DOCUMENT RESUME

ED 247 430 CE 039 495

AUTHOR	Harlan, Sharon; Hackett, Edward J.
TITLE	Federal Job Training Programs and Employment Outcomes: Effects by Sex and Race of Participants. Working Paper No. 129.
INSTITUTION	Wellesley Coll., Mass. Center for Research on Women.
SPONS AGENCY	National Science Foundation, Washington, D.C.
PUB DATE	84
GRANT	SES-8023042
NOTE	61p.
AVAILABLE FROM	Wellesley College Center for Research on Women, Wellesley, MA 02181 ($4.50).
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Blacks; Comparative Analysis; Delivery Systems; Disadvantaged; Education Work Relationship; Employment Level; Employment Patterns; *Federal Programs; Females; Job Placement; *Job Training; On the Job Training; *Outcomes of Education; Race; *Racial Discrimination; Salary Wage Differentials; Sex; *Sex Discrimination; Work Experience Programs
IDENTIFIERS	*Comprehensive Employment and Training Act; Continuous Longitudinal Manpower Survey.

ABSTRACT

A study examined the effects of participation in three types of federal job programs--classroom training, on-the-job training, and work experience--on the postparticipation employment records of black and white men and women. Using data from the Continuous Longitudinal Manpower Survey, researchers examined the employment records of 3,420 black and white individuals who had been enrolled in a Comprehensive Employment and Training Act (CETA) program for eight days or more. After making allowances for various sources of statistical error, the researchers determined that program assignment variables did have a significant effect on participants' post-program participation employment rates. For white men and women and for black women, participation in classroom training significantly reduced the odds of being employed on the day after participation in a CETA program. In contrast, on-the-job training significantly increased the odds of employment when compared to participation in work experience programs. Compared to classroom training, the odds of employment after participation in on-the-job CETA programs were 4 times greater for white women, 3 times greater for white men, 2.4 times greater for black women, and 1.7 times greater for black men. For black men and white women, education is a second highly significant variable affecting the odds of employment the day after graduation from a CETA program. After analyzing the pros and cons of policies focusing on increasing the numbers of blacks and women in on-the-job training programs, the researchers recommended the adoption of such policies. (Seven tables and a list of references are appended to this report.) (MN)

Even during times of national prosperity and relatively low unemployment, there are perennially disadvantaged individuals who are without jobs either because they lack job skills, basic educational credentials, or the means of looking for work. During recessionary periods, the numbers of the disadvantaged swell as low-skilled workers lose their jobs and join the ranks of the unemployed with the fewest prospects for finding other work. The difficulties of these workers are compounded by race and sex discrimination in employment and by the changing nature of the economy which is steadily eliminating jobs in some industries where they have traditionally found low-wage, marginal employment.

During the past two decades the federal government has attempted to alleviate the problems of poverty and joblessness through a succession of job training programs. The underlying philosophy of these programs has been to increase the economic self-sufficiency and employability of participants through investments in their education and training (Perry et al. 1975; Block 1979). Thus the employment and training system operates on the basic human capital premise that training will produce economic returns in the form of higher employment probabilities, better jobs, and higher wages.

The proportion of women in need of training and job assistance has increased over time as more and more women continue to enter the labor force. Many of the new entrants and re-entrants are in low-skill, low-wage occupations. Moreover, proportionately more women than men cannot find jobs. Unemployment rates were substantially higher in the 1970s than in the latter half of the 1960s, and women's unemployment rates averaged about two percentage points higher than men's (Barrett 1979). Men's overall unemployment rate grew faster

than women's in the early 1980s, but women were still more likely to be unemployed in certain occupational categories (Marshall 1983). Other measures of joblessness show that women account for 60% of all individuals who are too discouraged to look for work (U.S.D.O.L. 1983), and that a higher percentage of women than men are involuntarily employed part-time (Barrett 1979).

The economic well-being of families increasingly depends on women's participation in the labor force. The proportion of families relying on the earnings of both husband and wife has doubled since the early 1960s. More importantly, the number of women who are the sole support of their families has increased dramatically. Many of these women lack labor force experience and job skills and, therefore, are unprepared to assume the role of principal family breadwinner.

The proportion of single female-headed families with children grew ten times faster than two-parent families between 1964 and 1974, primarily due to increased marital instability among families with young children (Sawhill 1976). According the the 1980 census, there were 5.9 million women heading families with children, an increase of 1.9 million since 1974. Over half of all female-headed families with children are poor, and women head a majority of poor families (Sawhill 1976). This continuing trend has been labeled the "feminization of poverty" (Pearce 1978).

The issue of women's participation in federal job training programs became a serious policy issue in the mid-seventies (Sexton 1978; Women's Work Force 1979; Harlan 1979, 1981; Underwood 1979; Berryman et al. 1980; Wolf 1981). Historically, women have been a smaller proportion of enrollees than of the population eligible to

participate in these programs. Moreover, there is a high degree of sex (and race) segregation in the program activities and occupations to which participants are assigned. Women and minorities are less likely than white men to be enrolled in the kind of training which is judged by some standards to be most effective in increasing later employment and earnings. Thus, women and minorities may not be receiving the same benefits from participation as white men. Underlying this empirical question is another policy issue about the role that federal employment and training policy should play in reducing sex and race inequalities in the labor market.

This paper examines to what extent the program activity assignments of participants in federal job training programs affect their future employment prospects. We analyze the effects of participation in three types of programs--classroom training, on-the-job training, and work experience--on the post-program employment records of black and white women and men. Two types of measures of post-program employment are considered: the likelihood of immediate employment and the rates at which participants enter and leave their first post-program spells of employment and nonemployment. We use the results obtained from these analyses to determine whether changing the allocation of participant groups among programs would improve the employment outcomes for women and minorities.

JOB TRAINING PROGRAMS FOR DISADVANTAGED WORKERS

Classroom training, on-the-job training, and work experience developed as program strategies during the 1960s as part of the infrastructure of the employment and training system established by the Manpower Development and Training Act (1963) and other categorical

grant programs. In 1974 the Comprehensive Employment and Training Act (CETA) streamlined the grant-making process by combining many categorical programs into a single block grant distributed to city, county, and state governments known as prime sponsors. These governmental units had the authority to decide on the allocation of funds to program activities within their jurisdictions and to contract with service organizations to deliver training services to the disadvantaged. By the late 1970s, the years of highest federal expenditures on employment and training programs, the budget allocations for adult classroom and on-the-job training and work experience programs (CETA Title IIB) were nearly $2 billion annually and approximately 1.4 million individuals participated each year (U.S. Department of Labor 1981, personal communication). (1) The Job Training and Partnership Act (JTPA), which replaced CETA in 1983, channels training funds through states and legislates a much stronger role for private industry in planning and carrying out federal policy. Throughout major legislative changes, the principles of on-the-job training, classroom training, and work experience have remained similar.

On-the-job training participants work for private sector employers at wages subsidized by the federal government. In exchange for the subsidy, employers agree to provide training in specific occupations. On-the-job training places participants into a private sector workplace, offering both skill development and the opportunity to continue in unsubsidized employment with the same firm after leaving the program. For women and minorities, on-the-job training has the advantage of providing access to nontraditional labor markets which might otherwise be closed to them. Most evidence suggests that on-the-job training has higher immediate job placement rates and results in higher

post-program earnings gains than other programs (Perry et al. 1975; Westat 1981).

Classroom training programs take place in public schools, community colleges, vocational education centers, or other specialized training facilities. Two very different types of programs are included in classroom training: general education, such as high school equivalency programs or English language instruction and job skills training in specific occupations. Unlike on-the-job trainees, most classroom trainees do not receive wages or allowances during participation. Moreover, classroom trainees lack direct employer contact, which helps to account for its low immediate job placement rates. There are, however, significant post-program earnings gains for classroom participants (Westat 1981) which suggests that the program's ultimate effectiveness should be evaluated in a longer time frame.

Work experience ostensibly teaches basic workplace behavior to participants who are not "job-ready" by employing them in (mostly) part-time, low-wage jobs in public or nonprofit agencies. Work experience jobs were intended to be temporary and were not required to include skill training. Some prime sponsors, however, used work experience as public sector on-the-job training with the possibility of continuing employment for participants after the federal subsidy ended. In practice, work experience encompassed a wide variety of participants and jobs of varying quality, but most research finds that work experience was the least effective program (Westat 1981).

SEX DIFFERENCES IN JOB TRAINING

In fiscal 1978 women were 53% of all participants newly enrolled

in classroom training, on-the-job training, and work experience (Westat 1980). Although this was still a slight underrepresentation compared to women as a proportion of the population eligible to participate in these programs (Berryman et al. 1980 based on Barnes 1978 estimates), it was a vast improvement over earlier years when women were a small proportion of participants in training programs (Sexton 1978). (2) Yet the distribution of women and men among these three programs was still highly unequal, reflecting historical differences in enrollment patterns. Of all new female enrollees in 1978, 65% were assigned to classroom training, 18% to on-the-job training, and 16% to work experience, whereas 49% of new male enrollees were assigned to classroom training, 37% to on-the-job training, and 15% to work experience (Westat 1980). Thus, women were more likely than men to get classroom training and much less likely to get on-the-job training. No published cross-classifications by race and sex are available for 1978, but our fiscal 1976 data (discussed below) show that black men and women were less likely than white women to be in on-the-job training and more likely to be in classroom programs.

It has been suggested that women prefer classroom training more often than men and that they are less qualified than men for on-the-job training because they have less prior labor force experience (Choy 1980). However, Berryman et al. (1980) have shown that women were more likely to be placed in classroom than on-the-job training even when sex differences in characteristics such as labor force experience and education were statistically controlled. Moreover, applicants were often unaware of the range of options available and, therefore, could not make informed choices (Estrada 1980). Other evidence

suggests that program assignments were made by local program administrators operating under a variety of constraints, including the number of positions available in programs, the characteristics of applicants, the preferences of advisory councils, employers, and other service deliverers for certain types of participants, and level of support for services such as child care and transportation (Harlan 1979). While enrollees' preferences may have played some role in determining the type of training they received, their "choices" (as well as the choices of the program administrators) were subject to structural limitations.

Since the distribution of individuals in program activities is the result of many individual and program variables, it is impossible to point to a single reason for sex differences in activities. The available evidence suggests three interrelated explanations. First, the occupational structure of training programs has been such that most on-the-job training positions are in traditionally male blue-collar occupations (Mirengoff and Rindler 1978) while training for traditionally female occupations is more likely to occur in a classroom environment (Berryman et al. 1980). (3) Second, operators of other federal training programs have reported that many on-the-job training employers are reluctant to accept women as trainees (U.S. Commission on Civil Rights 1979). Third, prevailing social attitudes give priority to the employment of males over females (Furstenberg and Thrall 1975), and since on-the-job training positions involve paid work and are in short supply, men have preference over women for these slots. (See Underwood 1979, Harlan 1981, and U.S. Commission on Civil Rights 1981 for analyses of how male biases pervade federal employment policy.)

The importance of sex and race differences in program assignments between classroom and on-the-job training is directly linked to their relative effects on the future employment and earnings of participants. The most reliable and carefully designed evaluations show that female participants in both types of training programs make significant employment and earnings gains relative to comparison groups of nonparticipant/females (Goodfellow 1979; Kiefer 1979; Masters and Maynard 1980; Westat 1981; Bassi 1983). In fact, all of the studies which evaluate both males and females agree that women gain more compared to other women than male participants gain compared to male nonparticipants. However, except for the Masters and Maynard (1980) study, which used a randomized experimental design, however, there are questions about the comparability of control groups and participants which may overstate the gains of female participants (Kiefer 1979; Gay and Borus 1980).

Again, comparing women to other women and men to other men, the evidence is mixed concerning whether participants' earnings gains are greater from classroom or on-the-job training. Some studies find that white male participants in both programs actually earn less than comparison groups in the post-program period (Goodfellow 1979) while others conclude that the estimates are too imprecise to draw conclusions (Keifer 1979; Bassi 1983). Black men are found to gain only from on-the job but not classroom training. The major studies cited above conclude that black and white women gain roughly between $500 and $1200 per year from both classroom and on-the-job training, but the studies reach conflicting conclusions about the relative benefits of each program. Westat's (1981) estimates show that

earnings gains from CETA classroom and on-the-job training are about the same for white women but that black women benefit twice as much from on-the-job training compared to classroom training. On the other hand, Kiefer (1979) shows that black women gained more from MDTA institutional (classroom) training and that white women gained more from on-the-job training. Westat's estimates for work experience, which are consistent with older evaluations (Perry et al. 1975), show that all participant groups either earned less than comparison groups or not significantly more in the post-program period.

These studies provide evidence that programs do have different consequences for participants, but there is no consensus on the relative earnings gains of black and white women in classroom and on-the-job training. Moreover, since these studies measure the gains of participants relative to nonparticipant comparison groups, they do not address the question of how differences in program assignments affect outcomes for one group of participants relative to another. It is not clear, for example, whether women might gain more relative to male participants if they were enrolled in on-the-job training programs in proportions equal to men. Comparisons of post-program outcomes between groups of participants show that men's job placement rates, wages, and earnings are higher than those of women (Simeral, 1978; Zornitsky and McNally 1980; Marcus 1980; Westat 1981). But Marcus (1980) and Sawhney et al. (1982) find that gender differences in job placement and retention rates become negligible when program activity is controlled. For both men and women, on-the-job training and classroom skill training were more effective than other programs. These studies, however, look only at short term outcomes which may not provide a complete picture of program impact.

The earnings measure used in the comparison group studies does not tell us much about employment and unemployment in the post-program period. Having a job after leaving the program is a valuable outcome in itself, considering that most applicants were unemployed when they entered the programs and that an estimated one-half to one-third also leave the programs without jobs. And since many factors influence the post-program male/female earnings differential (occupational segregation, work schedules, labor force participation rates, discrimination, etc.), it is more straightforward to compare the effects of program activities directly on men's and women's employment experiences.

The following analysis addresses the question of whether enrollment in different types of training causes inequalities in employment outcomes between sex and race groups net of other relevant differences in participants' backgrounds. The goals are to determine: 1) whether and how much the likelihood of participants' immediate employment and their longer-run employment stability is associated with enrollment in classroom training, on-the-job training or work experience; 2) whether the program effects on employment are equal for black and white men and women; and 3) whether the aggregate employment benefits for women and black men compared to white men would be greater if women and black men were proportionately represented in on-the-job training.

The analysis is guided by the hypothesis that program assignments do make a difference in employment outcomes. First, we expect that on-the-job training participants will be most likely to secure employment immediately after leaving the program because they are in direct contact with an employer who may continue their job without

subsidy. Classroom training participants will be least likely to be employed upon leaving the program because classroom training does not provide direct employer contact and because job openings may not coincide exactly with the scheduled completion of training. Even though work experience seems to be the least effective program, we expect participants to have a better to chance to be working when they leave than classroom enrollees for two reasons: they may remain employed in their public sector job when subsidized employment ends or they may leave the program voluntarily whenever a job becomes available (whereas classroom trainees may not be able to leave without disrupting their training). Second, compared to work experience, we expect that both classroom and on-the-job training will increase the rate of finding a job for participants who are not employed when they leave CETA. This is because the skill development in these programs should make classroom and on-the-job trainees more desirable employees. Third, and for a similar reason, classroom and on-the-job training should reduce the rate of leaving a job for participants whose initial job began immediately after CETA. Thus, in the longer run, classroom and on-the-job training participants may be equally well off in terms of whether they are working or not. There is simply not enough information to construct hypotheses about differential effects of programs on sex and race groups. We pose this as a research question which the analysis can help us to answer.

DATA AND MEASURES

Data. The data are from the Continuous Longitudinal Manpower Survey, a project sponsored by the U.S. Department of Labor to collect follow-up information on successive cohorts of a nationally-

representative sample of participants in CETA programs. Complete descriptions of the sample and the survey procedures are found in Westat (1977). Respondents in the CLMS were interviewed four times in order to produce a continuous record of their labor force activities extending from one year prior to CETA entry until approximately three years afterward. Information on personal background characteristics and family status was also available from the interviews. Type of program activity was reported in prime sponsor records for each respondent.

From the CLMS fiscal 1976 cohort of 13,300 respondents, we selected the subsample of 3420 who were enrolled in classroom training, on-the-job training, and work experience for eight days or more, and who had complete information on background characteristics. We limited the sample to blacks and whites because "other minorities" represented many distinct ethnic groups with sample sizes too small to analyze any group separately.

Dependent Variables. The dependent variables in this analysis measure whether participants were employed or not the day after leaving CETA, the duration of the first spell of employment (for those who leave CETA with a job), and the first spell of nonemployment (for those who leave CETA without a job). Employment was defined as working 20 or more hours per week. Nonemployment was defined as being unemployed, not in the labor force, or working less than 20 hours per week. Our choice of 20 hours per week as the criterion of employment reflects CETA's legislative mandate to increase the economic self-sufficiency of participants. Although the CETA legislation did not provide a precise definition of economic self-sufficiency, it is unlikely that participants working less than half-time meet this standard by any reasonable

definition. It is possible to divide the nonemployed state into unemployed, in school, and not in the labor force. This distinction may be important: Flinn and Heckman (1982) found that unemployed and not in the labor force were behaviorally different states for their sample of young men. In a subsequent paper we will subdivide the nonemployment state.

Analyzing both the state on the day after CETA and the length of time spent in that state has several advantages. First, these analyses consider program effects other than placement or nonplacement on the day after CETA. In addition, an effective program may cause spells of nonemployment to be briefer and spells of employment to be longer. Second, rates of transition between employment and nonemployment, and probabilities of employment at equilibrium, may be estimated from the duration data. Third, by examining these relatively short-term effects of CETA we retain comparability to existing studies.

Independent Variables. The analysis measures the effects of participation in classroom training, on-the-job training, and work experience on employment outcomes. It would have been desirable to subdivide classroom training into general educational programs and occupationally-specific training but the CLMS records do not include this information. The decentralized structure of CETA did result in variability across localities in the content and quality of each training strategy. Nevertheless, the fundamental distinctions between programs, such as whether the training took place in a classroom and whether the employer was private or public, are almost certain to be the same everywhere.

The length of time respondents were in CETA was included to

control for greater skill development which may result from longer participation. We expect CETA enrollment time to be positively associated with employment outcomes, although there is a countervailing tendency for less-employable participants to remain in CETA rather than attempt to enter the competitive labor market. Background characteristics and some contextual variables which may influence participants' post-program employment were also included in the analysis. Descriptive statistics for independent variables are found in Table 1 and definitions of these variables are presented below.

1. Prior education and labor force experience. CETA participation is an investment in human capital which should enhance a participant's chances of obtaining and retaining employment but we also expect that the personal resources individuals bring to the program will continue to influence their employability after CETA ends. Participants with greater educational attainment, steadier employment experience prior to CETA, and of prime working age are expected to have higher levels of employment in the post-program period. These relationships should be broadly similar across race and sex groups, although the magnitudes of effects might differ. Also, the effects of these variables may be attenuated in this analysis because CETA imposes certain eligibility requirements which tend to restrict the range of these variables among participants. For example, to be enrolled in CETA, a person must have been unemployed at the time of entry or pass an income means test. In practice, most participants experienced substantial unemployment in the year prior to CETA.

Educational attainment was measured at the time of entry to CETA. Three categories of education are considered: less than a high school degree, a high school degree or equivalent, and some post-secondary

education. Employment experience was measured as the percentage of time employed in the year prior to CETA enrollment. It would be desirable to have measures of employment experience which extend further into the past, but the CLMS is limited in this respect. (4) Age was included in the analysis to represent prime-working-age effects and to approximate work experience beyond the preceding year. Age squared was also entered to capture the possible reduced employability of the very young or very old participant.

2. Family economic responsibility. We expect that the degree of family economic responsibility will influence participants' employment once they re-enter the labor force but these effects are likely to vary by gender. Married male breadwinners have greater economic incentive than single males to maintain stable employment. (Employers may also consider them to be more desirable workers.) Although women who have sole breadwinning responsibilites for families have greater economic necessity for employment than other women, they also have greater impediments to working because of their (unshared) responsibility for children. While CETA may help these women overcome employment barriers (e.g., child care, transportation) during their participation in the program, it is not clear that they would be able to manage afterward on their own. Like other single female family heads, many of these CETA participants were eligible for AFDC. For our sample of women, family responsibility may not reduce employment as much as it does in the population at large because most individuals who enroll in CETA have expressed their intention and desire to work.

In the CLMS, family status was obtained in four interviews conducted shortly after enrollment and at intervals thereafter. For this

analysis, family status is measured at the interview immediately preceding CETA termination. Men's family status has three categories: married head of family, single individual, and dependent family member (child or other relative living in a household headed by another person). Women's family status includes four categories: single family head, married spouse of the head of household, single individual, and dependent family member. Since mothers of pre-school children are less likely than other mothers to be in the labor force, the effect of children on parents' employment is measured by a count of the number of children under age six.

3. Contextual and design effects. The CLMS contains a very limited amount of contextual information because the survey did not consider participants' local labor market conditions, CETA sponsors, and other relevant variables. Two contextual measures were available and have been incorporated into the analysis. Fiscal quarter of participants' entry into CETA was included to control for unobserved differences in entry cohorts. Differences may have occurred, for example, as labor market conditions changed or as the administration of the program was modified. Also, the national rate of unemployment in the month of CETA exit was included in the models. This is a broad measure of general economic conditions. (5)

ANALYSIS

Table 2 shows that participants' employment status on the day after CETA was clearly associated with the program activity in which they had been enrolled. In results broadly consistent with most other studies, on-the-job training was most likely to result in immediate employment. Classroom training was about half as likely as on-the-job

training to result in immediate employment. The mean length of time spent in employment was more than a year for participants who exited CETA with a job. This does not mean that they necessarily kept the same job, but that they were employed without an intervening spell of nonemployment. The mean lengths of nonemployment spells were shorter and more variable across programs. Note that these mean spell lengths are underestimates of the true lengths of these periods of employment and nonemployment because spells that ended when the respondent left the study are included. The analysis of transition rates between employment and nonemployment, presented below, provides estimates of mean spell lengths unbiased by censoring.

Table 3 shows that employment status and duration of first spells in employment and nonemployment also differed by the sex and race of participants. White men enjoyed a considerably higher probability of immediate employment than any other group, although they had only slightly better than even odds of employment. Women who left CETA without a job waited much longer than men to enter employment. Compared to white men, a greater proportion of other groups left the study without ever having entered employment.

The analysis of program activity effects on employment outcomes proceeds in two stages. First, we estimate a model which predicts the probability of employment on the day after CETA. Then we estimate rates of transition between first spells of employment and nonemployment separately for participants who exit CETA in each state. Separate equations are estimated for each race-sex group in all analyses to allow for group differences in the relationships of employment probabilities to program activity and to other variables in the model (e.g., human capital and family status). This also allows

for unmeasured differences in the underlying employability of the four groups, including overt and subtle discrimination and other factors.

Exit Status: Employment or Nonemployment the Day After CETA

Logistic regression analysis was used to estimate the effects of predictor variables on the odds of being employed or not on the day after CETA (Hanushek and Jackson 1977; estimates were obtained using the LOGIST procedure in SAS, see Harrell 1983 for documentation). (6) The coefficients in Table 4 are estimated multipliers of the odds of being employed for each independent variable in the model. A coefficient of 1.0 means that a variable has no effect on the odds; coefficients greater than 1.0 increase the odds of employment, coefficients less than 1.0 decrease the odds. To test a model's fit, the likelihood ratio for the model including predictor variables is compared to a baseline model containing no predictors. The pseudo-R2 measures the proportionate reduction in chi-squared between the baseline and the explanatory model. The proportion of concordant pairs offers a more intuitive measure of fit. It is computed by first assembling the set of all pairs of cases that have different values of the observed outcome variable, then calculating the fraction of pairs in which the member with the higher predicted value also had the higher observed value (Harrell, 1983).

Table 4 shows that for each group of participants classified by race and sex the explanatory model fits significantly better than the baseline model, but the proportionate reduction in chi-squared is not very large in absolute terms. For all race-sex groups, the proportion of concordant pairs ranges from .66 to .71. Although the model does fit reasonably well, there remains a great deal of uncertainty within

each race-sex group about which participants will be employed and which will not on the day after CETA. Unmeasured program characteristics and labor market conditions at the local level are probable sources of systematic error in the prediction equations. Some prime sponsors were characteristically successful in placing participants while others were not. (See Harlan 1979 and Mirengoff and Rindler 1978 for discussions of variables which influence local program success.) The national unemployment rate, which is included in the equations, is not a good proxy for local employment conditions. Other sources of error include unmeasured individual characteristics, such as illness or difficulty arranging transportation or child care. There is also substantial random error in predicting whether an individual will be employed on any given day. Some participants who may be highly employable according to the attributes included in the model may not have been working on the day following CETA termination but may have begun jobs shortly thereafter. Others who were not so employable by these measures may indeed have worked on the day after CETA but lost their jobs quickly. Thus, there is inherent instability in a measure of employment at a single point in time. (7)

Despite the absence of several important variables and the question of longer-term stability in employment and nonemployment (considered below), program activities did influence participants' immediate employability. To test whether the program assignment variables collectively had a significant effect on post-program employment we estimated two models for each race-sex group, one including the entire set of predictor variables, the other including all predictors except the two dummy variables which represent program assignment. For

all race-sex groups the model which included program assignment fitted significantly better than the model excluding those variables. The effects, however, were clearly stronger for whites than they were for blacks. For black men, the difference in chi-squared between the two models barely attains statistical significance at the criterion value of p=.10 (chi-squared=4.60).

We now turn to an examination of specific program effects within each of the four race-sex groups. The coefficients for classroom and on-the-job training are multipliers of the odds of employment in relation to work experience, the reference category. For white men and women and black women, participation in classroom training significantly reduced the odds of being employed on the day after CETA in comparison with the employment odds of work experience participants. White men and black women who participated in classroom training were half as likely as work experience participants to be employed on the day after CETA. White women's relative odds of employment were reduced by a third. In contrast, on-the-job training significantly increased the odds of employment, in comparison to work experience, for white men and women. White men were one-and-a-half times more likely to be employed, and white women were two-and-a-half times more likely to be employed, if they were enrolled in on-the-job training rather than work experience. The relative effects of classroom training and on-the-job training can be calculated by taking the ratio of the coefficients. These results show that, relative to classroom training, the odds of employment for on-the-job training were four times greater for white women, three times greater for white men, 2.4 times greater for black women, and 1.7 times greater for black men.

As predicted, classroom training participants were the least

likely to be employed immediately after CETA and on-the-job training participants were the most likely. The magnitudes of these effects, however, differed across race-sex groups. Based on the evidence of initial employment status at exit, program assignments mattered much less for black men than for others. The effect of on-the-job training relative to other programs was relatively smaller for blacks than it was for whites. The relative benefit of on-the-job training was greatest for white women.

For all four groups, participants who had worked a larger percentage of the time in the year prior to CETA enrollment were significantly more likely to exit the program into employment. This is consistent with other studies which show that employment experience prior to job training programs continues to influence employment chances in the post-program period. A 10% increase in the proportion of weeks employed in the year prior to CETA resulted in a 13% increase in the odds of being employed on the day after CETA for black women, a 9% increase for white men, 6% for black men, and 5% for white women. (The percentage change in the odds per unit change in an independent variable is calculated by subtracting 1 from the coefficient and multiplying by 100.)

For black and white women, education is the other highly significant variable in the equation. Increasing levels of educational attainment result in higher odds of employment the day after CETA. This may be due to higher rates of labor force participation among more educated women and to their greater ability to find jobs once they decide to work. Women with home responsibilities, especially care of young children, may choose to work only at a relatively higher wage

rate. If only lower-paying jobs are available, these women may choose to accept AFDC or make do with available family income.

For men of both races, heads of households had significantly higher odds of employment than single individuals or dependents in another's household (the reference category). With the exception of the single individual status for black women, however, the family variables did not significantly influence women's employment odds. The data at hand do not permit us to disentangle the complex dynamics of family and employment, but, as suggested above, the effects of family status may have been attentuated for this particular group of low-income women, causing the incentives and disincentives for working to even out over various family statuses.

Age had a significant effect on employment for black men only. The two parameters (age and age-squared) show that each year of age had a positive effect on the odds of exiting CETA with a job but that the increase in the odds diminished as age increased. The age effects for women were similar but did not reach statistical significance.

Taken as a whole, the effects of background characteristics for white and black women and for white and black men were strikingly consistent. These similarities contrast sharply with the differences in CETA program effects for the four groups, lending further emphasis to the conclusion that there are real dissimilarities in the effects of CETA program assignment on employment.

Rates of First Transitions between Nonemployment and Employment

Only a few studies have considered the employment status of former participants at various points in time during the post-program period, but their methodology is flawed in important respects. The post-

program observation times in these studies are arbitrarily chosen and do not take into account the inherent instability of a point-in-time measures, attrition prior to the observation time, or employment experiences which occur before or after the observation time. Allison (1982) presents a lucid discussion of the biases which result from the loss of information inherent in such approaches.

The CLMS contains detailed employment histories for participants, including the dates of transitions between spells of employment and nonemployment. Instantaneous rates of transition between states of employment and nonemployment may be estimated from these data using maximum likelihood techniques. These estimates make use of all the information in the data and thus avoid the censoring biases mentioned above. (8) Parameter estimates were obtained using RATE version 2E (Tuma 1980).

Table 5 shows the effects of program activities and other independent variables on the estimated rate at which participants who left CETA without a job entered employment. The same independent variables are included here as in the logistic regression equations. Comparing the estimated transition rates for the models with no predictor variables (at the bottom of Table 5), we see that white men were entering employment most quickly and black women were entering most slowly (about 40% slower than white men). The chi-squared statistics indicate that for each group of participants the predictor variables improved the fit of the equation significantly in comparison with the model containing no regressors. Nevertheless, the pseudo-R2 (which again measures the proportionate reduction in chi-squared from the baseline model with no predictor variables) is small and comparable to the values obtained in the logistic regressions.

Table 5 also shows that the CETA programs in which participants had been enrolled significantly influenced the rates at which they got jobs. On-the-job training, which substantially increased the odds of immediate employment for white men and women, also increased the rate of obtaining employment for those who left CETA without a job. Black men who participated in on-the-job training entered employment at about twice the rate of their peers in work experience. This effect is statistically significant and about equal to the effect for white men. The absence of an on-the-job training effect for black men in the logistic regression models suggests that they may be less likely to retain their CETA job into the post-program period but that, compared with other black men, they are able to obtain another job more quickly. The coefficient for black women is large and consistent with the others, but its large standard error, which prevents it from attaining statistical significance, may be caused by the relatively small number of black women in on-the-job training.

Classroom training, which decreased the likelihood that participants would be employed the day after CETA, had a significant positive effect on the employment transition rate for whites and for black women who left CETA without a job. In fact, the classroom training effects were almost equal to the effects of on-the-job on the rate of transition into employment for each of the three groups. For white men, participation in classroom training doubled the rate of entry into employment, when compared to the rate for work experience; for both groups of women the rate increased by some 30% to 40%. (Classroom training was not significantly different from work experience for black men in either the logistic regression or the event history analysis.)

The positive effect of classroom training suggests that it was useful in improving the employability of participants--perhaps as useful as on-the-job training for some groups in the longer run. Because classroom training did not expose participants to a particular employer who may choose to hire them, the immediate benefit of on-the-job training was lacking. However, some schools and other operators of classroom training programs did have agreements with community employers to hire their graduates. Consequently, some classroom training participants had fair employment prospects, if not guaranteed jobs, upon termination from CETA. Apparently others were able to make use of their training to find employment on their own just as rapidly as nonemployed on-the-job training participants.

The length of CETA enrollment, which did not significantly affect employment odds the day after CETA, caused a significant increase in the rate of employment for white men and women who left CETA without a job. This effect was approximately equal to a 3% increase in the rate for each additional month that participants were enrolled in CETA.

Table 6 presents the estimated rates of first transition from employment to nonemployment for participants who were employed on the day after CETA. The estimated rates with no regressors show that black men were exiting the first spell of employment most rapidly and black women most slowly, but the differences between groups (and the absolute magnitudes of the rates) were much smaller for these transitions than they were for transitions into employment. White men had the largest gap between their rate of exit from employment and entry to employment, implying that they enjoyed the highest probability of being employed when the transition rates are in equilibrium.

Participants in classroom training and on-the-job training had

slower rates of exit from employment than did their counterparts in work experience, but most of these effects were not significant. The proportionate reduction in exit rate was largest for black women in on-the-job training (45%), smallest for white women in classroom training (8%). On-the-job training reduced the exit rate from employment significantly for black women and white men but, in general, program effects for exits from employment were much smaller than were effects on entry into employment.

In all probability the characteristics of the first job itself--its quality, skill level, wage rate, among other attributes-- will have the greatest effect on an individual's employment stability. This is not to say that other dimensions of CETA experience have no effect on future employability once participants obtain an initial job. For example, Table 6 indicates that a longer time spent in CETA slowed the rate of transition out of employment. (For black women, an additional month spent in CETA reduced the rate by 15%; black men and white women experienced a 9% decline, white men a 6% decline.) Perhaps longer-enrolled participants were more likely to complete a training program or were being trained for more highly-skilled jobs. Nevertheless, we conclude from the analysis of program effects in Tables 5 and 6 that classroom training and on-the-job training had greater impact on how quickly participants got jobs than on how quickly they left the initial spell of employment.

Comparing coefficients for background characteristics in Tables 5 and 6, we find that employment in the year prior to CETA and educational attainment also tend to influence transitions into employment rather than transitions out of employment. Working a

larger percentage of time and having a high school education significantly increased the rate at which all groups entered employment. Black and white male family heads left employment more slowly than others, and black male heads also entered employment more rapidly. Black wives entered employment more quickly than other black women, while white wives entered employment more slowly. Having children under age 6 reduced the rate of entering employment for white women but not for blacks.

We can summarize the program activity effects on employment outcomes in a simpler format using information in the rate equations. The top panels of Table 7 show the expected mean duration of first spells of nonemployment and employment for each group of participants. (9) Spell durations are calculated at the means of all other variables in the equations, so that within-group comparisons of program effects are net of differences in participant background characteristics.

The bottom panel of Table 7 shows the expected probabilities of employment assuming that the model is in equilibrium. (10) These probabilities, our final summary measures of program effects on employment, are broadly consistent with the results of other studies in finding that on-the-job training is the most effective program and work experience is the least effective program. Net of background characteristics within each group, on-the-job training had the highest, and work experience the lowest, equilibrium probability of employment. These results also summarize more subtle differences in effects that are noteworthy. For example, in most cases work experience participants who left CETA with a job were not significantly different from other employed participants in how long they remained so. However, those work experience participants who left without a job were much

worse off than others. The equilibrium employment probability for classroom training was much higher than the employment probability immediately after CETA, indicating that skill training and educational credentials were assets in finding a job.

There were also specific differences in program effects across groups. First, white men were more likely to be employed than any other group within any given program. Thus race and sex continued to influence the probability of employment even among groups which had the same program assignment. Second, the difference in equilibrium probabilities for white women in classroom training and on-the-job training was very small, indicating than in the longer run these two programs had about the same effect on white women's employment prospects. Third, the percentage increase in the probability of employment for on-the-job training relative to other programs was much greater for black men and women than for whites. Blacks benefited relatively more from on-the-job training in the longer run mainly because it significantly increased the rate of entering employment for black males and significantly reduced the rate of leaving it for black females.

DISCUSSION AND CONCLUSIONS

Our findings have implications for employment and training policy and for future research on program effects. To clarify the policy conclusions we will use the prediction equations to calculate estimates of the effects of reallocating participants among types of program activities. We then discuss the problems and the merits of attempting to make these changes. The final section discusses the limitations of the study and indicates areas for future research.

Increasing the enrollment of disadvantaged women and minorities in on-the-job training is one policy change that would result in more equitable treatment of these groups of participants. In order to see how this change would affect the post-program employment prospects of these groups in comparison to white men, we have calculated the hypothetical effects of reallocating women and blacks among program activities. To do this, we substituted the observed proportions of white men in on-the-job training (35.4%) and classroom training (43.4%) from Table 1 into the logistic regression and transition rate equations for the other race-sex groups. We then recalculated the predicted employment probabilities for these groups on the day after CETA and in the longer run. This substitution does not change the effects of programs and background characteristics on the employment probabilities of each group.

The results show that if the other groups were distributed among program activities in the same proportions as white men, then we expect 4.5% more black women, 4.3% more white women, and 2.5% more black men to be employed immediately after leaving the program. Making the same substitution of white male enrollment proportions into the transition rate equations and calculating equilibrium employment probabilities, we expect 2.1% more black women, 0.7% more white women, and 2.5% more black men to be employed at equilibrium. We conclude that shifting more white women and blacks from classroom into on-the-job training would result in rather modest improvements in post-program employment outcomes for them and that white men would still have a greater likelihood of employment in each case.

Assuming that policy makers would want to make these changes in

participant enrollment patterns without displacing white men from on-the-job training, it would be necessary to increase the number of positions in on-the-job training programs. However, as Mirengoff and Rindler (1978) have pointed out, on-the-job training is a "supply-driven" program, meaning that the number of positions available is determined by the extent of cooperation from local employers. The difficulties that program operators have in securing this cooperation explains why on-the-job training is not expanded despite its obvious advantages for participants. By contrast, classroom training is a "demand-driven" program, implying that the number of available positions can be expanded by the decisions of program operators to increase class sizes or to contract with more educational establishments for additional services. In fact, the new Job Training and Partnership Act, as well as other state initiatives, are seeking a larger role for the provate sector in planning and operating government training programs. But it is still an open question whether women and minorities will have equal access to these new initiatives.

An argument often used against the reallocation of participants among programs is that there are not enough female and minority enrollees who are qualified for on-the-job training. As we pointed out above, however, Berryman et al. (1980) have found that white men are still more likely to be assigned to on-the-job training when differences in measurable background characteristics are taken into account. Moreover, the selection criteria applied by local program administrators are subject to many constraints, including the shortage of on-the-job training positions, service deliverers preferences for certain types of workers, and the inability to provide needed support

services (such as child care, transportation, and medical attention) to otherwise-qualified applicants. Thus it appears that policies to increase women's and blacks' access to these programs should focus on changing the selection process rather than seeking more qualified applicants.

One may ask, given the apparently small net effect of participant reallocation on post-program employment, whether reallocation is necessary or desirable. There are a number of compelling reasons why the program assignment process should be equitable. First, federally sponsored training programs should set an exemplary standard of equal employment opportunity in order to be as effective as possible in pressuring private employers to eliminate discriminatory employment practices. Second, the aggregate increases in employment probabilities for on-the-job compared to classroom trainees are only modest, but the individual participant who gets a job more quickly realizes gains of great importance to herself and her family. Moreover, on-the-job trainees earn wages immediately upon entering the program, whereas classroom training postpones income benefits. Third, we have not considered the possibility that on-the-job training may result in higher wages and more skilled jobs in the post-program period in addition to getting participants jobs more quickly.

There are several reasons why equalizing the program assignments of race-sex groups does not equalize employment outcomes. Some of these reasons are deeply embedded in the functioning of society. Other reasons have more to do with the functioning of employment and training programs, the limitations of the present analysis, and the paucity of knowledge about the interplay of family, work, and social

policy.

The first and most obvious reason that employment differences remain when allocations of race-sex groups have been equalized is that they differ in background characteristics and the effects of these characteristics on employment. In addition, these groups may well differ on important but unmeasured characterisitics, such as the quality of prior work experience, scheduling flexibility, geographic mobility, and the like. Finally, employer preferences and prejudices have much to do with the employment experiences of such marginal workers.

A second reason for enduring differences across groups has to do with the nature of their CETA experiences. Men and women do not receive identical training even within classroom or on-the-job training programs. Instead, there is a high degree of occupational segregation by sex in all training programs (Berryman et al. 1980). Federal job training programs generally direct participants into sex-typical occupations and do not break the cycle of disadvantage which results from the lower wages and reduced opportunities of women's occupations. We plan to examine within-program occupational differences in our future research.

The third sort of reason for differences across race-sex groups concerns the limited scope of the outcomes measures in this study. We were concerned with proximal measures of CETA effects, but CETA may have a latent effect on the employability of women and blacks which remained undetected in this research. Alternatively, pre-existing labor force inequalities between groups may reassert themselves more strongly as time passes. Such latent effects may be detected by estimating employment transition rates over the entire post-program period.

This multi-spell model would also provide an opportunity to examine forms of duration dependence more complex than the constant rate model assumed here.

Fourth, the present model was confined to only two states, employment and nonemployment. Refining labor force participation to include three states (employed, unemployed, not in the labor force), four states (employed, unemployed, in school, not in the labor force), or five states (employed full-time, employed part-time, unemployed, in school, not in the labor force) may alter our view of race-sex differences in the effects of training programs. There is some evidence that the distinction between unemployment and not in the labor force is an important one (Flinn and Heckman 1982).

Fifth, the complex interactions among work, family, and public programs (such as CETA and AFDC) are not sufficiently understood. The categories of family status used in this paper may be inadequate to capture the subtle choices that women must make. As mentioned above, women who are family heads may choose to receive AFDC rather than accept an unsuitable job even though they have expressed an intention to work by enrolling in CETA. Little is known about how these cross-pressures are resolved and what role child care responsiblities, personal resources, and social support services play in the decisions. We intend to explore these issues in future analyses by refining our family structure measures and by examining the post-program employment patterns of AFDC and non-AFDC women.

NOTES

1. In addition to training for disadvantaged adults, CETA authorized many other programs under separate titles. It included, for example, programs for disadvantaged youth, summer youth programs, and special national programs targeted to specific minorities. The largest and most widely-known CETA program was public service employment (PSE) aimed at reducing countercyclical unemployment. PSE had different origins, goals, and eligibility requirements than the job training programs considered here. It was subsequently eliminated by the Reagan administration.

2. Women were also severely underrepresented in public service employment during all the years of that program's existence.

3. This distinction is true of occupational training in general (Nieva and Gutek 1981). The kinds of job tasks determine the type of training facilities that are needed. For example, a business office, where tasks involve typing, filing, and other clerical work, can easily be simulated in a classroom. Women are 80% of all clerical workers (Fox and Hesse-Biber 1984). Some training for blue-collar jobs is also available in vocational schools (e.g., electrical circuitry or drafting), but the large and expensive equipment used in many operative jobs is located in factories. Skilled blue-collar crafts are traditionally learned through formal apprenticeship programs with master craftsmen and other "hands-on" training. Men are 60% of all operatives and 94% of all craftworkers (Fox and Hesse-Biber 1984).

4. Social security earnings records are available, but this is a crude measure and the process of matching participants to their records is error-laden. Moreover, many participants are relatively young and therefore unlikely to have extensive employment histories.

5. Several design variables were incorporated into initial models but removed from the final analyses because they did not change the models' coefficients. Among these variables were duration of participation in the study (the time elapsed between the first and last available interviews), whether or not the CETA entry and termination dates for a case were edited, and whether a participant may have been sampled as a youth-program participant and therefore scheduled for only one follow-up interview. (Since youth program participants were excluded from this research these persons must have subsequently transferred to one of the programs under study here.)

6. In a logistic regression model, the logarithm of the odds of being employed is expressed as a linear combination of a set of predictor variables, each variable multiplied by its estimated coefficient. Stated more formally, if p is the probability of being employed on the day after CETA, then p/1-p is the odds of being employed versus not employed on that day. Let X be a row vector of predictor variables and let the first element of X be 1. B is a vector of estimated coefficients, the first element of which is a constant (intercept) term. Then the logistic regression model may be expressed as $\ln(p/1-p) = \exp(XB)$. The coefficients of this model (in the B vector) represent <u>additive</u> effects of predictor variables on the <u>logarithm</u> of the odds of employment. Since these coefficients are difficult to interpret, we will take antilogs of both sides, expressing the odds of being employed as the <u>product</u> of the predictors and their coefficients.

7. Other analysts have noted sizable aggregate shifts in proportions employed at various times in the post-program period

(Westat 1980). Gay and Borus (1980) have found that termination status is not a valid indicator of longer-term individual employment outcomes.

8. In the sociology literature these techniques are called event history analysis, developed chiefly by Nancy Tuma and her colleagues at Stanford (e.g., Tuma et al. 1979). Let rij be the rate of transition from state i to state j. Then the model considered here expresses this rate as a log-linear function of a vector of observed variables: rij = exp(BijX), for all i and j, i ≠ j. The log-linear relationship constrains all rates to be positive and usually produces a better fit (Tuma et al. 1979). We also assume that the transition rate does not change over time. This strong assumption appears reasonable, based on an inspection of nonparametric estimates of transition rates plotted against time. To relax this assumption the form of time dependence must be specified and this specification has serious implications for continuous time models (see Allison 1982 for a discrete time alternative).

9. If rij is the estimated transition rate from state i to state j, then the estimated mean duration of spells in state i is 1/rij.

10. Equilibrium means that the system is observed at a time when random fluctuations in the transition rates in each direction have cancelled. If rij is the transition rate from state i to state j, and rji is the transition rate from state j to state i, and the system has only two states, then the equilibrium probability of being in state i is rij/rij + rji.

TABLE 1

Characteristics of CETA Participants on Variables in the Analysis by Sex and Race

	White Men	Black Men	White Women	Black Women
Background Variables:				
Education at enrollment:				
Less than high school	34.1%	44.2%	30.1%	38.8%
High school or equivalent	45.2	41.6	52.9	46.3
Post-high school	20.7	14.2	17.0	14.9
Pct. time employed year prior to CETA	43.5%	36.8%	32.8%	25.4%
Age at enrollment	27.6	26.2	30.3	27.0
Family status at exit:				
Head of household	45.8%	31.5%	31.0%	43.2%
Wife	---	---	32.9	18.8
Single individual	24.9	20.1	17.3	8.0
Other non-head	29.3	48.4	18.8	30.0
Mean no. children<6 yrs.	.31	.28	.34	.55
Program Activity Assignment:				
Classroom training	43.4%	64.5%	54.7%	68.0%
On-the-job training	35.4	15.9	20.3	12.5
Work experience	21.2	19.6	25.0	19.5
Length of CETA enrollment (days)	127.6	117.5	142.2	130.4
Contextual variables:				
Entry cohort:				
FY 75 - 3rd quarter	27.2%	23.8%	30.8%	25.6%
FY 75 - 4th quarter	19.7	22.0	20.3	22.0
FY 76 - 1st quarter	28.2	27.2	28.4	27.4
FY 76 - 2nd quarter	24.9	27.0	20.5	25.0
Unemployment rate during exit month:	7.7	7.8	7.7	7.7
(N)	1167	577	989	687

TABLE 2

Characteristics of First Post-CETA Spell by Program Activity

	Employment				Nonemployment			
First Spell	Classroom Training	On-the-Job Training	Work Experience	TOTAL	Classroom Training	On-the-Job Training	Work Experience	TOTAL
% in state (day after CETA)	33.8%	63.5%	49.2%	44.1%	66.2%	36.5%	50.8%	55.9%
Mean length of spell (days)	373.7	448.8	396.4	404.3	266.7	193.4	337.4	269.6
% never leave state	37.8%	40.7%	35.7%	38.3%	22.2%	20.3%	29.8%	23.4%

TABLE 3

Characteristics of First Post-CETA Spell by Sex and Race of Participants

	Employment				Nonemployment			
First Spell	White Men	Black Men	White Women	Black Women	White Men	Black Men	White Women	Black Women
% in state (day after CETA)	54.7%	41.5%	42.1%	30.7%	45.3%	58.5%	57.9%	69.3%
Mean length of spell (days)	400.5	363.6	420.1	430.5	189.5	199.6	302.3	369.7
% never leave state	38.1%	38.5%	37.4%	40.2%	16.1%	27.1%	23.3%	29.0%

TABLE 4

Effects on Odds of Employment the Day After Exiting CETA by Sex and Race of Participants

Variables[a]	White Men	Black Men	White Women	Black Women
Constant	15.14	.14	.26	.01
Background Variables:				
Education:				
High school or equivalent	1.04	1.12	1.61***	1.50**
Post-high school	1.12	1.31	2.01***	1.67*
Pct. time employed year prior to CETA	1.009***	1.006**	1.005**	1.013***
Age	.97	1.11**	1.05	1.10
Age^2	1.00	.999*	.999	.999
Family status:				
Head of household	1.76***	1.77**	1.00	1.42
Wife	--	--	1.05	1.17
Single individual	1.16	.83	1.20	1.80*
No. of children < 6 yrs.	.84	1.09	.98	.87
Program Activity Effects:				
Classroom training	.50***	.76	.66*	.48***
On-the-job training	1.56**	1.26	2.57***	1.16
Length of CETA enrollment	1.00	1.00	1.00	1.00
Contextual Variables:				
Entry cohort:				
FY75 - 4th quarter	.72	.75	.88	.85
FY76 - 1st quarter	1.01	1.13	1.11	1.16
FY76 - 2nd quarter	.71	1.09	1.04	.92
Unemployment rate during exit month	.75	.94	.95	1.26

continued

TABLE 4
(continued)

	White Men	Black Men	White Women	Black Women
Proportion of Concordant Pairs	.67	.66	.67	.71
Pseudo R^2	.08	.06	.07	.10
Likelihood ratio χ^2: equation	125.54***	49.12***	93.71***	80.41***
df	15	15	16	16
Reduction in likelihood ratio χ^2 for program effects (df=2)	61.78***	4.62*	59.04***	17.74***
(N)	(1167)	(577)	(989)	(687)

* .10 ≥ P > .05
** .05 ≥ P > .01
*** .01 ≥ P

[a] Reference categories for categorical variables: Education, less than a high school education; Family status, dependent in household; Program activity, work experience; Entry cohort, FY75 - 3rd quarter.

TABLE 5

Effects on Rate of Transition to First Spell of Employment for Those Who Leave CETA Without a Job by Sex and Race of Participants

Variables[a]	White Men	Black Men	White Women	Black Women
Constant	.004***	.02*	.00003***	.009**
Background Variables:				
Education:				
High school or equivalent	1.28**	1.34**	1.31**	1.48***
Post-high school	1.17	1.26	1.84***	1.92***
Pct. time employed year prior to CETA	1.007***	1.005**	1.007***	1.004*
Age	.95*	.98	1.05**	1.02
Age^2	1.00	1.00	.999**	.996
Family status:				
Head of household	1.20	1.47**	.83	1.23
Wife	--	--	.67**	1.53**
Single individual	1.26*	1.24	.77	.97
No. of children < 6 yrs.	.96	1.03	.77***	.88
Program Activity Effects:				
Classroom training	1.99***	1.15	1.39**	1.33*
On-the-job training	2.10***	1.91**	1.40*	1.40
Length of CETA Enrollment	1.001*	.999	1.001**	1.001
Contextual Variables				
Entry cohort:				
FY75 - 4th quarter	1.41**	1.47*	1.35*	1.00
FY76 - 1st quarter	1.11	1.67**	1.47**	.80
FY76 - 2nd quarter	1.41**	1.12	1.45**	1.09
Unemployment rate during exit month	.97	.78	1.50*	.73

continued

TABLE 5
(continued)

	White Men	Black Men	White Women	Black Women
Estimated rate, no regressors	.004555	.003765	.002541	.001928
Pseudo R^2	.02	.01	.02	.01
Likelihood ratio χ^2: equation	136.22***	35.66***	112.37***	47.58***
df	15	15	16	16
Reduction in likelihood ratio χ^2 for program effects (df=2)	9.88***	6.76**	7.00**	4.61*
(N)	(525)	(483)	(579)	(474)

* .10 ≥ P > .05
** .05 ≥ P > .01
*** .01 ≥ P

[a] Reference categories for categorical variables: Education, less than a high school education; Family status, dependent in household; Program activity, work experience; Entry cohort, FY 75 - 3rd quarter.

TABLE 6

Effects on Rate of Transition to First Spell of Nonemployment for Those Who Leave CETA With a Job by Sex and Race of Participants

Variables [a]	White Men	Black Men	White Women	Black Women
Constant	.03*	.41	.38	10.08
Background Variables:				
Education:				
High school or equivalent	.72***	1.01	.80	.89
Post-high school	.63***	.80	.71*	.91
Pct. time employed year prior to CETA	.998	1.002	.996**	.997
Age_2	.94*	.85***	.88***	.93
Age	1.00	1.002***	1.001***	1.001
Family status:				
Head of household	.65***	.51***	1.48*	1.17
Wife	--	--	1.54**	1.20
Single individual	1.04	1.35	1.54*	.68
No. of children < 6 yrs.	.94	1.63***	.95	1.17
Program Activity Effects:				
Classroom training	1.01	.75	.91	.74
On-the-job training	.73**	.67	.84	.52**
Length of CETA Enrollment	.998***	.997***	.997***	.995***
Contextual Variables:				
Entry cohort:				
FY75 - 4th quarter	.95	1.34	.79	.69
FY76 - 1st quarter	.80	.99	.66**	.55*
FY76 - 2nd quarter	.91	1.23	.63**	.74
Unemployment rate during exit month	.88	.75	.75	.43**

continued

TABLE 6
(continued)

	White Men	Black Men	White Women	Black Women
Estimated rate, no regressors	.001552	.001668	.001537	.001395
Pseudo R^2	.01	.02	.01	.01
Likelihood ratio χ^2: equation	79.34***	42.23***	49.98***	27.06**
df	15	15	16	16
Reduction in likelihood ratio χ^2 for program effects (df=2)	30.29***	2.08	1.01	5.37*
(N)	(642)	(241)	(410)	(213)

* .10 ≥ P > .05
** .05 ≥ P > .01
*** .01 ≥ P

[a] Reference categories for categorical variables: Education, less than a high school education; Family status, dependent in household; Program activity, work experience; Entry cohort, FY75 - 3rd quarter.

TABLE 7

Expected Mean Spell Durations and Probabilities of Employment Assuming Equilibrium by Sex and Race of Participants

	White Men	Black Men	White Women	Black Women
Expected Mean Duration of Nonemployment Spell (days): Not employed day after CETA				
Overall	187	282	353	491
On-the-Job Training	157	180	323	445
Classroom Training	165	297	326	467
Work Experience	329	342	454	623
Expected Mean Duration of Employment Spell (days): Employed day after CETA				
Overall	581	534	612	672
On-the-Job Training	761	614	670	979
Classroom Training	516	557	617	681
Work Experience	521	414	561	505
Expected Probability of Employment				
Overall	.76	.65	.63	.58
On-the-Job Training	.82	.77	.68	.69
Classroom Training	.76	.65	.65	.59
Work Experience	.61	.55	.55	.45

REFERENCES

Paul D. Allison. "Discrete-Time Methods for the Analysis of Event Histories." In Samuel Leinhardt (ed.) Sociological Methodology 1982. San Francisco: Jossey-Bass, 1982.

William Barnes. "Target Groups." In CETA: An Analysis of the Issues, Special Report No. 23 of the National Commission for Manpower Policy. Washington, D.C.: U.S. Government Printing Office, 1978.

Nancy Barrett. "Women in the Job Market: Unemployment and Work Schedules." In Ralph Smith (ed.) The Subtle Revolution. Washington, D.C.: The Urban Institute, 1979.

Laurie J. Bassi. "The Effect of CETA on the Postprogram Earnings of Participants." Journal of Human Resources 18 (Winter 1983): 539-556.

Sue E. Berryman, Winston E. Chow, and Robert M. Bell. "CETA: Is It Equitable for Women?" Santa Monica, CA: Rand, May 1981.

Farrell E. Bloch. "Introduction." In Research in Labor Economics: Evaluating Manpower Training Programs, Farrell E. Bloch (ed.). Greenwich, CT: JAI Press, 1979.

Dexter Choy. "Females Enrolled in Decentralized CETA Programs." Office of Program Evaluation, Employment and Training Administration, U.S. Department of Labor, July 1980.

Carmen Estrada, Discussant, "Barriers to Effectively Using Employment and Training Programs to Improve the Self-Sufficiency of Women." Conference on the Experience of Women in Employment and Training Programs. National Commission for Employment Policy, Washington, D.C., September 17-18, 1980.

Christopher J. Flinn and James J. Heckman. "New Methods for Analyzing Individual Event Histories." In Samuel Leinhardt (ed.) Sociological Methodology 1982. San Francisco: Jossey-Bass, 1982.

Mary Frank Fox and Sharlene Hesse-Biber. Women at Work. Palo Alto, CA: Mayfield, 1984.

Frank F. Furstenberg, Jr. and Charles A. Thrall. "Counting the Jobless: The Impact of Job Rationing on the Measurement of Unemployment." Annals of the American Academy of Political and Social Science 418 (March 1975): 45-59.

Robert S. Gay and Michael E. Borus. "Validating Performance Indicators for Employment and Training Programs." Journal of Human Resources 15 (Spring 1980): 29-48.

Gordon P. Goodfellow. "Estimates of the Benefits of Training For Four Manpower Training Programs." In Research in Labor Economics: Evaluating Manpower Training Programs, Farrell E. Bloch (ed.). Greenwich, CT: JAI Press, 1979.

Eric A. Hanushek and John E. Jackson. Statistical Methods for Social Scientists. New York: Academic Press, 1977.

Frank E. Harrell, Jr. "The LOGIST Procedure." In SAS Supplemental Library User's Guide. Cary, N.C.: SAS Institute, 1983.

Sharon L. Harlan. "Participation of Disadvantaged Groups in Employment and Training Programs (CETA) in New York and Pennsylvania." Final Report, Prepared for the Office of Research and Development, Employment and Training Administration, U.S. Department of Labor, 1979.

Sharon L. Harlan. "The Social Context of Employment Choice: Women in CETA.", New England Sociologist (Winter 1981): 31-39.

Nicholas M. Kiefer. "The Economic Benefits from Four Government Training Programs." In Research in Labor Economics: Evaluating Manpower Training Programs, Farrell E. Bloch (ed.). Greenwich, CT: JAI Press, 1979.

Steven S. Marcus "Influencing Termination Success: An Evaluation of Massachusetts CETA Programs." Policy and Evaluation Division, Massachusetts Department of Manpower Development, September 1980.

Ray Marshall. Work & Women in the 1980s: A Perspective on Basic Trends Affecting Women's Jobs and Job Opportunities. Women's Research and Education Institute of the Congressional Caucus for Women's Issues, 1983.

Stanley H. Masters and Rebecca Maynard. "The Impact of Supported Work on Long-Term Recipients of AFDC Benefits," Volume 3 of the Final Report on the Supported Work Evaluation, Manpower Demonstration Research Corporation, February 1981.

William Mirengoff and Lester Rindler. CETA: Mapower Programs Under Local Control. Washington, D.C.: National Academy of Sciences, 1978.

Veronica Nieva and Barbara Gutek. Women and Work: A Psychological Perspective. New York: Praeger, 1981.

Diane Pearce. "The Feminization of Poverty." Urban and Social Change Review 11 (nos. 1 and 2, 1978).

Charles R. Perry, Bernard E. Anderson, Richard L. Rowan, and Herbert R. Northrup. The Impact of Government Manpower Programs. Philadelphia: University of Pennsylvania Press, 1975.

Isabel Sawhill. "Discrimination and Poverty among Women Who Head Families." In Martha Blaxall and Barbara Reagan (eds.) Women and the Workplace. Chicago: University of Chicago Press, 1976.

Pawan K. Sawhney, Robert L. Jantzen, and Irwin L. Hernstadt. "The Differential Impact of CETA Training." Industrial and Labor Relations Review 35 (January 1982): 243-251.

Patricia C. Sexton. Women and Work. R & D Monograph No. 46, Employment Standards Administration, U.S. Department of Labor, 1978.

Margaret H. Simeral. "The Impact of the Public Employment Program on Sex-Related Wage Differentials." Industrial and Labor Relations Review 31 (July 1978): 509-519.

Nancy B. Tuma. Invoking RATE. Stanford University, 1980.

Nancy B. Tuma, Michael T. Hannan, and Lyle P. Groeneveld. "Dynamic Analysis of Event Histories." American Journal of Sociology 84 (January 1979): 820-854.

Lorraine A. Underwood. "Women in Federal Employment and Training Programs." Washington, D.C.: The Urban Institute, January 1979.

U.S. Commission on Civil Rights. "Women: Still in Poverty." Washington, D.C., 1979.

U.S. Commission on Civil Rights. "Child Care and Equal Opportunity for Women," Clearinghouse Publication No. 67, June 1981.

U.S. Department of Labor, "Employment in Perspective: Working Women." Bureau of Labor Statistics Report 696, Second Quarter 1983.

Westat, Inc. "Continuous Longitudinal Manpower Survey: Methodology," Technical Report No. 1, March 1977.

Westat, Inc. "Characteristics of Enrollees Who Entered Adult-Oriented CETA Programs During Fiscal Year 1978," CLMS Report No. 10, January 1980.

Westat, Inc. "Impact on 1977 Earnings of New FY 1976 CETA Enrollees in Selected Program Activities," Net Impact Report No. 1, March 1981.

Wendy Wolf. "The Experience of Women in Federally-Sponsored Employment and Training Programs." In Increasing the Earnings of Disadvantaged Women. Washington, D.C.: National Commission for Employment Policy, January 1981.

Women's Work Force. "Shortchanged and Slighted: An Assessment of the Department of Labor's National Response to Women's Employment and Training Needs." Washington, D.C.: Wider Opportunities for Women, January 1979.

Jeffrey Zornitsky and Margaret McNally. "Measuring the Effects of CETA on Women: Issues in Assessing Program Performance." Conference on the Experience of Women in Employment and Training Programs, Washington, D.C., National Commission for Employment Policy, September 17-18, 1980.