued)

Employment Outcome	Program Group	Control Group	Difference (Impact)		Percentage Change (%)
Detroit					
Ever employed (%)	80.7	78.9	1.8		2.3
Quarters employed	5.81	5.55	0.27		4.9
Earnings ($)	14,229	12,518	1,710	**	13.7
For those employed in years 1 to 4:					
Quarters to first job	*4.70*	*5.01*	*-0.31*		*-6.2*
Remaining quarters of follow-up	*11.30*	*10.99*	*0.31*		*2.8*
Quarters employed	*7.21*	*7.03*	*0.18*		*2.5*
Percent of remaining quarters employed	*63.8*	*64.0*	*-0.2*		*-0.3*
Earnings per quarter employed ($)	*2,447*	*2,257*	*190*		*8.4*
Sample size	1,397	1,408			

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

Differences between program group members and control group members shown in italics for "those employed in years 1 to 4" are not true experimental comparisons. Tests of statistical significance were not performed.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; and year 4, quarters 14 through 17. The follow-up period equals 16 quarters.

"Quarters to first job" is defined as the number of quarters between quarter 2 and the first quarter with earnings. Sample members who began working in quarter 2 have 0 quarters for this measure.

"Percentage of quarters employed from first job to end of year 4" is calculated by quarters employed/(16 - quarters to first job) * 100, for sample members who worked for pay during years 1 to 4.

National Evaluation of Welfare-to-Work Strategies

Appendix Table 2
Impacts of Education-Focused Programs on Duration of First Employment Spell

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 3.25				
Not employed	25.6	29.0	-3.4 ***	-11.7
Employed	74.4	71.0	3.4 ***	4.8
First spell lasted 1 to 3 quarters	38.8	38.6	0.2	0.5
First spell lasted 4 or more quarters	35.6	32.4	3.2 ***	9.8
Sample Size	9,580	10,050		
Atlanta HCD				
Employed during years 1 to 3.25				
Not employed	25.8	28.9	-3.0 **	-10.5
Employed	74.2	71.1	3.0 **	4.3
First spell lasted 1 to 3 quarters	36.8	39.3	-2.5	-6.3
First spell lasted 4 or more quarters	37.4	31.9	5.5 ***	17.3
Sample Size	1,708	1,725		
Grand Rapids HCD				
Employed during years 1 to 3.25				
Not employed	17.1	20.4	-3.3 **	-16.0
Employed	82.9	79.6	3.3 **	4.1
First spell lasted 1 to 3 quarters	49.0	47.8	1.2	2.4
First spell lasted 4 or more quarters	33.9	31.8	2.1	6.6
Sample Size	1,405	1,325		
Riverside HCD				
Employed during years 1 to 3.25				
Not employed	44.3	50.8	-6.5 ***	-12.8
Employed	55.7	49.2	6.5 ***	13.2
First spell lasted 1 to 3 quarters	31.7	27.6	4.2 **	15.1
First spell lasted 4 or more quarters	24.0	21.7	2.3	10.7
Sample Size	1,195	1,131		
Columbus Integrated				
Employed during years 1 to 3.25				
Not employed	18.2	21.8	-3.6 ***	-16.4
Employed	81.8	78.2	3.6 ***	4.6
First spell lasted 1 to 3 quarters	38.1	38.3	-0.1	-0.3
First spell lasted 4 or more quarters	43.6	39.9	3.7 **	9.3
Sample Size	1,936	1,646		

(continued)

Appendix Table 2 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Columbus Traditional				
Employed during years 1 to 3.25				
Not employed	19.2	21.8	-2.7 **	-12.2
Employed	80.8	78.2	2.7 **	3.4
First spell lasted 1 to 3 quarters	38.7	38.3	0.4	1.1
First spell lasted 4 or more quarters	42.2	39.9	2.2	5.6
Sample Size	1,939	1,646		
Detroit				
Employed during years 1 to 3.25				
Not employed	24.2	27.6	-3.4 **	-12.3
Employed	75.8	72.4	3.4 **	4.7
First spell lasted 1 to 3 quarters	46.6	45.3	1.3	2.9
First spell lasted 4 or more quarters	29.1	27.1	2.1	7.6
Sample Size	1,397	1,408		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3 quarters, 10 through 14; year 4, quarters 14 through 17.

National Evaluation of Welfare-to-Work Strategies

Appendix Table 3
Impacts of Education-Focused Programs on Employment in Years 1 and 2, and Employment Stability in Years 3 and 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	36.2	40.2	-4.0 ***	-10.0
Employed	63.8	59.8	4.0 ***	6.7
Not employed or unstable employment in years 3 and 4	31.7	30.2	1.6 **	5.2
Stable employment in years 3 and 4	32.1	29.7	2.4 ***	8.2
Sample Size	9,580	10,050		
Atlanta HCD				
Employed during years 1 to 2				
Not employed	37.3	40.0	-2.8 *	-6.9
Employed	62.7	60.0	2.8 *	4.6
Not employed or unstable employment in years 3 and 4	29.1	29.3	-0.2	-0.6
Stable employment in years 3 and 4	33.6	30.7	3.0 *	9.6
Sample Size	1,708	1,725		
Grand Rapids HCD				
Employed during years 1 to 2				
Not employed	25.8	30.6	-4.7 ***	-15.5
Employed	74.2	69.4	4.7 ***	6.8
Not employed or unstable employment in years 3 and 4	36.7	33.2	3.6 *	10.8
Stable employment in years 3 and 4	37.4	36.3	1.2	3.2
Sample Size	1,405	1,325		
Riverside HCD				
Employed during years 1 to 2				
Not employed	53.1	61.1	-8.0 ***	-13.1
Employed	46.9	38.9	8.0 ***	20.6
Not employed or unstable employment in years 3 and 4	29.1	24.6	4.5 **	18.5
Stable employment in years 3 and 4	17.8	14.3	3.5 **	24.4
Sample Size	1,195	1,131		

(continued)

Appendix Table 3 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Columbus Integrated				
Employed during years 1 to 2				
Not employed	27.0	29.9	-2.9 **	-9.6
Employed	73.0	70.1	2.9 **	4.1
Not employed or unstable employment in years 3 and 4	30.7	30.4	0.3	1.0
Stable employment in years 3 and 4	42.3	39.7	2.6 *	6.5
Sample Size	1,936	1,646		
Columbus Traditional				
Employed during years 1 to 2				
Not employed	27.7	29.9	-2.2	-7.4
Employed	72.3	70.1	2.2	3.2
Not employed or unstable employment in years 3 and 4	32.0	30.4	1.6	5.2
Stable employment in years 3 and 4	40.3	39.7	0.6	1.6
Sample Size	1,939	1,646		
Detroit				
Employed during years 1 to 2				
Not employed	39.5	44.1	-4.6 ***	-10.5
Employed	60.5	55.9	4.6 ***	8.3
Not employed or unstable employment in years 3 and 4	29.3	28.6	0.7	2.4
Stable employment in years 3 and 4	31.2	27.3	3.9 **	14.4
Sample Size	1,397	1,408		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; year 4, quarters 14 through 17.

Sample members who did not work for pay during years 1 and 2 were included in the "not employed" category, irrespective of the number of quarters they worked during years 3 and 4.

"Unstable employment" is defined as working from 1 to 5 quarters and "stable employment" is defined as working 6 or more quarters.

National Evaluation of Welfare-to-Work Strategies

Appendix Table 4
Impacts of Education-Focused Programs on Employment in Years 1 and 2, Employment at End of Year 2, and Employment Stability in Years 3 and 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	36.2	40.2	-4.0 ***	-10.0
Employed	63.8	59.8	4.0 ***	6.7
No longer employed at end of year 2	23.3	23.0	0.3	1.3
Not employed or unstable employment in years 3 and 4	18.2	18.0	0.3	1.5
Stable employment in years 3 and 4	5.1	5.0	0.0	0.8
Still employed at end of year 2	40.5	36.8	3.7 ***	10.1
Not employed or unstable employment in years 3 and 4	13.5	12.2	1.3 **	10.7
Stable employment in years 3 and 4	27.0	24.6	2.4 ***	9.8
Sample Size	9,580	10,050		
Atlanta HCD				
Employed during years 1 to 2				
Not employed	37.3	40.0	-2.8 *	-6.9
Employed	62.7	60.0	2.8 *	4.6
No longer employed at end of year 2	19.6	22.5	-3.0 **	-13.3
Not employed or unstable employment in years 3 and 4	15.5	18.3	-2.8 **	-15.2
Stable employment in years 3 and 4	4.1	4.3	-0.2	-4.9
Still employed at end of year 2	43.2	37.4	5.8 ***	15.4
Not employed or unstable employment in years 3 and 4	13.6	11.0	2.6 **	23.7
Stable employment in years 3 and 4	29.6	26.4	3.2 **	12.0
Sample Size	1,708	1,725		
Grand Rapids HCD				
Employed during years 1 to 2				
Not employed	25.8	30.6	-4.7 ***	-15.5
Employed	74.2	69.4	4.7 ***	6.8
No longer employed at end of year 2	28.1	27.1	1.1	4.0
Not employed or unstable employment in years 3 and 4	20.2	18.3	1.8	10.0
Stable employment in years 3 and 4	8.0	8.7	-0.8	-8.8
Still employed at end of year 2	46.0	42.4	3.7 **	8.7
Not employed or unstable employment in years 3 and 4	16.6	14.8	1.7	11.7
Stable employment in years 3 and 4	29.5	27.5	1.9	7.0
Sample Size	1,405	1,325		

(continued)

Appendix Table 4 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside HCD				
Employed during years 1 to 2				
Not employed	53.1	61.1	-8.0 ***	-13.1
Employed	46.9	38.9	8.0 ***	20.6
No longer employed at end of year 2	23.5	15.5	8.1 ***	52.1
Not employed or unstable employment in years 3 and 4	19.9	13.8	6.1 ***	43.8
Stable employment in years 3 and 4	3.6	1.6	2.0 ***	122.7
Still employed at end of year 2	23.4	23.5	0.0	-0.1
Not employed or unstable employment in years 3 and 4	9.2	10.8	-1.5	-14.1
Stable employment in years 3 and 4	14.2	12.7	1.5	11.7
Sample Size	1,195	1,131		
Columbus Integrated				
Employed during years 1 to 2	27.0	29.9	-2.9 **	-9.6
Not employed	73.0	70.1	2.9 **	4.1
Employed	22.5	24.6	-2.1	-8.6
No longer employed at end of year 2	16.6	18.3	-1.7	-9.4
Not employed or unstable employment in years 3 and 4	5.8	6.2	-0.4	-6.1
Stable employment in years 3 and 4	50.5	45.5	5.0 ***	10.9
Still employed at end of year 2	14.1	12.1	2.0 *	16.7
Not employed or unstable employment in years 3 and 4	36.4	33.5	3.0 *	8.8
Stable employment in years 3 and 4				
Sample Size	1,936	1,646		
Columbus Traditional				
Employed during years 1 to 2	27.7	29.9	-2.2	-7.4
Not employed	72.3	70.1	2.2	3.2
Employed	23.2	24.6	-1.4	-5.6
No longer employed at end of year 2	18.0	18.3	-0.3	-1.7
Not employed or unstable employment in years 3 and 4	5.2	6.2	-1.1	-17.0
Stable employment in years 3 and 4	49.1	45.5	3.6 **	7.9
Still employed at end of year 2	14.0	12.1	1.9 *	15.6
Not employed or unstable employment in years 3 and 4	35.1	33.5	1.7	5.0
Stable employment in years 3 and 4				
Sample Size	1,939	1,646		

(continued)

Appendix Table 4 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Detroit				
Employed during years 1 to 2				
Not employed	39.5	44.1	-4.6 ***	-10.5
Employed	60.5	55.9	4.6 ***	8.3
No longer employed at end of year 2	24.4	22.3	2.1	9.5
Not employed or unstable employment in years 3 and 4	17.3	16.5	0.8	4.9
Stable employment in years 3 and 4	7.1	5.8	1.3	22.6
Still employed at end of year 2	36.1	33.6	2.5	7.5
Not employed or unstable employment in years 3 and 4	11.9	12.0	-0.1	-1.0
Stable employment in years 3 and 4	24.2	21.5	2.6 *	12.2
Sample Size	1,397	1,408		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: See Table 3.

National Evaluation of Welfare-to-Work Strategies

Appendix Table 5
Impacts of Education-Focused Programs on Employment in Years 1 and 2, and Earnings Growth

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	36.2	40.2	-4.0 ***	-10.0
Employed	63.8	59.8	4.0 ***	6.7
Change in average earnings per quarter				
Employment too unstable to measure	15.7	15.1	0.6	3.8
No change	3.1	3.2	-0.1	-1.9
Decrease	14.1	12.8	1.3 **	10.5
Increase	30.9	28.7	2.2 ***	7.5
Sample Size	9,580	10,050		
Atlanta HCD				
Employed during years 1 to 2				
Not employed	37.3	40.0	-2.8 *	-6.9
Employed	62.7	60.0	2.8 *	4.6
Change in average earnings per quarter				
Employment too unstable to measure	13.2	16.1	-2.9 **	-17.7
No change	2.9	3.1	-0.2	-7.4
Decrease	14.5	12.4	2.1 *	16.6
Increase	32.1	28.3	3.8 **	13.4
Sample Size	1,708	1,725		
Grand Rapids HCD				
Employed during years 1 to 2				
Not employed	25.8	30.6	-4.7 ***	-15.5
Employed	74.2	69.4	4.7 ***	6.8
Change in average earnings per quarter				
Employment too unstable to measure	17.1	15.5	1.6	10.3
No change	4.1	3.7	0.4	10.3
Decrease	17.5	16.0	1.5	9.1
Increase	35.5	34.2	1.3	3.8
Sample Size	1,405	1,325		

(continued)

Appendix Table 5 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Riverside HCD				
Employed during years 1 to 2				
Not employed	53.1	61.1	-8.0 ***	-13.1
Employed	46.9	38.9	8.0 ***	20.6
Change in average earnings per quarter				
Employment too unstable to measure	16.6	13.2	3.4 **	26.0
No change	3.1	2.4	0.7	31.5
Decrease	10.1	8.0	2.1 *	26.3
Increase	17.1	15.4	1.8	11.5
Sample Size	1,195	1,131		
Columbus Integrated				
Employed during years 1 to 2				
Not employed	27.0	29.9	-2.9 **	-9.6
Employed	73.0	70.1	2.9 **	4.1
Change in average earnings per quarter				
Employment too unstable to measure	14.3	14.4	-0.1	-0.5
No change	3.8	3.9	-0.1	-2.1
Decrease	16.4	15.4	1.0	6.2
Increase	38.4	36.4	2.1	5.7
Sample Size	1,936	1,646		
Columbus Traditional				
Employed during years 1 to 2				
Not employed	27.7	29.9	-2.2	-7.4
Employed	72.3	70.1	2.2	3.2
Change in average earnings per quarter				
Employment too unstable to measure	15.3	14.4	0.9	6.2
No change	3.7	3.9	-0.2	-5.1
Decrease	16.6	15.4	1.2	7.8
Increase	36.7	36.4	0.3	0.9
Sample Size	1,939	1,646		
Detroit				
Employed during years 1 to 2				
Not employed	39.5	44.1	-4.6 ***	-10.5
Employed	60.5	55.9	4.6 ***	8.3
Change in average earnings per quarter				
Employment too unstable to measure	17.1	14.7	2.4 *	16.3
No change	2.7	3.3	-0.6	-18.2
Decrease	13.7	13.2	0.6	4.2
Increase	27.0	24.8	2.3	9.2
Sample Size	1,397	1,408		

(continued)

Appendix Table 5 (continued)

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; year 4, quarters 14 through 17.

This analysis estimates trends in earnings over four years during quarters in which the sample members had the greatest likelihood of working every week. It disregards earnings for the first and last quarter of each employment spell, because sample members are assumed to have worked only part of the time during these quarters. Earnings for quarter 17 are counted, however, if the sample member also worked in the previous quarter.

The difference in earnings for the earliest and latest quarters included in this analysis represents the "change in average earnings per quarter". For sample members with four or more of these earnings quarters, the change in average earnings is the difference in the mean of the first two and last two quarters included.

Sample members who did not work for pay during years 1 or 2 are counted as "not employed," irrespective of their earnings in later years. The remaining outcomes are defined as follows:

"Employment too unstable to measure": worked for pay during year 1 or 2, but with fewer than two earnings quarters included in this analysis.

"No change:" the difference in earnings between the first and last quarters was less than $100.

"Decrease:" earnings for the first quarter(s) exceeded earnings for the last quarter(s) by $100 or more.

"Increase:" earnings for the last quarter(s) exceeded earnings for the first quarter(s) by $100 or more.

National Evaluation of Welfare-to-Work Strategies

Appendix Table 6
Impacts of Education-Focused Programs on Employment in Years 1 and 2, and Relatively High Earnings in Year 4

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
All				
Employed during years 1 to 2				
Not employed	36.2	40.2	-4.0 ***	-10.0
Employed	63.8	59.8	4.0 ***	6.7
No employment or low earnings in year 4	44.3	41.9	2.4 ***	5.7
Earned $10,000 or more in year 4	19.5	17.9	1.6 ***	9.2
Sample Size	9,580	10,050		
Atlanta HCD				
Employed during years 1 to 2				
Not employed	37.3	40.0	-2.8 *	-6.9
Employed	62.7	60.0	2.8 *	4.6
No employment or low earnings in year 4	43.8	42.1	1.8	4.2
Earned $10,000 or more in year 4	18.9	17.9	1.0	5.6
Sample Size	1,708	1,725		
Grand Rapids HCD				
Employed during years 1 to 2				
Not employed	25.8	30.6	-4.7 ***	-15.5
Employed	74.2	69.4	4.7 ***	6.8
No employment or low earnings in year 4	53.9	49.4	4.5 **	9.0
Earned $10,000 or more in year 4	20.3	20.0	0.3	1.4
Sample Size	1,405	1,325		
Riverside HCD				
Employed during years 1 to 2				
Not employed	53.1	61.1	-8.0 ***	-13.1
Employed	46.9	38.9	8.0 ***	20.6
No employment or low earnings in year 4	37.8	30.7	7.0 ***	22.8
Earned $10,000 or more in year 4	9.2	8.2	1.0	12.6
Sample Size	1,195	1,131		

(continued)

Appendix Table 6 (continued)

Employment Outcome (%)	Program Group	Control Group	Difference (Impact)	Percentage Change (%)
Columbus Integrated				
Employed during years 1 to 2				
Not employed	27.0	29.9	-2.9 **	-9.6
Employed	73.0	70.1	2.9 **	4.1
No employment or low earnings in year 4	47.2	46.7	0.5	1.1
Earned $10,000 or more in year 4	25.8	23.5	2.4 *	10.1
Sample Size	1,936	1,646		
Columbus Traditional				
Employed during years 1 to 2				
Not employed	27.7	29.9	-2.2	-7.4
Employed	72.3	70.1	2.2	3.2
No employment or low earnings in year 4	47.3	46.7	0.6	1.4
Earned $10,000 or more in year 4	25.0	23.5	1.6	6.7
Sample Size	1,939	1,646		
Detroit				
Employed during years 1 to 2				
Not employed	39.5	44.1	-4.6 ***	-10.5
Employed	60.5	55.9	4.6 ***	8.3
No employment or low earnings in year 4	40.8	40.0	0.8	1.9
Earned $10,000 or more in year 4	19.7	15.9	3.9 ***	24.4
Sample Size	1,397	1,408		

SOURCE: MDRC calculations from unemployment insurance (UI) earnings records.

NOTES: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Programs were weighted equally in pooled estimates.

"Percentage change" equals 100 times "difference" divided by "control group."

Rounding may cause slight discrepancies in calculating sums and differences.

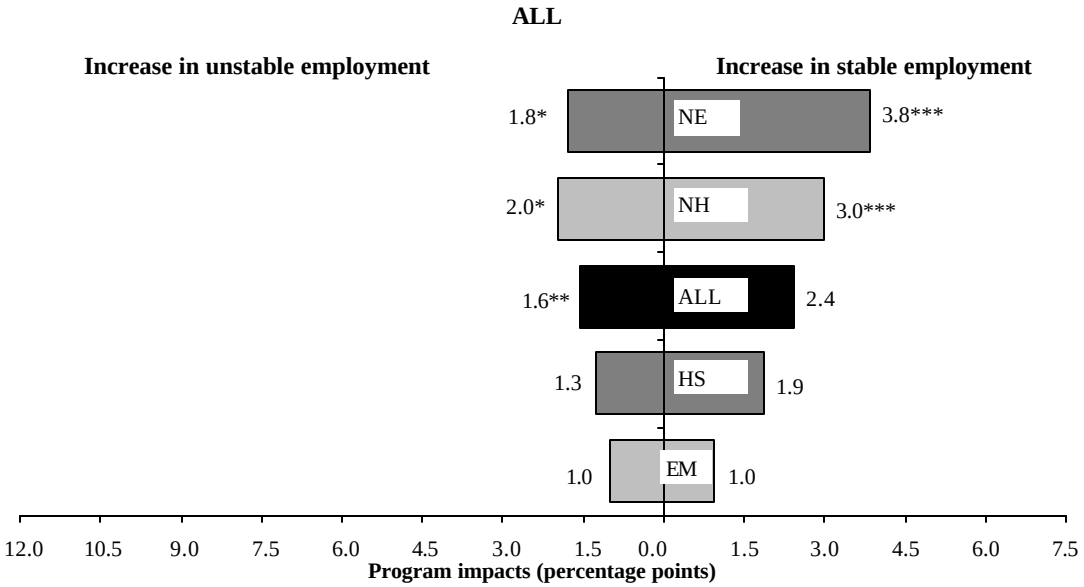
A two-tailed t-test was applied to differences between outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; and *** = 1 percent.

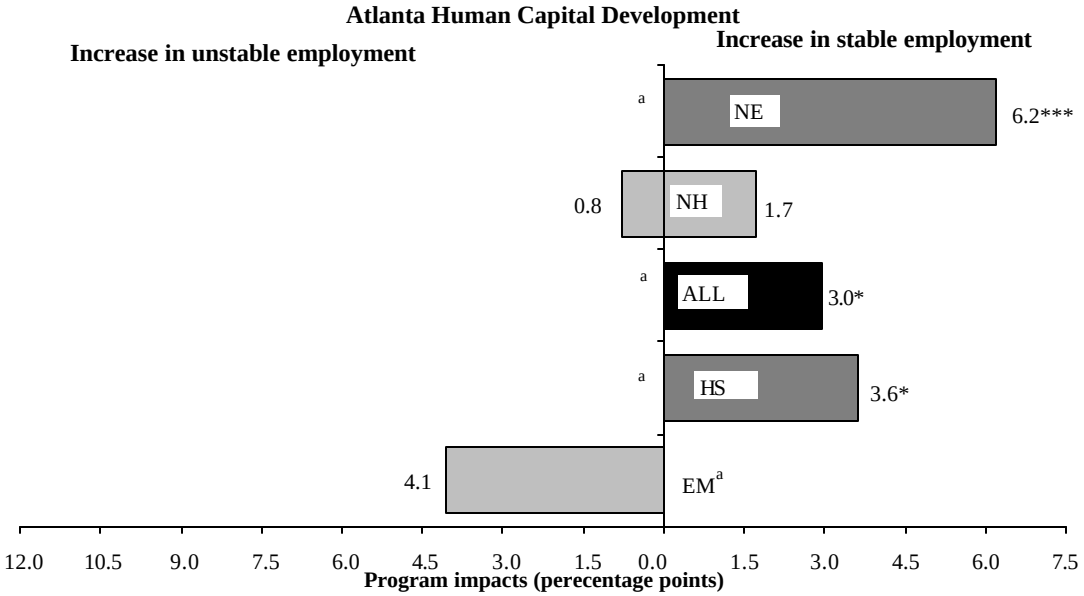
The quarter of random assignment, quarter 1, may contain some earnings from the period prior to random assignment, so it is excluded from follow-up measures. Thus, year 1 includes quarters 2 through 5; year 2, quarters 6 through 9; year 3, quarters 10 through 13; year 4, quarters 14 through 17.

Sample members who did not work for pay during years 1 and 2 were included in the "not employed" category, irrespective of their earnings in year 4.

Sample members with "no employment or low earnings in year 4" worked for pay for during years 1 or 2, but earned below $10,000 in year 4.

Appendix Figure 1
Impacts of Education-Focused Programs on Longer-Term Employment Stability, by Subgroup





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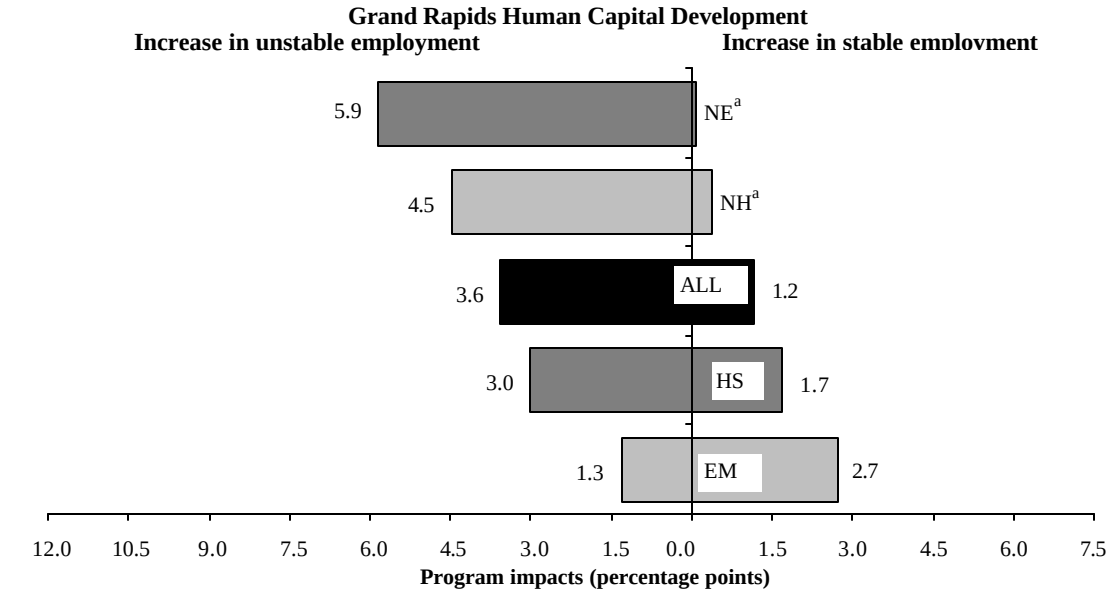
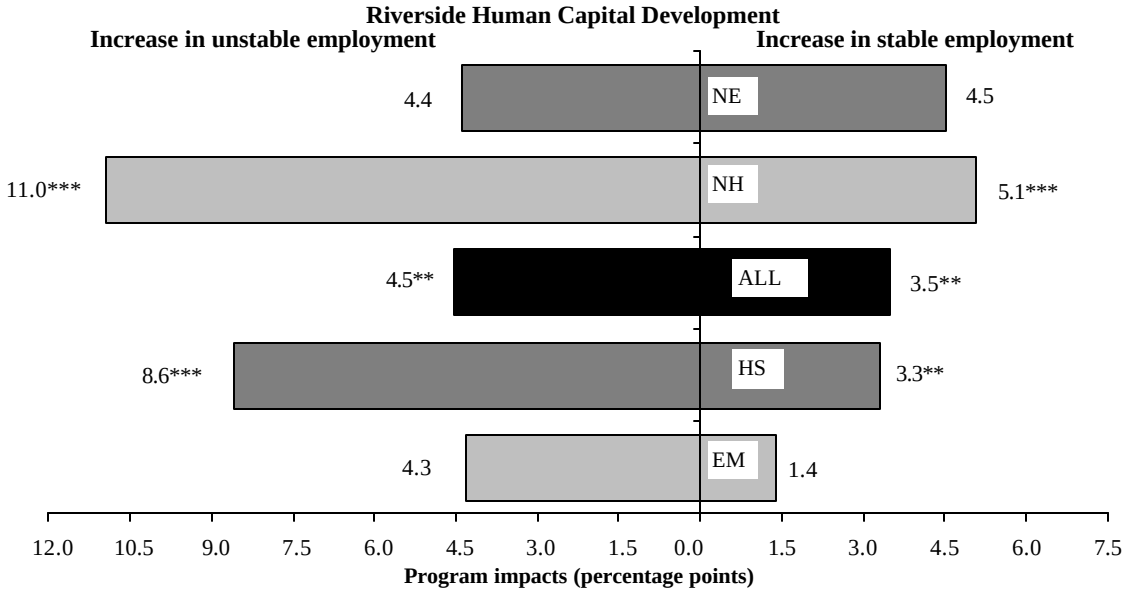
Appendix Figure 1 (continued)





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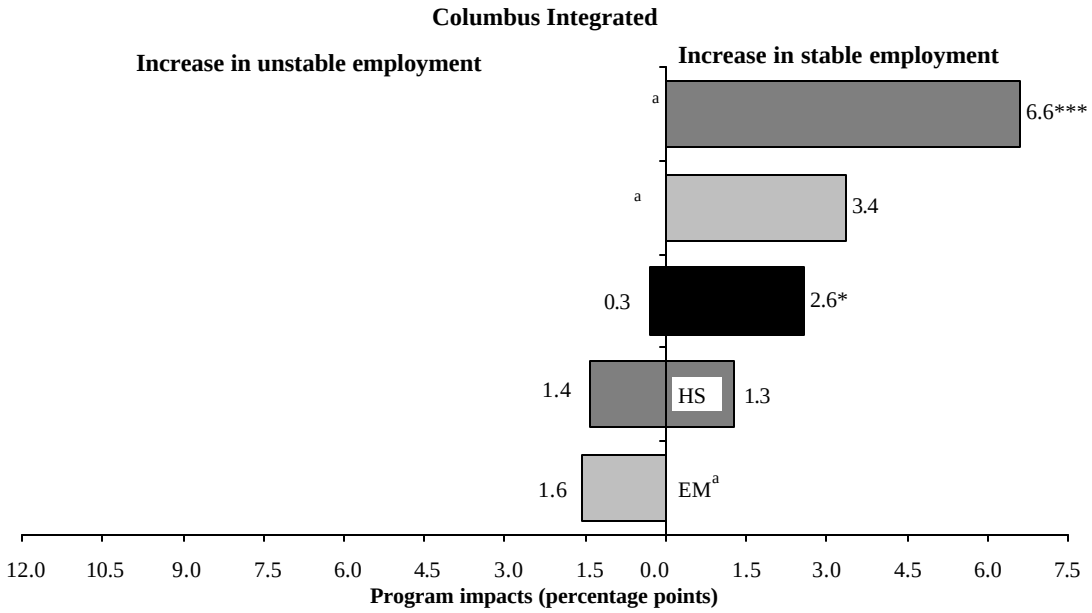
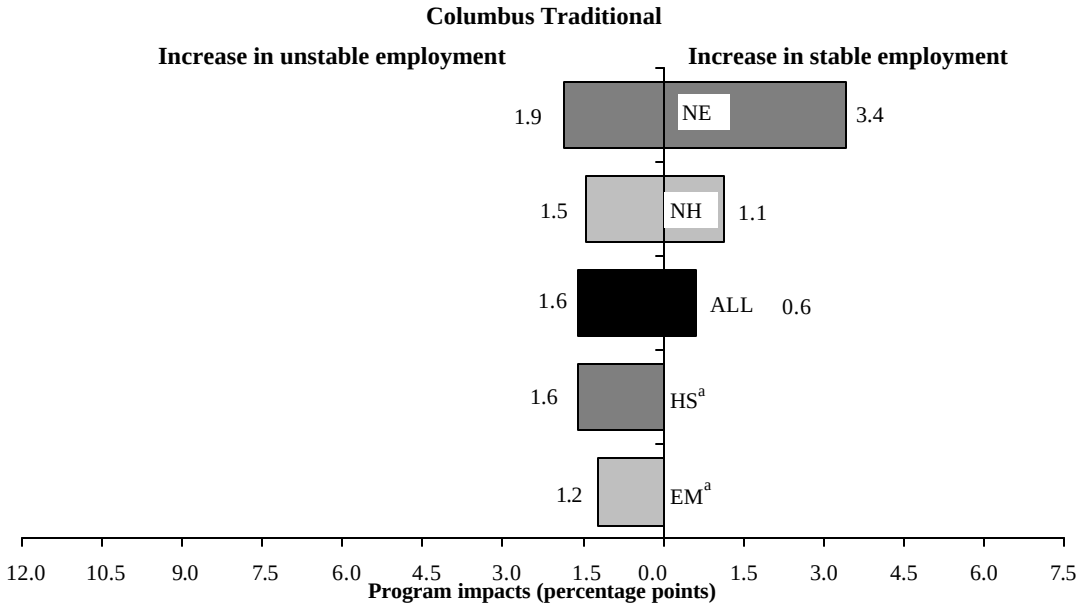
Appendix Figure 1 (continued)





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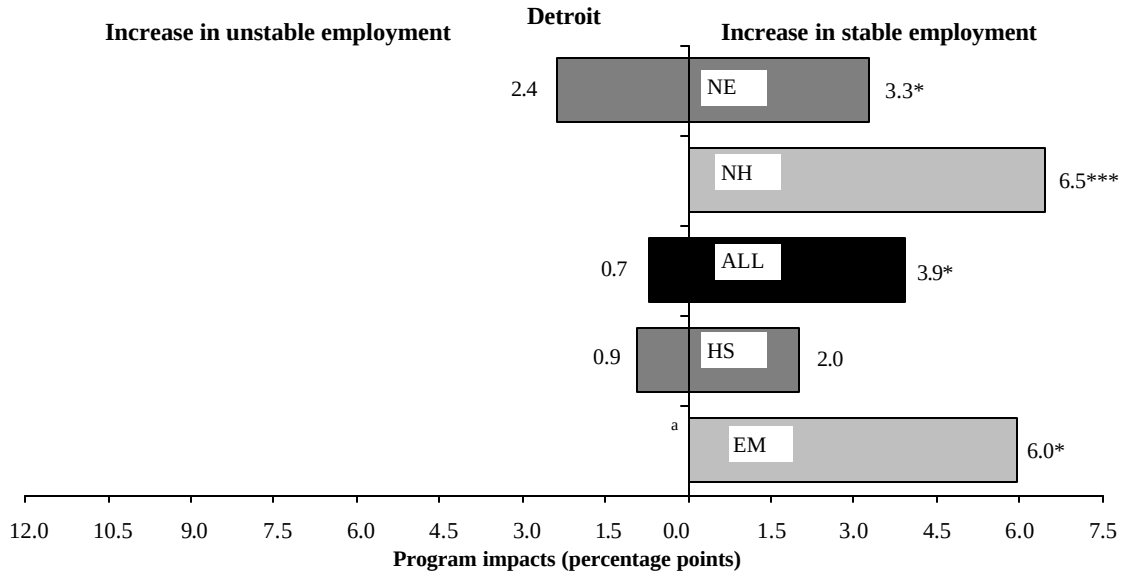
Appendix Figure 1 (continued)



NE: Not employed in year prior to random assignment

HS: High school diploma or GED

NH: No high school diploma or GED

EM: Employed in year prior to random assignment

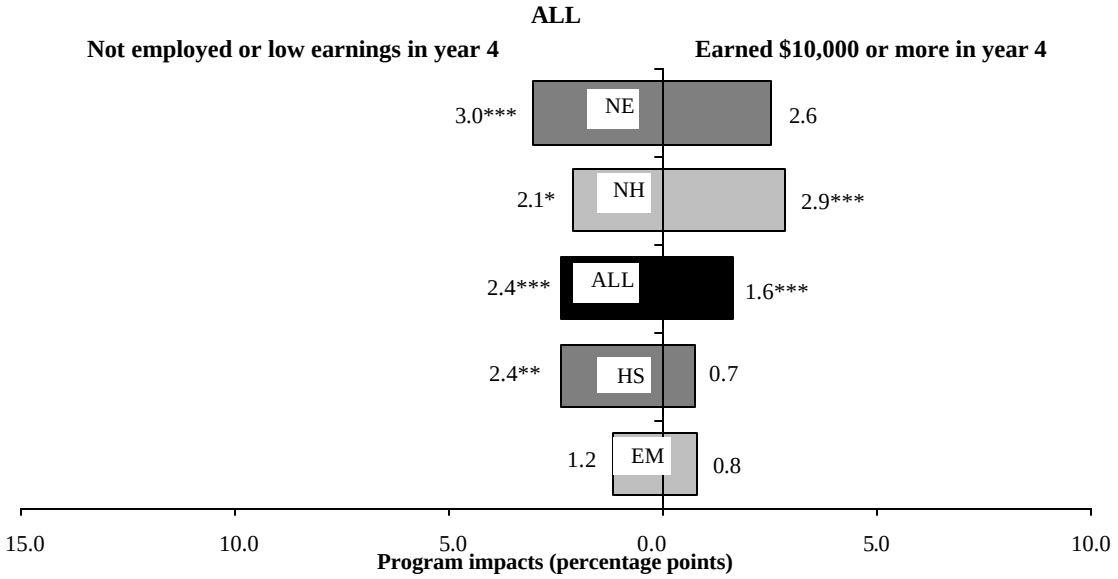
ALL: Full Sample

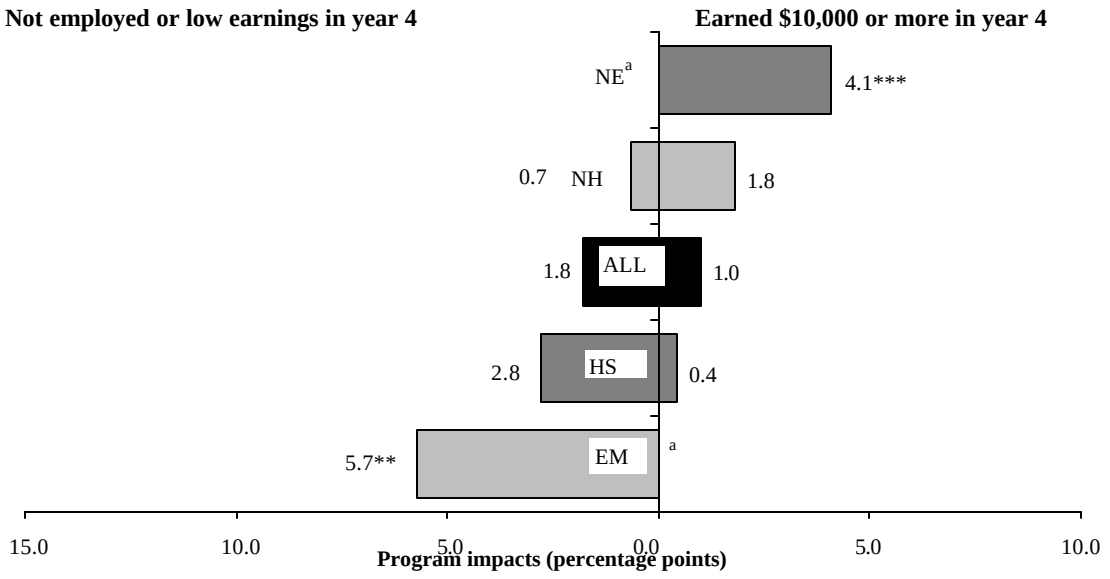
SOURCES: See Table 3.

NOTES: See Table 3.

[a]No change or decrease

Appendix Figure 2
Impacts of Education-Focused Programs on Employment in Year 4 and Relatively High Earnings in year 4, by Subgroup





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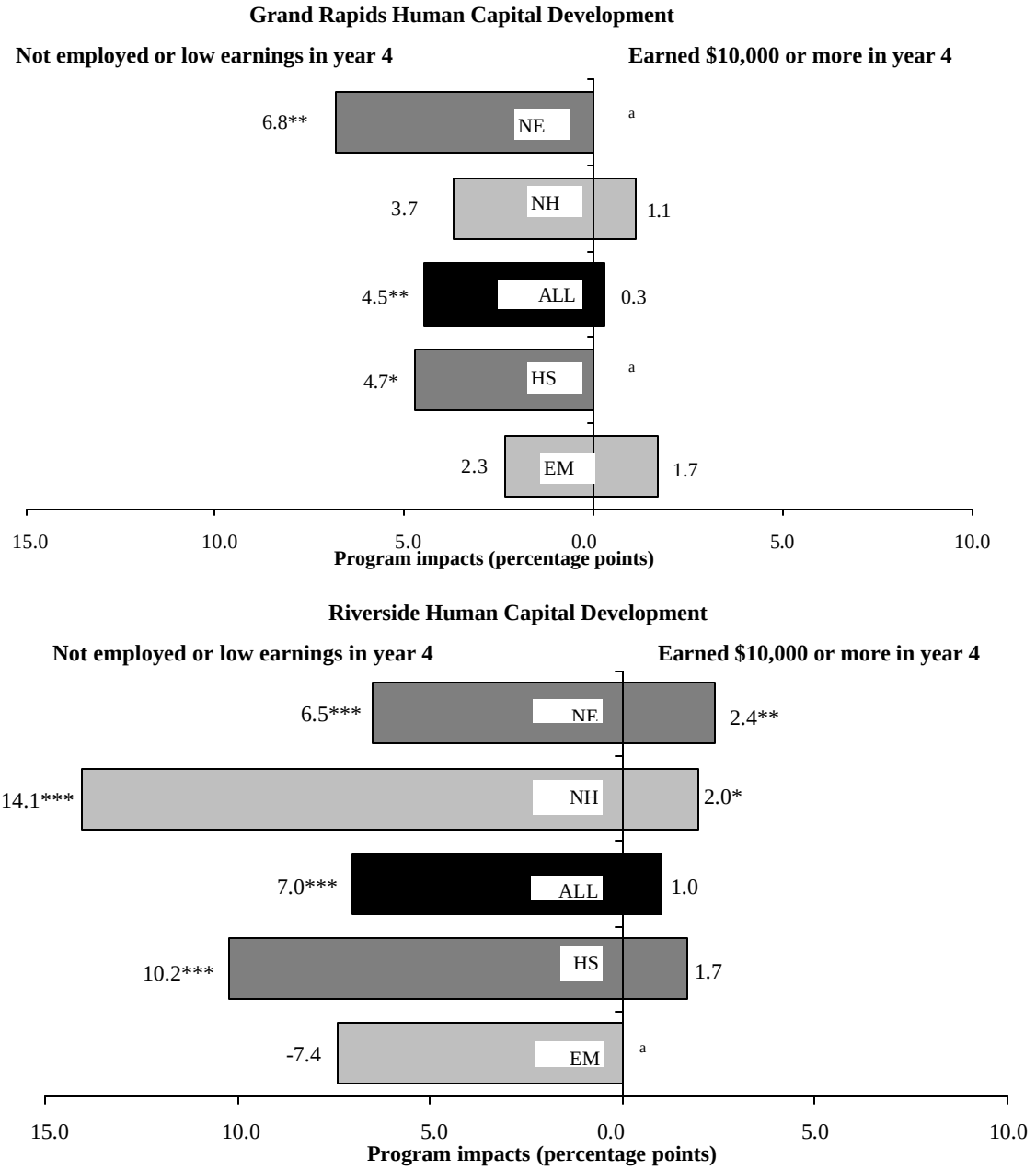
Appendix Figure 2 (continued)



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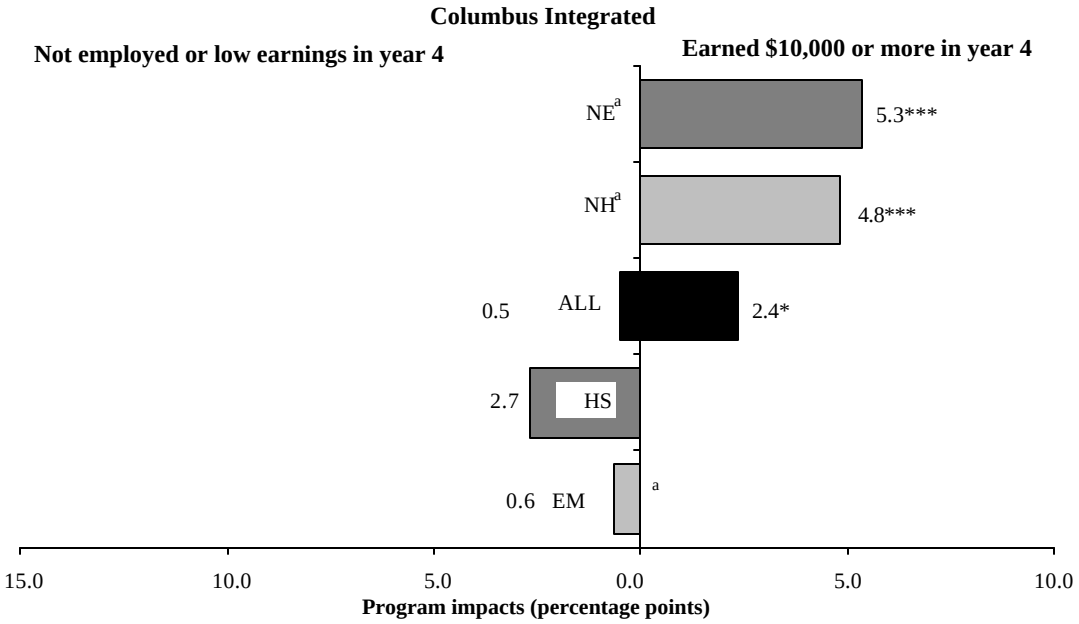
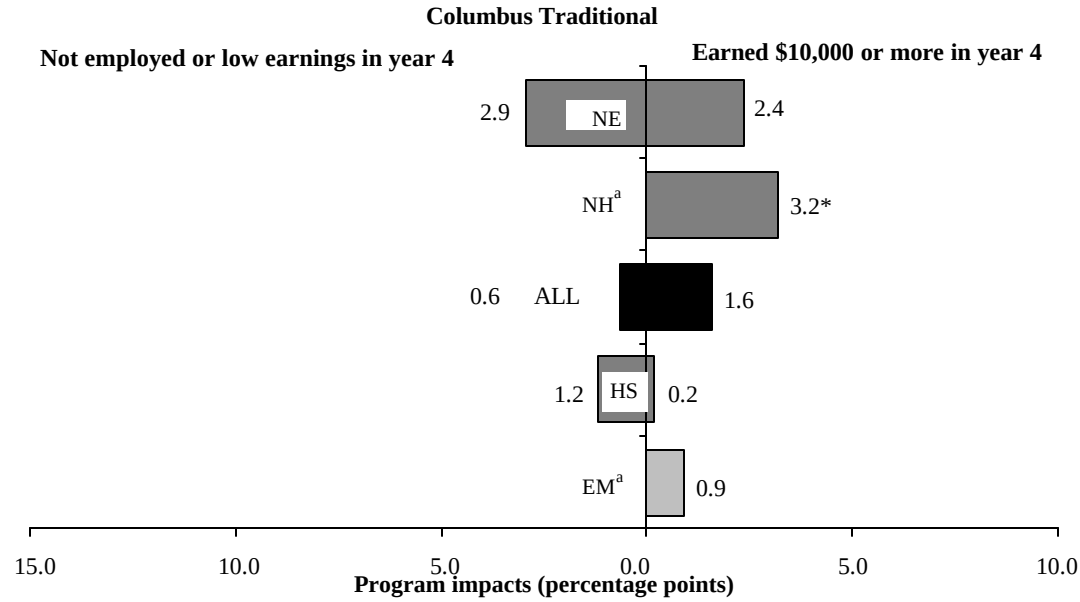
Appendix Figure 2 (continued)





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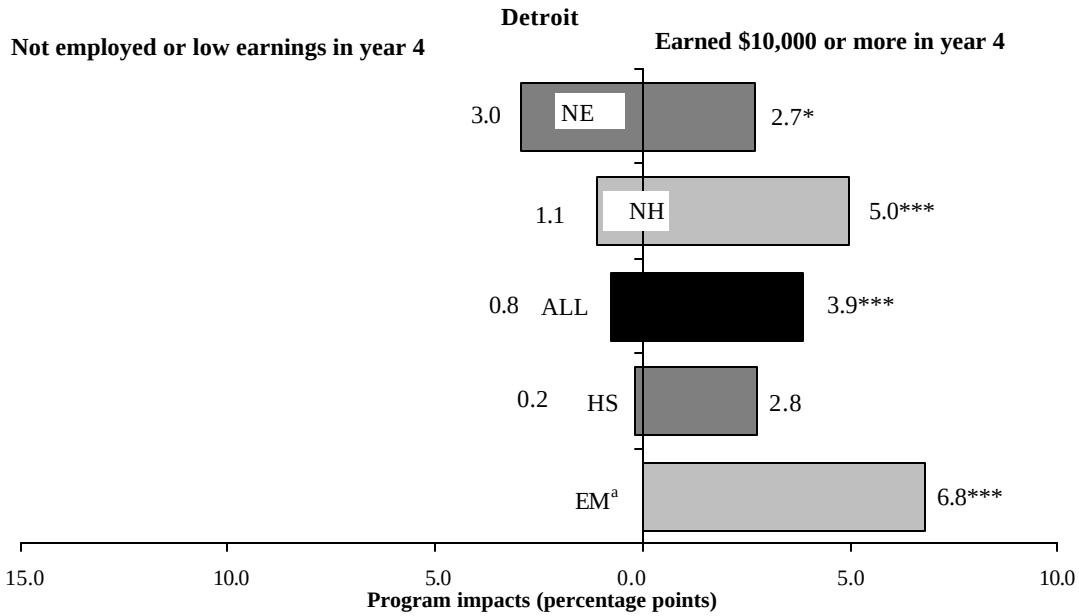
Appendix Figure 2 (continued)



NE: Not employed in year prior to random assignment

HS: High school diploma or GED

NH: No high school diploma or GED

EM: Employed in year prior to random assignment

ALL: Full Sample

SOURCES: See Table 5.

NOTES: See Table 5.

[a]No change or decrease

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