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Jeounghee Kim^a

^a Assistant Professor, Rutgers, The State University of New Jersey, New Brunswick, New Jersey

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Does Job Training Yield Positive Outcomes for Women on Public Assistance?

JEOUNGHEE KIM

Assistant Professor, Rutgers, The State University of New Jersey, New Brunswick, New Jersey

Recent welfare reform movements have clearly limited job training opportunities for women on welfare. Previous studies suggest this is due to the ineffectiveness of the training for this population. This study examined which women on public assistance programs received training and whether training was associated with a higher probability of obtaining employment and better individual incomes. Using the Survey of Income and Program Participation (SIPP) of 2004, this study found that women who seemed the most job ready were the most likely to receive training. The results also show that the odds of women on public assistance gaining employment were almost 14.6 times higher when they received job training. Training was also associated with a 72 % increase in individual incomes among those working. The findings of this study indicate that placing barriers to job training for women on public assistance programs is difficult to justify.

KEYWORDS *job training, welfare mothers, employment, income, temporary assistance for needy families*

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 and the Deficit Reduction Act of 2005 largely dismissed human capital development strategies for one of the least educated and skilled populations in the nation. Instead, the policies adopted a “work-first” strategy and made welfare recipients participate in the labor market as quickly as possible. According to the laws, “credible work activities” are so narrowly defined that access to human capital development opportunities is

Address correspondence to Jeounghee Kim, Assistant Professor, School of Social Work, Rutgers, The State University of New Jersey, 536 George Street, New Brunswick, NJ 08901. E-mail: jeoung@ssw.rutgers.edu

confined to a small number of caseloads for a short time. The policies not only prevented access to education, but also clearly restricted training opportunities for the welfare population.

Under PRWORA, job training must be directly related to employment and cannot be counted toward the first 20 hours of work participation. More than 30% of a state's recipients cannot be engaged in vocational training, and since 2000 teenage parents have been included in this calculation. Moreover, vocational training cannot exceed 12 months, and the welfare-to-work grants are not available for stand-alone training activities. Job search and job readiness assistance are also limited to a maximum of six weeks (or 12 weeks under certain unemployment conditions) (Falk, 2006). These provisions actually discourage a successful transition from welfare to self-reliance as the majority of women on welfare have limited education, work skills, and work experience and suffer from mental or physical health problems (Burtless, 1997; Zedlewski, 1999).

Although employment of welfare recipients increased dramatically since the enactment of PRWORA, recent studies report that their generally poor economic outcomes reflect a lack of human capital. For example, it has been found that a large share of families that left Temporary Assistance for Needy Families (TANF) experienced poverty for a long time (Fremstad, 2004). Even if welfare recipients found employment, their median duration of employment was only about five months (Kim, 2007). In addition, most welfare leavers saw no growth in their wages and incomes after they left TANF and failed to make the transition from bad jobs to good jobs (Fremstad, 2004; Johnson, 2003). As a result, a high level of welfare recidivism occurred among welfare leavers: More than 35% of welfare leavers returned to welfare within 12 months (Kim, 2007; Loprest, 1999; Miller, 2002). The existing evidence suggests that the current work-first strategy is not effective in promoting economic security and that welfare recipients need human capital development to obtain and maintain good jobs as well as to become self-sufficient.

The recent policies restricting job training opportunities for welfare recipients are largely based on past experimental studies that revealed only modest support for human capital development programs for the welfare population (see below for more detail). A thorough review of these experimental studies warrants a reexamination of the effects of training for welfare recipients. This study examines whether job training is significantly related to the likelihood of working and the amount of individual income among welfare recipients.

LITERATURE

Most evidence on the effects of job training programs comes from experimental studies conducted before the mid 1990s. The evidence for these programs'

effectiveness for economically disadvantaged individuals is mixed at best (the training and services provided in the programs are briefly summarized in the Appendix table). The programs, by and large, had no significant and consistent impacts on participants' employment, earnings, welfare use and payments, and incomes. The impacts were particularly insignificant when program participation was voluntary, as with the Comprehensive Employment Training Act (CETA), Minority Female Single Parent (MFSP) demonstration, Job Training Partnership Act (JTPA), and the New Chance project.

Several mandatory programs such as the Job Opportunity and Basic Skills Training (JOBS) program and the Greater Avenue for Independence (GAIN) demonstrations, however, did yield significant impacts on the participants' employment, earnings, welfare use, and incomes. Although those impacts were small and inconsistent, they signal noteworthy potential that training programs can be effective in improving the economic well-being of economically disadvantaged populations. The aforementioned six programs are reviewed below (Also, see the Appendix table).

Program Impacts on Employment

For these training programs, there were few positive or large effects on employment rates. For those that generated any, the sizes of their impacts were small, usually ranging from around 2% to 13%, and the overall employment rates of program participants still remained very low (see Appendix). For example, three out of four MFSP programs (the California program being the exception) had no effect on employment during the entire evaluation period (Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Grubb, 1995; Gueron & Pauly, 1991; Rangarajan & Gordon, 1992). Similarly, for the JOBS Demonstrations that were evaluated in the National Evaluation of Welfare-to-Work Strategies (NEWS), only three of six programs affected employment rates, and those effects were small (Hamilton et al., 1997; Hamilton et al., 2001; Hamilton, 2002). Moreover, New Chance did not generate any significant impacts on participants' employment rates; whereas 70% of the treatment group was employed at some point during the 42-month evaluation period, 66% of the control group was employed as well (Bos, Polit, & Quint, 1997). According to Bos and his colleagues, the similarity in the employment rates occurred because control group members participated in education and training programs in their communities in unexpectedly high numbers and both the intensity and duration of services for the treatment group members were low because of absenteeism, dropout, and nonparticipation problems.

Not all of the training programs were ineffective in increasing participants' employment rates. The GAIN project in Los Angeles and San Diego as well as the MFSP in California produced small but positive employment gains (Freedman, Friedlander, & Riccio, 1993; Handler, 1995). Los Angeles's GAIN

program was particularly impressive because it brought an increase of 13% in the sample's employment rate over the follow-up period. Similarly, California's MFSP increased participants' monthly hours of work by 10.4%, even five years after the program ended (Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Grubb, 1995; Gueron & Pauly, 1991; Rangarajan & Gordon, 1992). Training programs in national JOBS demonstrations also generated minor gains. Participants' employment rates increased by 9.5% in Riverside, 3.0% in Detroit, and 2.2% in Columbus. The small gains of these programs were attributed to the fact that the majority of the control groups also participated in employment-related activities available in their communities on their own (Hamilton et al., 1997; Hamilton et al., 2001; Hamilton, 2002).

Despite these small but positive results, the participants' level of labor force participation remained low: Their monthly work hours still averaged as low as 85 for those in California's MFSP (Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Rangarajan & Gordon, 1992), and the average employment duration of Riverside JOBS participants remained as short as 5.5 quarters over the five-year evaluation period (Hamilton et al., 1997; Hamilton et al., 2001; Hamilton, 2002).

Program Impacts on Earnings

The programs had relatively more consistent effects on earnings (incomes from wages and salaries only) than they did on employment, ranging from a low of 5.3% increase to more than a 16.6% increase over the evaluation periods of the various studies. However, as with employment rates, half of the programs did not generate any change, and the earnings of the program participants remained relatively low, even after participating in these programs. Three of the four MFSP programs and New Chance showed no change on participants' earnings (Bos et al., 1997; Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Grubb, 1995; Gueron & Pauly, 1991; Rangarajan & Gordon, 1992). Whereas some researchers have found that CETA training increased the earnings of female participants by \$1,300 per year, others have argued that the program generated no earnings for women. Even if it did, the gains in earnings were not due to increased wage rates but primarily to improved job access and greater labor force participation among the participating women. The CETA findings were even more depressing for men; specifically, all of the studies on CETA have concluded that each of the major types of training programs had negative effects on men's earnings (earnings actually decreased by around \$700) (Friedlander, Greenberg, & Robins, 1997; Grubb, 1995).

Findings were slightly more positive in the evaluation of the JTPA. The National JTPA Study (NJS) showed that the program increased participants' earnings by 9.6% for women and 5.3% for men during the 30-month follow-up period. Again, despite these positive results, their earnings remained quite low.

For 30 months, the average earnings for the female and male treatment groups were \$13,417 (\$447 per month) and \$19,474, respectively (Bloom et al., 1997; LaLonde, 1995; Orr et al., 1995). Similarly, although California's MFSP generated one of the largest influences—a 16.6% increase in monthly earnings over the 60-month evaluation period—the treatment group still had very low average monthly earnings of \$667 (Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Grubb, 1995; Gueron & Pauly, 1991; Rangarajan & Gordon, 1992). Likewise, participants in the San Diego GAIN program, which increased earnings of the treatment group by 12% over five years, had average annual earnings of less than \$5,000 (in 1999 dollars) (Hotz, Imbens, & Klerman, 2000).

Among the programs, those included in the national JOBS evaluations were the most consistent in generating earnings. Five programs in the JOBS evaluations had significant effects on five-year total earnings (the programs in Grand Rapids and Oklahoma City did not). Results varied from a high of 12.5% in Riverside to a low of 5.5% in Columbus. Interestingly, contrary to the expectations that human capital development would benefit the least educated women the most, these programs failed to improve the earnings of mothers with limited education. Only two programs (Riverside and Columbus) had earnings impacts for women without a high school education during the five-year follow-up period (Hamilton et al., 1997; Hamilton et al., 2001; Hamilton, 2002).

Program Effects on Total Incomes

No programs except for the five JOBS programs were evaluated for their effects on the participants' total incomes (incomes from all sources including wages, salaries, welfare payments, relatives and friends, etc.). Among the JOBS programs, only one in Riverside had a significant impact on participants' incomes, and surprisingly enough, that impact was negative. The program actually decreased participants' average income by 62% (\$2,387) over the five-year follow-up period. However, participants' self-sufficiency improved (the size of earnings as a percentage of total incomes) by 15.4%; specifically, whereas 26.3% of total incomes came from earnings for those who participated in the program, the corresponding number was 22.8% for those who did not participate (Hamilton et al., 1997; Hamilton et al., 2001; Hamilton, 2002). The fact that the program increased self-sufficiency but failed to improve incomes suggests that any significant increases in participants' earnings were offset by even more significant reductions in their welfare payments, leaving them essentially in the same financial situation.

Potential Explanations for Ineffectiveness

The theory of human capital explains the role of education and training as a source of earnings differential. According to the theory, differences in

human capital explain much of the variation in economic status across individuals (Kaufman & Hotchkiss, 2003). Thus, the evidence that job training did not improve the participants' employment and earnings is inconsistent with the theory. Rather than disputing the long-held theory, a careful examination is needed to explain why job training for the disadvantaged did not yield significant improvement in their outcomes. Based on the literature, at least three explanations are possible.

First, although the quality of job training was not closely examined, poor program quality may explain the poor outcomes. The programs under evaluation were generally short-term government programs with limited funding; thus, it is highly unlikely that the programs were able to secure qualified instructors and enough learning aids and materials, among other things. Therefore, it is very possible that many programs were not conducive to high-quality training. Second, the programs might have failed the participants partially because they were not able to directly link the training to locally available jobs or to successfully place the participants in the jobs where their acquired skills could be applied (Gueron & Pauly, 1991). Last, the most likely explanation for disappointing program impacts is that the programs were small in scope and short in duration, especially when considering the complexity and multiplicity of individual and family problems that most participants were experiencing. To the extent that the programs were inadequate for the target population in these ways, the modest program impacts are not surprising at all.

LIMITATIONS IN THE LITERATURE

Before generalizing the findings from the experimental evaluations and discarding job training from anti-poverty strategies, several limitations in the existing evidence should be briefly acknowledged. (For a more detailed discussion, please refer to Friedlander et al., 1997; Grubb, 1995). First, due to the relatively small samples in selected locations, it is difficult to argue that the studies had strong external validity. Second, few evaluations examined the impacts of training on participants' incomes. This lack of evidence is surprising given that one of the ultimate goals of most training programs is to increase participants' incomes by raising their wages and earnings, especially when they are from low-income families.

Third, we do not know from the current evidence who received job training because the experimental studies randomly assigned participants into either experimental or control groups. Knowing who is more likely to participate in training, however, is important because it offers valuable information about whom to target in designing a training program. Finally, most of the existing evidence is outdated and bears limited relevance to the post-TANF era. Although new evidence is needed, data from experimental

evaluations are no longer being collected. Unlike the JOBS era, when the federal government mandated experimental evaluations, there has been no mandate for such an expensive and time-consuming evaluation since the enactment of PRWORA in 1996. This makes nonexperimental studies with national surveys the only realistic alternative to obtain evidence on the effectiveness of job training.

In this context, the present study raises the following research questions. First, who is likely to receive job training, women who are the least job-ready or the most job-ready? Second, is participation in training significantly related to paid employment? Finally, is job training significantly related to increased incomes among working individuals? That is, compared to working women who did not receive training, do working women who did receive training have higher individual incomes?

METHODS

Data and Sample

Data for this study came from the 2004 Panel of the Survey of Income and Program Participation (SIPP). SIPP is a longitudinal survey by the Bureau of the Census that collects information on the general demographic characteristics, source and amount of income, labor force participation, and program eligibility and participation of a nationally representative sample of 14,000 to 36,700 households. This “core” content of SIPP is broadened by “topical modules” that are assigned to particular waves of the survey. The modules are designed to provide information about extended subjects, such as employment history, child care, wealth, child support, disability, school enrollment, and taxes, etc. For this study, the core file of the first wave (for demographic information) and the topical module files of the first and the second waves (for job training and employment history information) of SIPP were merged.

Six hundred seventy four women ($N = 674$) who received cash benefits from TANF and Supplementary Security Income (SSI) were selected for the sample of this study. Because the question about training history in SIPP asked whether an interviewee had ever participated in a training program in the past ten years, the sample excluded women under 27 years old so that all women in the sample could potentially have a ten-year posttraining period since age 18. At the same time, the sample did not include women older than 55 years because most such individuals are less likely to be interested in job training as they approach a retirement age.

Variables and Measures

The dependent variables were receipt of job training, employment, and individual income for each of the three research questions. Receipt of training

measured whether a woman participated in any type of work-related training, including job readiness and job skills training, in the past ten years. The employment variable measured whether a woman was working at a paid job at the time of the survey. Both training and employment variables were dummy-coded, and women who had received training or were working were assigned a value of 1, while those who had not received training were assigned a value of 0. The third dependent variable, individual income, measured a woman's own total monthly income at the time of the survey. Note that money from public assistance (TANF & SSI) and relatives or friends was excluded in the calculation of income because welfare and borrowed money were not considered earned income from a policy perspective. By excluding these two sources of income, her total monthly income closely resembled her earned income. The variable was continuously measured, and a log transformation was performed to correct for its skewness.

The independent variables included demographic and human capital variables. Demographic variables included age, race, marital status, number of children, and health conditions. Human capital variables included education, current employment, years of unemployment, and receipt of training. (Note that employment and receipt of training were both dependent and independent variables, depending on the regression models.) As for the demographic variables, age was measured as a continuous variable. Race included three groups—white, black, and others—and white served as the reference group in the regression analyses. Marital status was measured with three categories—currently married, previously married (divorced, widowed, and separated), and never married, with currently married women as the reference group. Number of children was classified into four groups—none, one, two, and three or more—and women without any children were the reference group. Health conditions measured whether a woman had any mental or physical conditions that might limit the type and amount of work that she could perform. The variable was dummy-coded, and those with any work-limiting health conditions were assigned a value of 1.

With regard to human capital variables, education was also measured at three levels—less than a high school education, high school graduate, and at least some college—and women with less than a high school education were chosen as the reference group for the regression analyses. Current employment status measured whether a woman had a paid job at the time of survey, and those with employment were assigned a value of 1 and those without employment were coded as 0. Years of unemployment measured the number of years for which a woman had been unemployed for at least six straight months since she held a job for the first time in her life. Based on the distribution of the variable, the sample was classified into four groups: individuals who had never been unemployed (zero years of unemployment), and individuals who had been unemployed for one to two years, three to

five years, and six or more years. Women who had always worked were chosen as the reference group for the regression analyses.

Data Analyses

Descriptive statistics such as the percentage distributions of the categorical variables and the means of the continuous variables were obtained to examine the sample's characteristics. Then, a logistic regression analysis was performed to determine whether and how much the demographic and the human capital variables were related to the women's likelihood of receiving job training. Another logistic regression analysis was conducted to investigate whether and how much past job training was related to employment at paid jobs while controlling for other demographic and human capital variables. Finally, an ordinary least squares (OLS) regression analysis was conducted to examine whether and how much job training was associated with a person's total income among women who were working at the time of survey. This was achieved by including and testing the significance of a multiplicative term between current employment and receipt of job training in the past in the OLS regression model.

LIMITATIONS OF THIS STUDY

Several limitations of this study should be mentioned before proceeding to the data analyses. As briefly noted above, quality of job training is an important factor to consider in evaluating its effectiveness. Unfortunately, information on the duration, timing, intensity, quality, and other specific contents of job training were not collected in SIPP. Another important factor, whether individuals received job training voluntarily or nonvoluntarily, was not recorded in SIPP. Although it is likely that participating voluntarily (or involuntarily) in a long, high-quality, and intensive job training program would yield better results than participating in a short and poor quality program involuntarily (or voluntarily), information on the details of job training was not made available in SIPP.

Another limitation of this study is that the present associations are not causal. Establishing a casual relationship between receipt of job training and employment and incomes would require research models that could control for the unobservable characteristics of the sample that affect the likelihood of participating in job training, obtaining employment, and improving individual incomes. Controlling for such selection and endogenous factors are beyond the scope of this study. Future studies should examine the specific characteristics of job training as well as selection and endogenous factors to produce much more informative results for policy development.

FINDINGS

Descriptive Statistics

Table 1 reports the findings of the descriptive analyses. Out of the 674 women in the sample, approximately 20% ($n = 132$) received some type of job training in the past ten years. The average age of all women in the sample was 41. Around 64% of all women were white and 41% were divorced, widowed, or separated. Almost 75% had less than or equal to a high school education. A high proportion of the sample (62.42%) had work-limiting mental or physical health conditions, indicating their potentially disadvantaged status in the labor market. Only around 14% were working at paid jobs at the time of survey and almost 43% had experienced unemployment for six straight months or longer each year for more than six years since they had first started working in the labor market.

TABLE 1 Characteristics of the Sample, by Receipt of Training

	All ($N = 674$)	Not trained ($N = 542$)	Trained ($N = 132$)
Percent Distribution			
Race			
White	63.19	64.17	59.11
Black	30.04	28.73	35.52
Others	6.77	7.10	5.38
Marital status			
Currently married	27.73	29.09	22.04
Previously married	40.98	39.30	48.00
Never married	31.29	31.61	29.96
Education			
Less than high school	43.04	48.06	22.12
High school	31.89	31.64	32.90
Some college or more	25.07	20.30	44.99
Number of children			
None	52.19	56.25	35.23
One	16.93	16.34	19.39
Two	14.06	12.30	21.41
Three or more	16.83	15.11	23.98
Currently working	13.85	4.49	52.89
Has work-limiting health conditions	62.42	69.19	34.16
Number of years unemployed			
Zero	39.77	35.90	55.90
One to two years	7.11	6.70	8.79
Three to five years	10.57	11.36	7.28
Six or more years	42.56	46.04	28.03
Mean			
Age	41.07	41.49	39.30
Individual earnings (wage, salary, etc.)	771.99	214.40	969.13
Individual income (minus TANF, SSI, and borrowed money)	471.10	85.47	856.12

Compared to women who had not received training, those who had received training were younger and were more likely to be racial minorities. They also had a higher level of education and a greater number of children. A lower percentage of them had work-limiting health conditions, and a higher percentage of them were working. Also, a higher proportion of trained women had never experienced unemployment lasting for more than six months. Corresponding to these differences in the demographic characteristics, women with job training had higher levels of individual earnings and income.

Logistic Regression of Likelihood of Receiving Training

The results (presented in Table 2) showed that previously married women (divorced, separated, or widowed) and women who were working at the

TABLE 2 Logistic Regression of Receiving Training

	Logit	Odds ratio
Intercept	-1.0742	
Age	-0.0021	0.998
Race		
(White)		
Black	0.0376	1.038
Others	-0.3832	0.682
Marital status		
(Currently married)		
Previously married	0.9140**	2.494
Never married	0.3603	1.434
Education		
Less than high school	-1.5355***	0.215
High school	-0.7234*	0.485
(Some college or more)		
Number of children		
(None)		
One	0.3740	1.454
Two	0.1962	1.217
Three or more	0.3238	1.382
Currently working	2.7119***	15.058
Has work-limiting health conditions	-0.7513*	0.472
Number of years unemployed ¹		
(Zero)		
One to two years	-0.3954	0.673
Three to five years	-0.2808	0.755
Six or more years	-0.6164*	0.540
Model information	Chi-square = 206.89***	
	DF = 15	
	N = 674	

¹*p* < 0.05; ***p* < 0.01; ****p* < 0.001.

time of survey were significantly more likely to have participated in job training. Women who were previously married were almost 2.5 times more likely to have received training compared to those who were currently married. Currently working women were more than 15 times more likely to have participated in job training than their nonworking counterparts.

At the same time, women with lower levels of education, work-limiting health conditions, and longer periods of unemployment were significantly less likely to have received training. That is, the odds of a woman having participated in a training program were greater when she had at least some college education, was in good health, and had never been unemployed for a long period in her life. Other demographic characteristics such as age, race, and number of children were not determining factors of participation in training. The results suggest a significant association between the women's relative advantages (more education, good health, and continuous employment) and participation in job training. Certainly, it is difficult to distinguish the direction of the relationship, especially for continuous employment (e.g., Were women who were continuously employed more likely to receive job training, or did job training help them maintain continuous employment?). However, it would be safe to say that healthier and more educated women were more likely to receive job training because it is unlikely that job training would significantly change their educational attainment and health status.

This finding is contrary to the expectation that job training would be targeted to the least job-ready women and that women deemed job-ready would obtain unsubsidized jobs and participate in the labor market rather than being involved in job training. Without knowing if the participation was mandatory or voluntary, it is difficult to know whether more job-ready women were opting out to receive job training or whether government programs were intentionally targeting relatively advantageous women for better program outcomes (i.e., "cream skimming" or positive selection into programs). Despite this uncertainty, the result reveals an important fact about which group of economically disadvantaged women was more likely to receive job training.

Logistic Regression of the Likelihood of Working

As the results (presented in Table 3) show, trained women were more likely to be working than those who were not trained; women who had participated in job training in the past ten years had more than a 14 times greater chance of working at a paid job than those who had never participated in job training. Obviously, job training was significantly and positively related to working at paid jobs.

Other human capital variables were also significant to the likelihood of working. Not surprisingly, having a work-limiting mental or physical health

TABLE 3 Logistic Regression of Working

	Logit	Odds ratio
Intercept	-2.3230*	
Age	-0.0004	1.000
Race		
(White)		
Black	-0.1294	0.879
Others	-0.5962	0.551
Marital status		
(Currently married)		
Previously married	0.0789	1.082
Never married	0.2960	1.344
Education		
Less than high school	-0.2548	0.775
High school	0.3404	1.406
(Some college or more)		
Number of children		
(None)		
One	0.6967	2.007
Two	0.7049	2.024
Three or more	0.4719	1.603
Has work-limiting health conditions	-1.4206***	0.242
Number of years unemployed ¹		
(Zero)		
One to two years	-0.6626	0.516
Three to five years	-2.2369**	0.107
Six or more years	-0.7707*	0.463
Received training	2.6840***	14.643
Model information	Chi-square = 209.05***	
	DF = 15	
	N = 674	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

condition significantly lowered one's chance of working at a paid job, even after controlling for other factors relevant to employment. In addition, the experience of long-term unemployment negatively affected one's likelihood of working. For example, women who had been unemployed for more than six continuous months at least once a year for three to five years were almost 90% less likely to be working at the time of survey when compared to those who had never been unemployed for six continuous months.

Ordinary Least Squares (OLS) Regression of Individual Incomes

Table 4 shows that the major independent variable of the OLS regression model, the multiplicative term between current employment status and receipt of job training, was statistically significant and had positive effects on individual income. This result indicates that job training was significantly related to a higher level of individual incomes among those women working

TABLE 4 Ordinary Least Squared (OLS) Regression of Individual Income (log)

	Coefficient	<i>t</i>	Relative effect (%)
Intercept	0.0620	0.70	
Age	0.0038*	2.04	
Race			
(White)			
Black	-0.0248	-0.89	-2.45
Others	-0.0107	-0.21	-1.06
Marital status			
(Currently married)			
Previously married	-0.0931**	-2.93	-8.89
Never married	-0.0791*	-2.28	-7.61
Education			
Less than high school	-0.0698*	-2.22	-6.74
High school (Some college or more)	-0.0294	-0.89	-2.90
Number of children			
(None)			
One	0.0258	0.75	2.61
Two	-0.0288	-0.74	-2.84
Three or more	0.0066	0.16	0.66
Currently working	2.2059***	31.64	807.84
Having work-limiting health conditions	-0.0493	-1.59	-4.81
Number of years unemployed ¹			
(Zero)			
One to two years	0.0074	0.15	0.74
Three to five years	-0.0039	-0.09	-0.39
Six or more years	0.0079	0.27	0.79
Received training in the past 10 years	-0.0129	-0.31	-1.28
Currently Working* Received training in the past 10 years	0.5435***	6.20	72.20
Model information		<i>R</i> ² = 0.8935	
		<i>F</i> = 323.62***	
		<i>N</i> = 674	

p* < 0.05; *p* < 0.01; ****p* < 0.001.

at the time of the survey. Note that when the dependent variable is log transformed and the independent variables are categorical, the regression coefficients can be converted into relative effects by using the following formula (Halvorsen & Palmquist, 1980; Ozawa & Lum, 1998): $C = \ln(1 + g)$ and $e^C = 1 + g$, therefore $g = e^C - 1$, where C is the regression coefficient. Computing relative effects makes the interpretation of the regression coefficients much easier. For example, the corresponding g was 0.722 for the coefficient of the multiplicative term (0.5435). This means that, when comparing working women who had received job training with those who had not, job training was related to a 72% increase in individual incomes. This suggests that job training brought more benefits than working without training.

Besides job training, two more human capital variables, education and current employment status, were significantly related to individual incomes. Women with less than a high school education had 6.7% lower incomes than those with at least some college education. Women working at paid jobs had greater individual incomes than their nonworking counterparts. Other variables such as age and marital status were also significant. Older women and currently married women had higher individual incomes than younger and nonmarried women.

DISCUSSION

Overall, this study found that job training was significantly associated with a higher likelihood of employment and greater individual incomes for women on public transfer programs. The odds of women gaining employment were almost 14.6 times higher when they had received job training. Furthermore, when they were working at paid jobs, their individual incomes (not counting incomes from welfare and friends/families) were more than 72% higher if they had received job training beforehand. In addition, contrary to the expectation that the least job-ready would be more likely to participate in job training, the results of this study suggest that the most job-ready had a higher chance of participating in training. This finding is consistent with the findings of Bell (2000) and O'Hara (2002), which showed that the least educated welfare recipients (those who had dropped out of high school) were the least likely to engage in job training and skill building. Bell also found that those with greater prior education were more likely to engage in additional skill acquisition.

These findings are indicative of the potential beneficial effects of job training for some of the most disadvantaged groups, for whom training is often believed to be ineffective as a second-chance program. The positive effects of job training on employment and individual incomes could be due to recruiting the most job-ready participants by either participants' self-selection or program administrators' cream skimming. Nevertheless, it is also possible that investment in the skills of this disadvantaged group translated into higher employment and better economic well-being. In that case, the findings would be especially hopeful, given the fact that employment and income prospects of welfare recipients are very low. Despite the aforementioned limitations of this study, the findings question the validity of abandoning job training as an antipoverty strategy and placing more barriers to training for welfare recipients, as seen in the Deficit Reduction Act of 2005. Considering the level of education and skills among the majority of women on welfare, training has the potential to improve their employment and individual income outcomes, and this has considerable implications for the well-being of these women and their families. Federal government

should at least allow states to waive "work-first" requirements for some welfare recipients at their discretion. For these exempt individuals, on-the-job training or vocational training should be made available to increase their skills and to prepare them for better-paying and more stable jobs. In addition, these individuals should be given more time to pursue training both before and after securing employment.

At the same time, creative and effective ways to incorporate the least job-ready individuals into job training programs should be discussed. Evidence from this study indicates that women who might need the training most are the ones actually left out. Vigorous studies should be conducted to find out whether this group's tendency toward nonparticipation stems from self-selection or a creaming process of state governments' training programs. Given that some of the least job-ready individuals in welfare programs might face multiple challenges such as mental and physical disabilities, substance abuse, and domestic violence, participation in job training may not be an immediately feasible idea. In that case, basic education, life skills training, and substance abuse treatment and/or other support services should be provided for them so that they are able to ready themselves for job training. It is also possible that those who are the most disadvantaged do not have enough economic resources to participate in job training; for instance, they may face prohibitive barriers such as a lack of transportation, child care, adequate clothing, etc. This is simply more of a reason to provide a wide array of financial and family support services for populations who might be involved in job training. Regardless, it is important for decision makers in the federal and state governments to remember that women on public assistance programs face extremely challenging situations, and that human capital development can be an effective way to improve their employment and earnings as well as the economic well-being of their families.

CONCLUSIONS

Although decades of struggle in reforming the welfare system left us to mostly discard human capital development as a strategy to fight poverty and welfare dependency, the findings of this study reveal that job training is significantly related to higher employment rates and individual incomes for women on public assistance programs. The findings also indicate that job training programs tend not to serve the most disadvantaged women. More rigorous empirical research and policy debates are needed to identify and remove barriers to participation in these programs. In addition, before further limiting access to education and training for our least educated and skilled population, policy makers should revisit more current research on human capital development.

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APPENDIX Impacts of Job Training on Employment, Earnings, Welfare Use, and Income

Impacts: (Outcome differences between treatment and control groups over entire follow-up periods)					
Program	Training & Service provided	Employment rate	Earnings	Welfare use	Income
Comprehensive Employment Training Act (CETA) , (Bassi, 1983; CBO & NCEP, 1982; Johnson & Lopez, 1997)	Public service employment, on-the-job training, classroom training, and work experience for the disadvantaged, underemployed and unemployed	Data unavailable	For women: between \$0 and \$1,300 a year. For men: -\$700 a year	Data unavailable	Data unavailable
Minority Female Single Parent (MFSP) , (Burghardt & Gordon, 1990; Gordon & Burghardt, 1991; Rangarajan & Gordon, 1992)	A mixture of education and job skills training for a group of mothers at risk of long-term welfare dependency	Atlanta: none; Rhode Island: none; California: +8 hours work per month; Baltimore: none	Atlanta: none; Rhode Island: none; California: 16.6% per month (46.3% per month for those with a high school education); Baltimore: none	Atlanta: none; Rhode Island: none; California: none; Baltimore: none	Data unavailable
Job Training Partnership Act (JTPA) , (Bloom, et al., 1997)	Basic skills training (remedial education, literacy training, and ESL), on-the-job training, work experience, classroom training, and programs to develop work habits, education-to-work transition activities, job and career counseling, job search assistance, outreach, transportation, and childcare assistance to the disadvantaged, dislocated, and individuals with significant employment barriers	Data unavailable	Women assignees: \$1,176 (9.6%) increase over 30 months; Men assignees: \$1,837 (5.3%) increase over 30 months	Data unavailable	Data unavailable

<p>Greater Avenue for Independence (GAIN), (Hotz, Imbens, & Klerman, 2000)</p>	<p>GED preparation, ESL, and adult basic education for those without high school education and job search for those who were not in need of basic education</p>	<p>Alameda: none; Los Angeles: 13%; San Diego: 7%</p>	<p>Alameda: none; Los Angeles: none; San Diego: 12%</p>	<p>Alameda: -11%; Los Angeles: -6%; San Diego: -7%</p>	<p>Data unavailable</p>
<p>Job Opportunity and Basic Skills Training (JOBS), (Freedman, et al., 2000; Hamilton, et al., 1997; Hamilton et al., 2001; Hamilton, 2002)</p>	<p>Basic education, vocational training, and college courses</p>	<p>Atlanta: none; Grand Rapids: none; Riverside: 9.5% over 5 years (for ever employed); Columbus: 2.2%; Detroit: 3.0%; Oklahoma: none</p>	<p>Atlanta: 11.6% over five years Grand Rapids: none Riverside: 12.5% Columbus: 5.5% Detroit: 7.1% Oklahoma: none</p>	<p>Atlanta: -5.2% in the average number of months over five years Grand Rapids: -9.2% Riverside: -9.8%; Columbus (Traditional): -9.2%; Columbus (Integrated): -14.4%; Detroit: -4.3%; Oklahoma: —</p>	<p>Atlanta: none Grand Rapid: none Riverside: -6.2% over five years Columbus: none Detroit: none Oklahoma: none</p>
<p>New Chance (Bos, Polit & Quint, 1997)</p>	<p>Basic academic skills, GED, career exposure and employability development classes, occupational skills training, work experience, job placement assistance, life skill classes on communication, and decision-making skills to mothers between 16 and 22 years old</p>	<p>None</p>	<p>None</p>	<p>None</p>	<p>None</p>