



Work Requirements and Welfare: Work or Education First?

A Report to the Tennessee Department of Human Services

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June 2004

This project is funded under an agreement with the Tennessee Department of Human Services. The views encompassed in this research do not necessarily reflect the views of the Tennessee Department of Human Services.

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Executive Summary

Debate continues over the relative importance of work and education or training as components of overall work requirements for welfare recipients. While work-first strategies have been very successful in some areas, many welfare recipients lack the education or skills needed to succeed in the labor market. Tennessee's welfare program, Families First, is somewhat unique in that it recognizes this fact and allows for a wider array of non-work activities to count toward the fulfillment of work requirements. However, these liberal allowances also come with a heavier 40-hour work requirement per week, as opposed to 30 hours under federal guidelines. Up to 20 of these 40 hours can be used for the purposes of education and training if certain conditions apply.

Given the potential advantages of an individually-tailored program that encourages the best combination of work and education and training activities, it is important to assess the relative importance of work and education on outcomes of interest. In this study, we use longitudinal survey data for a large sample of current and former Families First recipients to address this question. Specifically, we compare the effects of work and education, in terms of both work *requirements* and more general work *activities*,

on program exit rates and post program employment, wages, and work hours.

Results indicate that welfare recipients who participated only in education or training activities while on welfare were significantly less likely to leave the program and obtain employment upon exit than those who participated only in employment-based activities. However, those who engaged in a combination of education, training, and employment were generally no less likely to leave or obtain post-program employment than those in work-only activities. On-program work requirements or activities do not appear to be strong determinants of post-program wages and work hours.

Perhaps our most significant finding is that more education translates into better outcomes across the board. Rates of program exit and post-program employment, as well as hourly wages and work hours, tend to be higher for those who leave the program with more education. The differences in many cases are quite dramatic, suggesting that policies to promote educational attainment among Families First recipients can be quite fruitful.

1. Introduction

A primary goal of the welfare reform initiatives implemented in the U.S. in the mid-1990s was to help dependent families become productive, self-sufficient members of society. Work requirements were intended to further this process. A growing body of evidence suggests that welfare recipients are in fact participating in various work activities.¹ However, the effects of work requirements on post-program employment and earnings are still unclear.

Debate also continues over the relative importance of work and education or training in the work requirement bundle. While work-first strategies have been very successful in some areas, the fact remains that many welfare recipients lack the education or skills needed to succeed in the labor market.

Tennessee's welfare program, Families First, is somewhat unique in that it recognizes this fact and allows for a wider array of non-work activities to count toward the fulfillment of work requirements. However, these liberal allowances also come with a heavier 40-hour work requirement per week, as opposed to 30 hours under federal guidelines. Up to 20 of these 40 hours can be used for the purposes of education and training if certain conditions apply. However, only 20 hours of Adult Education are required if an individual's literacy skills are below the ninth grade level. Under this arrangement, welfare participants not only have the opportunity to expand their potential by gaining valuable job experience but may also further advance themselves by improving upon their education and training.

Given the potential advantages of an individually-tailored program that encourages the best combination of work and education and training activities, it is important to assess the relative importance of work and education on outcomes of interest. In this study, we use longitudinal survey data for a large sample of current and former Families First recipients to address this question. Specifically, we compare the effects of work and education, in terms of both work requirements and more general work activities, on program exit rates and post program employment, wages, and work hours. This work expands upon our previous study (Bruce, Deskins, and Thacker, 2003), which examined the incidence of work requirements, exemptions, and sanctions more generally but did not explore their effects on these sorts of outcomes.

This work is of vital importance not only to Tennessee but also to policy makers at the national level. As the Tennessee Department of Human Services continues to struggle with the unfortunate combination of ever-tightening budgets and increasing Families First caseloads, all policies and their impacts must be studied in detail. Similarly, as welfare reform reauthorization continues to be discussed at the national level, a plan similar to that in Tennessee (i.e., which allows for more activities to count toward the fulfillment of work requirements) has been proposed by the Bush administration. More information regarding the effects of different work activities on participant outcomes is a necessary input to these decision-making processes.

¹ See Bruce, Deskins, and Thacker (2003) for an analysis of work requirements in Tennessee.

We begin with an examination of the prior literature on the effects of employment and education. We then discuss the data used for our analysis: a longitudinal survey that tracks over 2,500 Tennessee households that were on welfare as of January 2001. Following a description of the extent to which participants engage in education or training activities and employment while on welfare, we present our statistical analysis of the relationship between on-program requirements and activities and post-program outcomes.

Results indicate that welfare recipients who participated only in education or training activities while on welfare were significantly less likely to leave the program and obtain employment upon exit than those who participated only in employment-based activities.

However, those who engaged in a combination of education, training, and employment were generally no less likely to leave or obtain post-program employment than those in work-only activities. On-program work requirements or activities do not appear to be strong determinants of post-program wages and work hours. As a cautionary note, it is important to understand that individuals who follow different paths (employment, education and training, or a combination) while on welfare are likely to be very different in terms of both measured characteristics (which we control for) as well as unmeasured characteristics. In addition, we find strong evidence that having more than a high school education dramatically increases one's chances of leaving Families First, finding post-program employment, and working for a higher wage.

2. Prior Literature

Several studies have compared welfare programs that emphasize employment-based activities (often referred to as Labor Force Attachment, or LFA, programs) to those that focus more heavily on skills development (Human Capital Development, or HCD, programs).² Other studies provide insight into programs that are individually tailored to participants' needs as determined by their educational background or employment history. The literature is based primarily upon a series of experimental welfare programs that were conducted in several parts of the U.S. beginning as early as the late 1980s. Many states received waivers from AFDC program rules to perform these experiments, which typically involved the random selection of individuals into trial programs that placed a greater emphasis on either education and training or employment. A comparison is then made between the outcomes of individuals in the experimental group (those assigned to the trial program) with those in a control group. The random assignment experiments were generally considered to be very useful because differences in outcomes could be more clearly attributed to differences in program rules rather than differences in participant groups. The largest body of research on these programs is the National Evaluation of Welfare-to-Work Strategies, conducted by the Manpower Demonstration Research Corporation (MDRC). Some of the papers in this series are discussed below.³

Studies that have a relatively narrow focus on programs that have a "work first" emphasis versus HCD programs have concluded that the former are generally more effective in achieving successful outcomes in the short term. Two examples are Freedman et al. (2000) and Fein et al. (2003). These studies examined two different programs in California, two years after program assignment. Both found that in-

dividuals who participated in LFA programs were more likely to gain employment and had higher earnings than individuals who participated in HCD programs. Hotz, Imbens, and Klerman (2001) compared the impacts of HCD and LFA programs and found different results in the longer term. They studied California's GAIN program nine years after program assignment, longer than any previous study, and concluded that the relative short-term successes of LFA programs over HCD programs disappear after several years.

Other recent research, which has incorporated a broader focus than simply HCD versus LFA programs, has shown that welfare programs that are adjusted to fit individual needs with the appropriate combination of work and education or training yield the best results. Hamilton et al. (2001) hailed a program in Portland, Oregon as the most effective program by far, in terms of employment and earnings gains, in their examination of 11 random assignment programs. In addition, the program reduced welfare expenditures (since benefits were reduced as recipients' earnings increased) by the most per dollar invested in the program by the government. The Portland program, unlike strict LFA or HCD programs, sought to provide the appropriate blend of job search and education or training for enrollees. Gueron and Hamilton (2001) further advanced this finding in synthesizing several MDRC studies that included analyses of 20 random assignment programs. Of the 20 programs studied, eight were classified as having a mixed strategy. The authors concluded that the key to successful welfare programs is a balance of employment-focused activities and skill building activities, citing more stable employment and higher wages for participants in the mixed strategy programs.

² Readers are referred to Blank (2002) for a summary of the literature on work versus education as well as other aspects of welfare reform.

³ See Boom and Michalopoulos (2001) for a more detailed summary of the research in this series.

The literature has provided a fairly extensive analysis of the relative merits of welfare-to-work programs that have an employment focus, those that have a skills development focus, and those that provide for a combination of activities. Specifically, LFA programs have been found to produce superior results in the short run when only compared to HCD programs. However, those results disappear in the long run. Broader analyses have found that mixed-approach strategies that adjust to suit individual needs are most successful. Tennessee's program follows the third path in requiring job search and employment immediately for individuals who have the necessary skill level for these endeavors while allowing individuals without

those skills to pursue education or training programs for a limited period.

We take a different approach in the current study. Specifically, we analyze individual level data for participants in Tennessee's mixed-strategy program, and we do not attempt to compare the program itself with other types of welfare programs. Our intent is to compare the effects of on-program participation in employment, education, and training on a variety of post-program outcome measures. Our analysis of individual-level data allows us to control for the things that lead to participation in work activities versus education or training activities

3. Data

It is well-known that administrative data sources are of little use in the analysis of post-program experiences since they rarely contain information for former participants after they exit the welfare system. Fortunately, several groups across Tennessee have come together to design and administer the *Family Assistance Longitudinal Study* (FALS).⁴ The four waves of this survey gathered to date contain detailed information on such topics as employment and earnings, program participation, and education and training, among many other topics.

The FALS began with a January 2001 sample of over 3,500 active Families First recipients.⁵ Of course, many of those have since left the program but are still being tracked by the survey. Of the original sample, a total of 2,596 individuals responded to the FALS Wave

1 which was administered between February and December 2001. Wave 2 began about six months after responses from the first wave were received and yielded 1,979 responses between September 2001 and April 2002. Wave 3 was carried out between October 2002 and January 2003 and resulted in 2,490 respondents. Finally, Wave 4 provided 2,621 respondents between April and July 2003.

Work requirements are identified on the basis of responses to specific work requirement questions for Waves 1 and 2. Respondents were initially asked:

Are you or anyone in your household required to work, attend school, or anything else in order to receive these benefits?

⁴ The survey is a collaborative effort of the Tennessee Department of Human Services, the Bureau of Business and Economic Research/Center for Manpower Studies at the University of Memphis, and the Social Work Office of Research and Public Service, the Center for Literacy Studies, and the Center for Business and Economic Research, all at the University of Tennessee, Knoxville.

⁵ The original sample consisted of a large random sample of the caseload in addition to over-samples of participants in Adult Basic Education and Family Services Counseling. When these over-samples are used in our analysis, we make use of sampling weights developed by the Center for Business and Economic Research.

Those who respond “yes” were then asked a follow up question:

What are you or anyone in your household required to do?

- (a) Look for a job,*
- (b) Work in a paid job,*
- (c) Work in an unpaid job,*
- (d) Attend school or training, or*
- (e) Other.*

While all of the requirements that apply to an individual should have been checked in this follow-up question, we have reason to believe that only one requirement may have been marked (especially in the first wave of the FALS). This is discussed in more detail below. Those who answered (a), (b), or (c), and not (d), are coded as having an employment-only work requirement. Those who answered (d), but not (a), (b), or (c), are coded as having an education-only work requirement. Those who answered (a) *or* (b) *or* (c), *and* (d), are coded as having a combination work

requirement. In the discussion that follows, we refer to employment-only work requirements as “work only” and requirements that are based entirely on education or training activities as “education only.”

Those who answered “other” (and provided no other responses to this question) are dropped from the analysis. Further, only those individuals who answered “no” to the initial question are coded as not having a work requirement. A small number of individuals answered yes to the initial question but did not provide a specific response. These individuals are also dropped from the analysis.

Waves 3 and 4 do not include the follow up question. Therefore, for these two waves, those individuals who answered “yes” to the initial question are coded as having a work requirement and those who answered “no” are coded as not having a work requirement. Table 1 presents a summary of how work requirements, and work activities (below), are defined.

Table 1: Definitions of "Work Only," "Education Only," and "Combination" Work Requirements and Activities

<u>Work Requirement Definitions</u>		<u>Work Activity Definitions</u>	
Survey Question: What are you or anyone in your household required to do?		Survey Question 1: Are you currently employed at a job or business?	
<u>Individual is coded as:</u>	<u>Based upon answering:</u>	<u>Individual is coded as:</u>	<u>Based upon answering:</u>
"Work Only" Requirement	Look for a job and/or Work in a paid job and/or Work in an unpaid job	"Work Only" Activity	"Yes" to Question 1 <i>and/or</i> Currently enrolled in (Group 1) for Question 2:
"Education Only" Requirement	Attend school or training	"Education Only" Activity	<u>Group 1</u> Work Experience Job Search/Job Club
"Combined" Requirement	Look for a job and/or Work in a paid job and/or Work in an unpaid job and Attend school or training	"Combined" Activity	"No" to Question 1 <i>and</i> Currently enrolled in (Group 2) for Question 2*: <u>Group 2*</u> High School GED (General Education Diploma) ABE (Adult Basic Education) English as a Second Language Fresh Start Vocational Training Job Skill Training Post-Secondary Education On-The-Job Training
			"Yes" to Question 1, <i>and/or</i> an activity in Group 1, <i>and</i> an activity in Group 2.

*The list in Group 2 pertains to Wave 1. Some of these activities are not included in later waves.

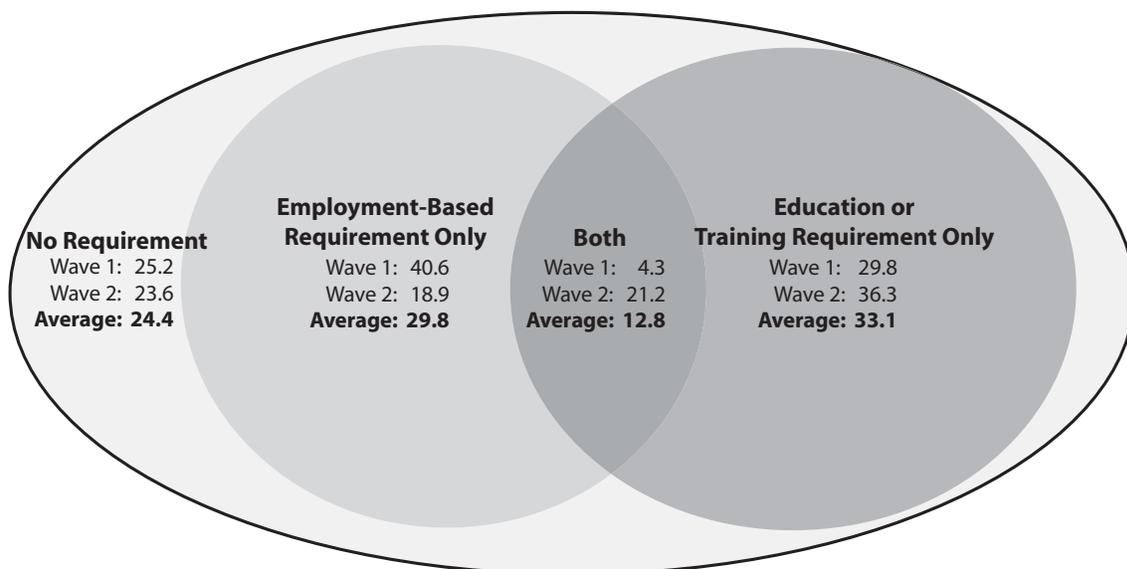
Figure 1 presents the distribution of individuals with work requirements in each of the first two waves of the FALS by the broad type of work requirement.⁶ Again, note that this information is based on each individual’s response regarding their own work requirement; it is not drawn from actual administrative records. This figure reveals the possibility that the work requirement question was asked differently or responses were coded differently in the two waves. For example, note that 40.6 percent of those on cash assistance in Wave 1 had work-only requirements, while 29.8 percent had education-only requirements and 4.3 percent had some combination of work and education (25.2 percent reported having no work requirement). These percentages change rather dramatically by Wave 2, to 18.9, 36.3, and 21.2 percent, respectively.⁷

This potential data inconsistency is our primary motivation for conducting a parallel analysis of work activities. In general, the examination of work activities is worthwhile in that activities themselves—and not requirements—are more likely to be direct determinant of post-program outcomes of interest. On the other hand, the value of analyzing work requirements is that they are the true policy variable of interest to program administrators. Rather than focusing on work requirements or work activities separately, then, we prefer to present parallel analyses using both sets of measures.

Individuals are coded as being in an employment-based activity if they answered “yes” to this question:

Are you currently employed at a job or business?

Figure 1: Work Requirement Assignment Rates



*Drawn to approximate scale using two-wave averages.

⁶ Note that Figures 1 through 5 are drawn approximately to scale using averages across the available waves of data.

⁷ To be sure, the percentage with employment-based work requirements could be expected to fall over time among program participants in the survey, as these individuals might be most likely to leave the program. This probably does not explain the entire reduction in work-only requirements or the increase in education-only requirements, however.

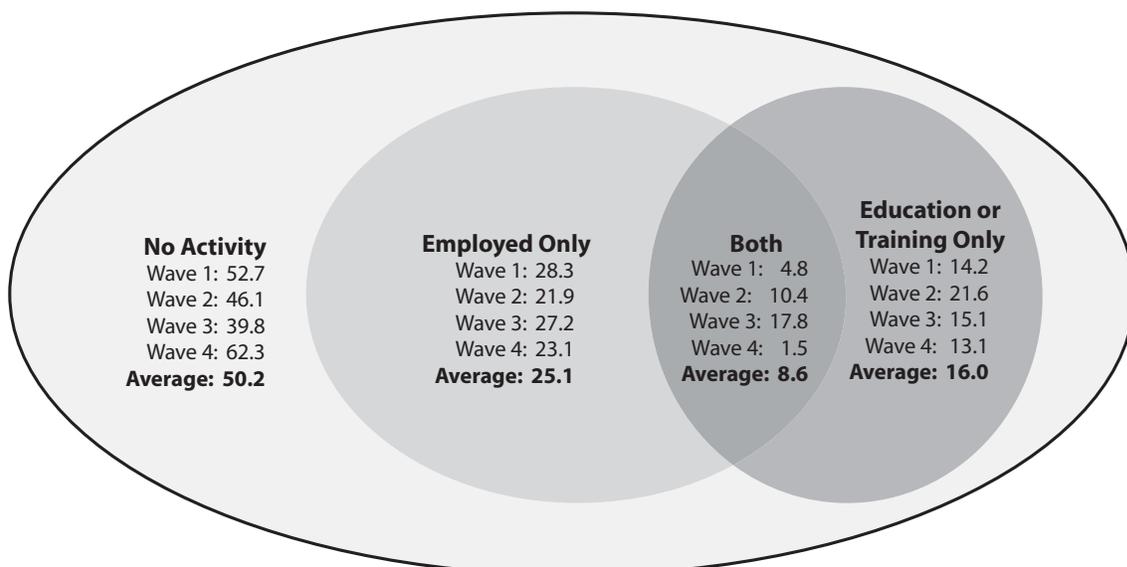
In addition, the FALS data include a series of questions about current and past enrollment in a set of 16 employment, education, or training activities. Individuals were also coded as being in an employment-based activity if they answered that they were currently enrolled in “Work Experience (Unpaid Community Work)” or “Job Search/Job Club.”⁸

Individuals were coded as participating in an education or training activity if they answered that they were currently enrolled in any of the following: High school, GED (General Education Diploma), ABE (Adult Basic Education), English as a Second Language, Fresh Start, Vocational Training, Job Skill Training, Post-Secondary Education, or On-The-Job Training for Wave 1. The High school option was dropped following Wave 1, primarily because very few individuals were enrolled. For Wave 4, only GED and ABE enrollment count as education and training activities because all other options were dropped from

the survey instrument. Activity definitions were recoded to specify those individuals who were *only* in an employment-based activity, *only* in an education- or training-based activity, or in some combination of both types of activity. Individuals were coded as having no activity if they did not fall into any of those three categories.

Distributions of activity participation are shown in Figures 2 through 5. Figure 2 presents participation rates for the different activities for all individuals on cash assistance, regardless of their work requirement status. Despite the fact that only about one-fourth of these individuals reported having no work requirement (Figure 1), about one-half reported no work, education, or training activity. Looking at the four-wave averages in Figure 2, we find that roughly one-fourth were in work only, another 16 percent in education or training only, and about 9 percent in some combination of work and education or training.

Figure 2: Work Activity Participation Rates, All Individuals on Families First



*Drawn to approximate scale using four-wave averages.

⁸ Work experience is a program where individuals volunteer to work without pay in order to gain work experience. This option is only used when employment for pay is unavailable. Very few individuals fall into this category. Job Search/Job Club is a program that helps individuals prepare for employment (e.g., aids in resume preparation, improving interview skills, etc.) and actually assists in searching for a job. The Work Experience and Job Search/Job club options were omitted from Wave 4.

Figures 3 and 4 present the same detail on work activities among those on cash assistance, broken down by whether or not the respondent reporting having a work requirement. Among those with work requirements (Figure 3), we find only about 60 percent report participation in a work, education, or training activity on average. Employment only is the most popular activity category among those with work requirements. This is also true among participants without work requirements (Figure 4), although a much larger percentage of this group—more than 80 percent on average—reports no activity.

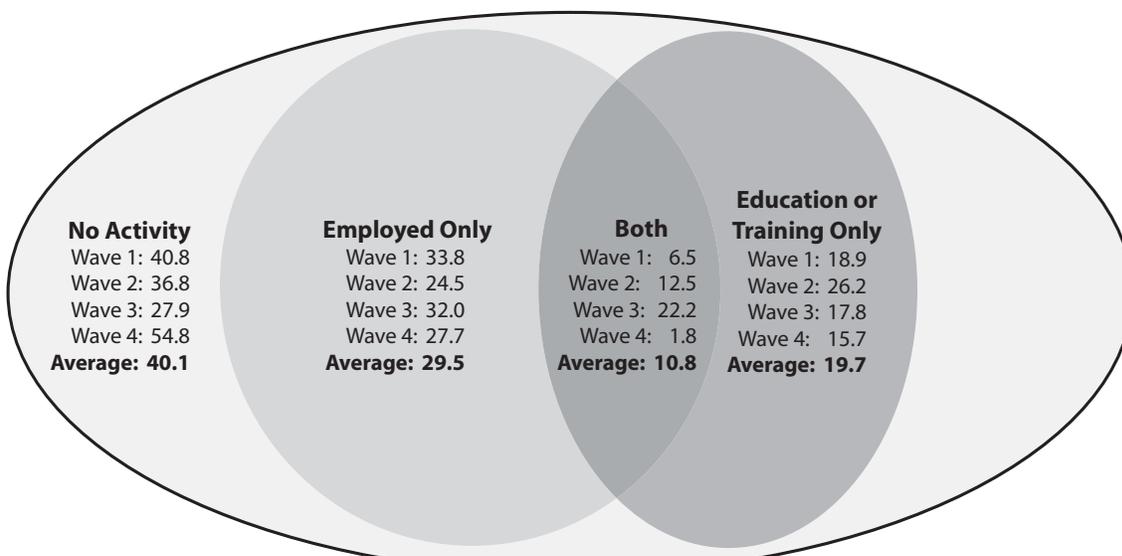
As shown in Figure 5, nearly two-thirds of those who were off cash assistance were engaged in some form of work, education, or training activity. Unsurprisingly, the most common activity among leavers was employment only (nearly 60 percent on

average). Much smaller shares were engaged in education and training or some combination.

Given the above discussion, we present parallel analyses of work requirements and work activities where possible. However, one complication with this approach is that, while work activity information is available in all four waves of the FALS, detailed work requirement information is only available for the first two waves. We are exploring the possibility of merging administrative records with the survey data for future analyses.

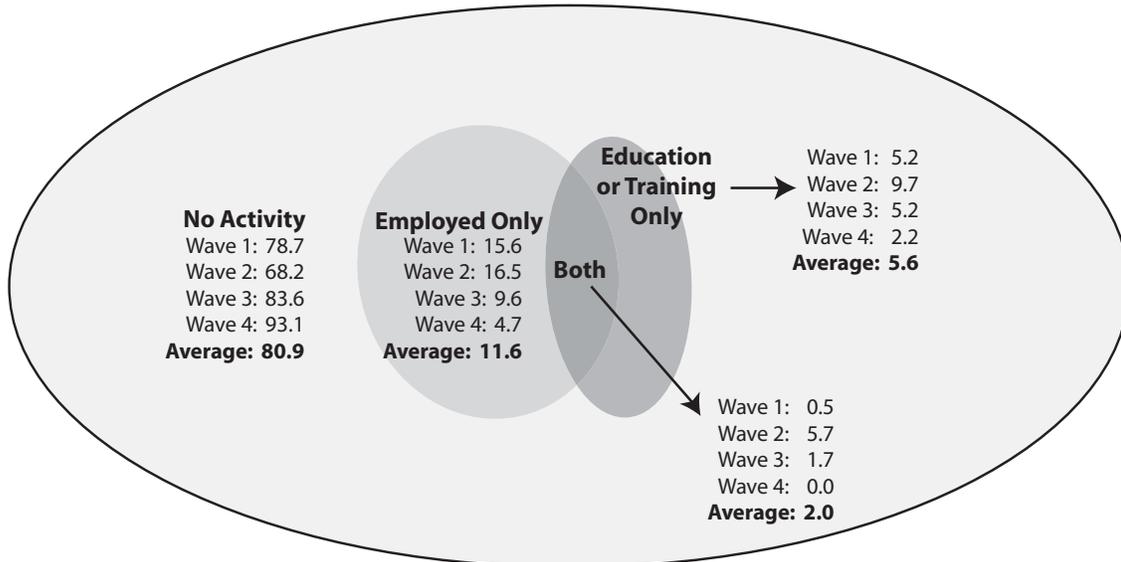
It is important to note in the following analyses that we examine work requirements and activities at a given point in time. It may be possible that individuals were under different requirements or participated in different activities earlier. We are unable to fully control for those factors.

Figure 3: Work Activity Participation Rates, On-Program Individuals with a Work Requirement



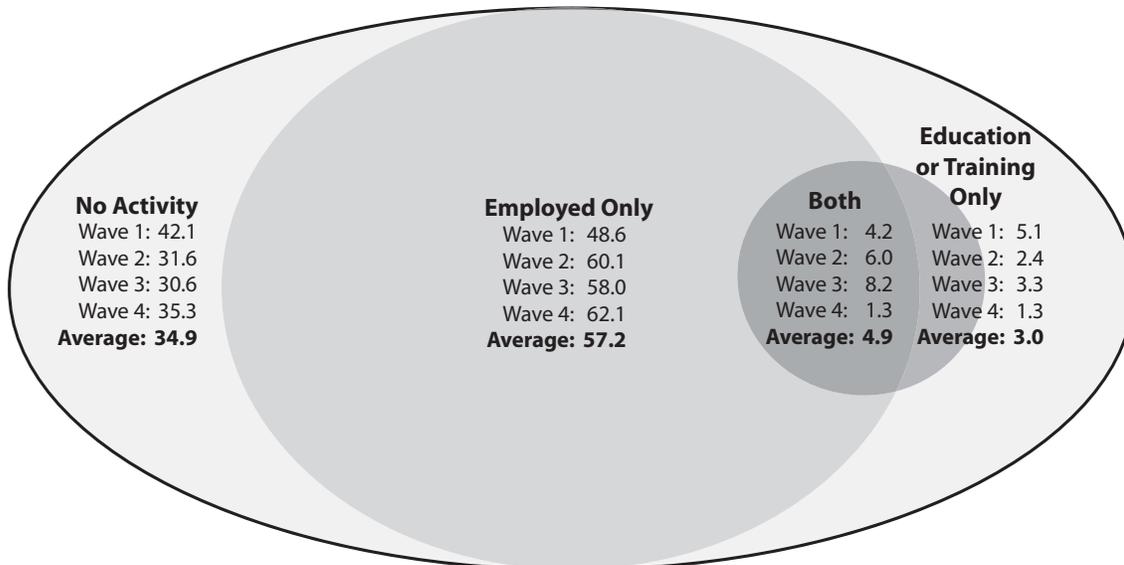
*Drawn to approximate scale using four-wave averages.

Figure 4: Work Activity Participation Rates, On-Program Individuals Who Are Exempt from Work Requirements



*Drawn to approximate scale using four-wave averages.

Figure 5: Work Activity Participation Rates, Off-Program Individuals



*Drawn to approximate scale using four-wave averages.

4. The Effects of Work, Education, and Training on Participant Outcomes

We now turn to an analysis of the effects of on-program work requirements and activities on program exit rates and post-program employment outcomes. Table 2 provides an examination of several welfare outcomes based on the whether the individual pursued employment, education/training, or both while on welfare.

The top panel of Table 2 provides program exit rates by work requirement status (left) and work activity status (right). In four out of five cases, we find that those who had education-only requirements or activities while on cash assistance were significantly less likely to leave Families First than those who had work-only requirements or activities. In two out of five cases, we find that those who had combination requirements or activities were also less likely to leave the program than those with work-only requirements or activities. This general relationship will be important to keep in mind as we examine post-program employment outcomes.

Turning to the middle panel of Table 2, we provide strong evidence that those with education-only requirements or activities as of their last wave on Families First were significantly less likely to be employed in their first, second, or third wave off the program, relative to those with work-only requirements or activities. Interestingly, those with combination requirements or activities were not less likely to be

employed after leaving than those with work-only requirements or activities.

The bottom panel of Table 2 examines average monthly earnings, average hourly wage, and average hours worked per week for individuals who have left the program and are employed, again by the various on-program activity/requirement groupings.⁹ We find that those with combination requirements or activities work fewer hours on average in their first wave off the program than those with work-only requirements or activities. This panel also presents scattered evidence that those who had education-only requirements or activities when last on Families First earned higher hourly wages in their second wave off the program than those who had work-only requirements or activities.

To summarize, the results in Table 2 indicate that those individuals who were only in education or training (either as a requirement or an activity) while on Families First were relatively slow to leave the program and to find post-program employment. However, those who were only in education or training and were able to exit the program and obtain employment generally reported the highest wages. We now turn to more elaborate statistical analysis which allows us to assess the effects of on-program requirements and activities on these same outcomes, after controlling for other factors such as education, race, age, and marital status.

⁹ Average monthly earnings were calculated by the authors based on survey data on hourly wage and hours worked per week. The calculation is based on a 4.33 week month.

**Table 2: Exit Rates and Post Program Employment
by Last On-Program Activity**

		Requirement as of last wave on Families First			Activity as of last wave on Families First		
		Work Only*	Education Only*	Both*	Work Only	Education Only	Both
All Respondents with a Work Requirement:							
Left Between 1 & 2	Number of Leavers	102	55	6	68	26	15
	Exit Rate (%)	26.5	19.3	20.2	28.6	20.8	35.8
Left Between 2 & 3	Number of Leavers	73	67	58	68	32	31
	Exit Rate (%)	40.5	18.7	29.9	37.4	15.9	36.8
Left Between 3 & 4	Number of Leavers	-	-	-	76	16	32
	Exit Rate (%)	-	-	-	23.5	9.2	14.8
Leavers Only:							
First Wave Off	Number Employed	89	45	29	92	21	36
	Employment Rate (%)	73.0	51.1	74.4	80.7	47.7	85.7
Second Wave Off	Number Employed	54	31	17	40	14	16
	Employment Rate (%)	78.3	56.4	65.4	80.0	58.3	76.2
Third Wave Off	Number Employed	23	8	2	14	4	4
	Employment Rate (%)	92.0	47.1	66.7	100.0	50.0	100.0
Employed Leavers Only:							
First Wave Off	Average Hourly Wage	\$7.71	\$7.85	\$7.01	\$7.69	\$7.71	\$7.91
	Average Weekly Hours	36.7	36.1	33.2	36.4	38.7	32.3
	Average Monthly Earnings	\$1,217	\$1,227	\$1,008	\$1,212	\$1,292	\$1,106
Second Wave Off	Average Hourly Wage	\$7.79	\$9.23	\$8.14	\$7.60	\$9.34	\$9.64
	Average Weekly Hours	36.6	36.2	34.4	36.4	35.8	33.9
	Average Monthly Earnings	\$1,226	\$1,447	\$1,212	\$1,198	\$1,448	\$1,415
Third Wave Off	Average Hourly Wage	\$8.92	\$9.31	\$7.75	\$6.86	\$9.70	\$9.91
	Average Weekly Hours	33.4	36.0	38.5	32.6	42.5	32.3
	Average Monthly Earnings	\$1,281	\$1,451	\$1,292	\$968	\$1,785	\$1,386

Notes:

Enlarged bold entries are statistically different at the 10 percent level from those for the corresponding Work Only column.

Exit rates are derived from the entire sample and are weighted appropriately.

Employment rates, hourly wage, and weekly hours figures are derived from the random sample only.

*Due to missing work requirement data beyond Wave 2, entries in these columns for the First Wave Off are calculated only for individuals who were first off the program in Waves 2 and 3.

Welfare Exit. We begin by examining the determinants of exit from cash assistance by using probit analysis. This technique allows us to estimate the independent effects of each of a broad set of characteristics on the probability of exiting the program, holding all other controls in the model constant. Table 3 reports the marginal effects of one-unit changes in each independent variable on the probability that an individual on Families First with a work requirement will leave the program by the next wave of the FALS.

In the first two columns of Table 3, we consider those individuals who were on welfare with a work requirement in Wave 1 and also responded to the survey in Wave 2. The first of these two columns controls for the type of work requirement that the respondent reported having in Wave 1, while the second column controls for the type of work activity as discussed above. In both cases, “work only” is the reference category, so reported coefficients must be interpreted as the effects of “education only” or “combination” requirements (or activities) relative to “work only.” A similar structure is used in the second and third columns of Table 3, except that transitions between Waves 2 and 3 are considered in these specifications. Given the absence of self-reported work requirement types in Wave 3, we are only able to analyze work and education activities in the final section of Table 4.

We control for a variety of other factors in our probit analysis of exit rates. These include the number of children in the household, the unemployment rate in the respondent’s county,¹⁰ indicators for the respondent’s education level (high school diploma or

more than a high school education, where less than high school is the reference category), indicators for urban residence, gender, marital status, and race, the respondent’s age, and indicators for how long the respondent had been on the program.¹¹ The education controls are especially important because their inclusion allows us to examine the independent effects of education or training requirements or activities while holding the respondent’s level (or stock) of education constant. All of the control variables are defined as of the initial wave of the transition (i.e., Wave 1 for the first two columns, Wave 2 for the next two columns, and Wave 3 for the final column). Consequently, we are able to explain program exit as a function of the respondent’s characteristics when they were last on the program.

Results in Table 3 confirm those in Table 2. Specifically, they indicate that participants with education-only requirements are much less likely to leave Families First than those with work-only requirements, even after we control for the effects of all of the other variables in the probits. The relative reduction in the exit probability for those with education-only requirements or activities, which ranges from 8.1 percentage points to 19.9 percentage points, is large when compared to the average overall exit probabilities of 22 percent between Waves 1 and 2, 28 percent between Waves 2 and 3, and 17 percent between Waves 3 and 4.

Those with combination requirements are also less likely to leave than those with work-only requirements, but the effects are smaller and only statistically different from zero for transitions between Waves 2

¹⁰ The local unemployment rate is for the month that most of the surveys in a particular wave were taken. These are July 2001 for Wave 1, January 2002 for Wave 2, and November 2002 for Wave 3.

¹¹ We use two indicators for how long an individual had been on the program. The first takes the value of “1” if the individual’s most recent spell on the program lasted for a short period of time – either 12 months or less or 11 month or less depending on survey wave. It equals “0” otherwise. The second indicates those who were on the program for an intermediate period of time – 13–35 months or 12–35 months, depending on survey wave. These results should be interpreted relative to those who have been on the program for a long period of time – greater than 35 months. (A small proportion of individuals who reported that they did not know how long they had been on the program are not specifically denoted for simplicity. Separately denoting these individuals does not change the results.)

Table 3: Determinants of Program Exit Among Participants with Work Requirements

Sample	Probit Results					
	Leave between waves 1 and 2		Leave between waves 2 and 3		Leave between waves 3 and 4	
	On assistance with work requirement in wave 1		On assistance with work requirement in wave 2		On assistance with work requirement in wave 3	
Educ/Train Requirement Only	-0.081	-	-0.199	-	-	-
	(0.035)	-	(0.042)	-	-	-
Both Educ/Train and Employment Req	-0.089	-	-0.086	-	-	-
	(0.070)	-	(0.044)	-	-	-
Educ/Train Activity Only	-	-0.058	-	-0.189	-0.101	
	-	(0.045)	-	(0.040)	(0.029)	
Both Educ/Train and Employment Activity	-	0.037	-	-0.026	-0.057	
	-	(0.074)	-	(0.056)	(0.031)	
No Activity	-	-0.109	-	-0.099	-0.055	
	-	(0.038)	-	(0.043)	(0.031)	
Number of Children	-0.015	-0.018	-0.006	-0.006	0.006	
	(0.012)	(0.012)	(0.013)	(0.013)	(0.010)	
Unemployment Rate	0.002	0.006	-0.002	-0.0001	0.0002	
	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	
High School Diploma	0.048	0.056	0.018	0.014	-0.003	
	(0.043)	(0.045)	(0.043)	(0.043)	(0.033)	
More Than High School	0.122	0.103	0.078	0.076	0.087	
	(0.049)	(0.048)	(0.047)	(0.047)	(0.042)	
Urban (1=urban)	-0.036	-0.006	-0.089	-0.082	-0.068	
	(0.057)	(0.055)	(0.060)	(0.058)	(0.041)	
Gender (1=male)	0.191	0.124	-0.131	-0.136	-0.118	
	(0.228)	(0.220)	(0.110)	(0.103)	(0.036)	
Race (1=white)	0.033	0.045	0.042	0.054	0.075	
	(0.049)	(0.050)	(0.049)	(0.048)	(0.041)	
Age	0.001	0.002	0.001	0.001	-0.0001	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	
Marital Status (1=married)	0.169	0.163	0.055	0.052	0.064	
	(0.091)	(0.088)	(0.084)	(0.085)	(0.075)	
On Program Short Time	0.108	0.092	0.104	0.097	0.135	
	(0.046)	(0.046)	(0.044)	(0.044)	(0.040)	
On Program Medium Time	-0.027	-0.043	0.062	0.062	0.030	
	(0.044)	(0.044)	(0.053)	(0.053)	(0.039)	
Observed Probability of Exit	0.22		0.28		0.17	
Sample Size	669		739		803	

Entries are marginal effects with standard errors in parentheses.

Enlarged Bold type indicates statistical significance at the 10 percent level.

and 3. These general findings for the effects of requirements also pertain to activities; education and training activity while on Families First generally reduces the probability of leaving the program, regardless of whether or not respondents combine some work activity with their education and training. In general, results are consistent across the parallel analyses of work requirements and work activities throughout the study.

In terms of the other control variables in Table 3, our most robust finding is that respondents with more than a high school education are much more likely to exit the welfare rolls than those with less than a high school education. Taken together, these results suggest that those with the highest skill levels (i.e., those with work-only requirements or activities and those with more than a high school education) are most likely to leave the program. In addition, those who were on the program for a short period of time were much more likely to exit. This variable may serve as something of a proxy for other, unmeasured factors.

Post-Program Employment. We now focus on post-program employment among those who had a work requirement in their last wave of program participation. Table 4 presents results regarding the determinants of employment as of the first wave off (columns 1 and 2) and the second wave off (columns 3 and 4).¹² In a similar fashion to Table 2, we use probit analysis to estimate the marginal effects of changes in each explanatory variable on the probability of being employed.¹³ Again, we present parallel

analyses of work activities and work requirements as explanatory variables.

Results in Table 4 indicate that having education-only requirements or activities significantly reduces one's probability of post-program employment by anywhere from 21.8 to 31.3 percentage points relative to those with work-only requirements or activities. These are large effects when compared to the overall employment rates of 67 percent in the first wave off Families First and 69 percent in the second wave off. Those in combination requirements or activities when last on the program were not statistically more or less likely to be employed as of their first wave off the program than those with work-only requirements or activities. Those in combination requirements were less likely to be employed as of their second wave off.

Turning to the other covariates in Table 4, we find that having more children as of the last wave on the program increases employment in the first wave off the program but not the second. Unsurprisingly, having a high school diploma or more than a high school education increases one's chances of being employed as of the first and second waves off the program relative to those with less than a high school education. Being married significantly reduces the probability of post-program employment in both the first and second wave off the program. Post-program employment also falls with the respondent's age. Individuals who stayed on the program only a short period of time were significantly more likely to be employed after exit.

¹² Samples sizes did not permit a similar analysis of post-program employment in the third wave off of the program.

¹³ Gender was dropped from these models because of perfect correlation between gender and employment status. It would be impossible to compute the model with gender included. This omission only involves two individuals.

Table 4: Determinants of Post-Program Employment

Sample	Probit Results			
	Employed 1st wave off*		Employed 2nd wave off	
	Individuals with a work requirement before exit.		Individuals with a work requirement before exit.	
Educ/Train Requirement Only	-0.218 (0.076)	-	-0.313 (0.106)	-
Both Educ/Train and Employment Req	-0.074 (0.108)	-	-0.247 (0.145)	-
Educ/Train Activity Only	-	-0.355 (0.104)	-	-0.357 (0.154)
Both Educ/Train and Employment Activity	-	0.080 (0.108)	-	-0.055 (0.149)
No Activity	-	-0.294 (0.083)	-	-0.265 (0.107)
Number of Children	0.100 (0.029)	0.093 (0.030)	0.012 (0.031)	0.012 (0.032)
Unemployment Rate	-0.014 (0.076)	0.008 (0.019)	0.070 (0.029)	0.091 (0.031)
High School Diploma	0.142 (0.076)	0.132 (0.078)	0.036 (0.110)	0.018 (0.111)
More Than High School	0.202 (0.072)	0.176 (0.074)	0.217 (0.097)	0.190 (0.101)
Urban (1=urban)	-0.111 (0.105)	0.014 (0.118)	-0.137 (0.146)	-0.015 (0.161)
Race (1=white)	-0.096 (0.100)	-0.065 (0.104)	-0.312 (0.151)	-0.235 (0.148)
Age	-0.010 (0.005)	-0.008 (0.005)	-0.017 (0.006)	-0.014 (0.006)
Marital Status (1=married)	-0.282 (0.132)	-0.336 (0.138)	-0.419 (0.173)	-0.396 (0.180)
On Program Short Time	0.173 (0.075)	0.168 (0.075)	0.153 (0.096)	0.164 (0.095)
On Program Medium Time	-0.056 (0.090)	-0.040 (0.091)	-0.014 (0.114)	0.021 (0.111)
Observed Probability of Employment	0.67		0.69	
Sample Size	239		146	

Entries are marginal effects with standard errors in parentheses.

Enlarged Bold type indicates statistical significance at the 10 percent level.

These models are based on data from the random sample only.

*Due to missing work requirement data beyond Wave 2, models in these columns use only those individuals who were first off the program in Waves 2 and 3.

Post-Program Hourly Wages and Hours of Work. Our final analysis considers the determinants of post-program wages and hours among leavers who had work requirements before exiting Families First. Since we only observe hourly wages and hours of work for those individuals who are employed, we must control for what is known as sample selection bias if we want to draw broadly applicable conclusions as to the benefits of education and training, employment, or both. In other words, those individuals who enter into employment upon welfare exit may not constitute a random sample of the broader group of all welfare leavers. To control for this, we use a Heckman (1979) two-stage model. Results from the Heckman model, for both hourly wage and hours worked, are presented in Table 5.¹⁴

The first two columns examine the hourly wages as of the first wave off Families First, while the second two columns consider hourly wages as of the second wave off. The final four columns in Table 5 present parallel analyses of hours of work. As with earlier models, we restrict the analysis to individuals who had a work requirement when they were last on the program. The control variables are the same as in

previous models with the exception that the number of children is omitted.¹⁵

With only two exceptions, we do not find a strong relationship between the form of work requirements or activities and post-program wages and hours. Our first exception to this is that those with combination requirements earned hourly wages that are approximately \$1.24 lower than those with work-only requirements as of their first wave off Families First. The second exception is that those with combination activities worked about 5.4 fewer hours relative to those with work-only activities as of their first wave off the program. Interestingly, post-program wages and hours were not statistically different for those with education-only requirements or activities compared to those with work-only requirements or activities.

Turning to the other control variables in Table 5, we find that higher county unemployment rates are associated with lower hourly wages in three out of four models. Having more than a high school education increases wages and reduces hours as of the first wave off the program. Finally, those in the four major urban counties earned significantly lower wages on average as of their second wave off Families First.

¹⁴ In the present context, the first stage of the Heckman approach is a probit model to explain whether or not one is employed in the relevant post-program wave. These results are then used to control for sample selection in the second-stage wage and hours regressions. We identify the first stage model by including the number of children and an indicator for car access. These variables should help determine employment status (see Bruce and Richards (2004) regarding the effects of car access) but will unlikely have an independent effect on earnings. Results of the first stage are omitted but are similar to those that explain post-program employment status in Table 2. Full results are available from the authors upon request.

¹⁵ For similar reasons, gender was again excluded from this part of the analysis.

Table 5: Determinants of Post-Program Hourly Wage and Hours of Work

Sample	Heckman Selection Model Results							
	Hourly Wage				Hours of Work			
	1st Wave Off		2nd Wave Off		1st Wave Off		2nd Wave Off	
	Individuals with a work requirement before exit.							
Educ/Train Requirement Only	-0.0004 (0.659)	-	0.968 (1.256)	-	2.486 (2.463)	-	0.201 (3.889)	-
Both Educ/Train and Emp Requirement	-1.243 (0.609)	-	0.058 (1.208)	-	-2.640 (2.367)	-	-2.593 (4.041)	-
Educ/Train Activity Only	-	0.161 (1.229)	-	1.436 (1.735)	-	6.207 (4.250)	-	4.033 (6.292)
Both Educ/Train and Emp Activity	-	0.356 (0.615)	-	1.353 (1.026)	-	-5.386 (2.416)	-	-0.754 (4.059)
No Activity	-	-0.327 (0.778)	-	1.136 (1.205)	-	3.954 (2.973)	-	4.928 (4.102)
Unemployment Rate	-0.234 (0.130)	-0.212 (0.131)	-0.508 (0.173)	-0.570 (0.198)	0.394 (0.486)	0.002 (0.467)	-0.756 (0.607)	-1.489 (0.908)
High School Diploma	0.412 (0.593)	0.411 (0.594)	1.161 (0.901)	1.099 (0.903)	-2.148 (2.279)	-1.682 (2.261)	-1.022 (3.059)	-1.670 (3.599)
More Than High School	1.759 (0.609)	1.713 (0.623)	2.303 (1.474)	2.191 (1.666)	-5.439 (2.306)	-4.784 (2.322)	-3.257 (5.224)	-6.933 (6.591)
Urban (1=urban)	-0.229 (0.678)	-0.078 (0.724)	-3.227 (1.109)	-3.570 (1.036)	2.604 (2.636)	-0.196 (2.795)	-2.046 (3.433)	-3.815 (4.153)
Race (1=white)	-0.634 (0.622)	-0.734 (0.619)	-1.467 (1.042)	-1.590 (0.990)	2.270 (2.450)	1.717 (2.432)	1.698 (3.352)	2.654 (3.807)
Age	0.027 (0.037)	0.026 (0.039)	0.082 (0.066)	0.062 (0.064)	-0.048 (0.130)	-0.015 (0.131)	-0.015 (0.222)	0.118 (0.247)
Marital Status (1=married)	0.168 (1.081)	0.185 (1.149)	2.464 (2.681)	2.632 (2.879)	-3.016 (3.925)	-2.478 (4.153)	-7.089 (6.984)	-3.404 (8.023)
On Program Short Time	-0.358 (0.574)	-0.380 (0.621)	-0.649 (0.742)	-0.933 (0.752)	-2.215 (2.252)	-2.053 (2.433)	1.324 (2.465)	1.332 (2.978)
On Program Medium Time	-0.565 (0.626)	-0.736 (0.636)	-0.696 (1.139)	-0.868 (1.177)	0.446 (2.356)	0.800 (2.374)	-2.379 (3.929)	0.363 (4.672)
Selection Parameter*	-0.376 (1.108)	0.263 (0.303)	-0.500 (2.997)	-0.330 (3.423)	-8.435 (4.217)	-9.424 (4.886)	-5.135 (9.650)	-13.304 (11.757)
Constant	7.48 (1.64)	6.98 (1.68)	9.89 (2.97)	10.63 (3.61)	40.17 (6.61)	42.41 (6.65)	48.54 (11.10)	57.71 (15.07)
Sample Size	151		96		152		98	

Entries are coefficients from Heckman Selection Models with standard errors in parentheses.

Enlarged Bold type indicates statistical significance at the 10 percent level.

These models are based on data from the random sample only.

All models also include controls for the wave in which individuals were first (or second) off Families First.

*Statistical significance for the selection parameter indicates the presence of significant sample selection bias.

Other Outcome Measures. To be sure, the type of work requirement or activity while on Families First might affect other (non-employment) outcomes of interest to policy makers. We investigated responses to the following survey questions:

During the last 6 months, did you or your children move in with other people even for a little while because you could not afford to pay your mortgage, rent, or utility bills?

In the last 6 months, did you or your family ever cut the size of your meals or skip meals because there wasn't enough money for food?

Was there a time in the last 6 months when you needed to be at work, school, or training and you simply could not afford child care?

Has your phone been disconnected in the last 6 months because you were unable to pay the bill?

Has your electricity been shut off in the last 6 months because you were unable to pay the bill?

In statistical analyses similar to those in previous sections, we were unable to discern any statistically significant effects of on-program requirements or activities on responses to these post-program outcome questions.¹⁶

¹⁶ Due to differences in the wording of these questions across the waves of the FALS data, we were unable to perform “first wave off” and “second wave off” analysis as in earlier models. Instead, we examined these responses using a cross-sectional framework.

5. Conclusion

The above analysis provides insight into the effects of employment, education, and training activities on several welfare outcomes of interest. The relative impacts of employment versus education and training are especially important to consider as policy makers ponder the relative merits of designing “work first” welfare programs compared to those that foster education and training as a base in the path to self-sufficiency.

Findings indicate that those individuals who participated only in education and training while on the welfare rolls were significantly less likely to exit the program and significantly less likely to gain employment upon program exit, controlling for several other factors that influence these outcomes. However, hourly wages and work hours were not found to be statistically different for those with education-only

requirements or activities relative to those with work-only requirements or activities. A note of caution is that the average amount of time that elapsed between the survey waves that we examined is six months. This is a much shorter time horizon than the previous studies that found that the differences between work-first and education and training based programs tend to disappear over time.

Perhaps our most significant finding is that more education translates into better outcomes across the board. Rates of program exit and post-program employment, as well as hourly wages and work hours, tend to be higher for those who leave with more education. The differences in many cases are quite dramatic, suggesting that policies to promote educational attainment among Families First recipients can be quite fruitful in many ways.

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