

**The Effects of Welfare-to-Work Program Activities on
Labor Market Outcomes**

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Abstract

In this paper, we use administrative data on welfare recipients in the states of Missouri and North Carolina to obtain separate estimates of the effects of participating in sub-programs of each state's welfare-to-work program. Our data consist of all women who enter welfare between 1997:2 and 1999:4. We follow recipients for sixteen quarters after they enter welfare and model their quarterly earnings as a function of demographic characteristics, prior welfare and work experience, and the specific types of welfare-to-work programs in which they participate. We also control for individual heterogeneity as well as for nonrandom assignment of individuals into sub-programs. We focus primarily on three types of subprograms: assessment, job readiness and job search assistance, and more intensive programs designed to augment human capital skills. Our analysis uses a variety of methods, including OLS and matching methods, allowing us to compare how common assumptions influence results.

I. Introduction

Public investments in programs designed to move welfare recipients into the labor market – commonly known as welfare-to-work programs – are made with the expectation that these services will increase participants’ employment success both by aiding their search activities and by improving their general skill levels. Yet a growing number of studies examining the effectiveness of different programs to help welfare recipients become employed and exit welfare present mixed and sometimes discrepant findings.¹ One reason for these mixed findings is inadequacies in research design, data, and methodologies for assessing program effects. Many studies examining welfare-to-work programs treat the program as a single entity, when in fact, these programs typically consist of a number of sub-programs that provide basic education, job preparation and search assistance, and/or vocational and on-the-job training.

Conflicting findings have, in turn, engendered an active debate over whether strategies designed to build human capital versus those intended to help welfare recipients get into jobs quickly are more effective in assuring welfare recipients’ labor market success. In their synthesis of the findings of a large number of studies on welfare recipient welfare-to-work and training program outcomes, Barnow and Gubits (2002) report that longer-term, more intensive training strategies appear to be considerably more effective than short-term, work-first strategies. Alternatively, in their review of experimental evaluation findings from 20 programs, Bloom and Michalopoulos (2001) concluded that the most effective programs combined employment-focused and education strategies, with some flexibility allowed in determining the appropriate mix of education and employment activities for a given individual. These conclusions are at

¹ See recent reviews of this literature by Leahy (2001) and Barnow and Gubits (2002).

least partly at odds with the welfare reforms of the mid-1990s, which were predicated on the belief that welfare recipients needed jobs, not education and training, to advance in the labor market (Haskins and Blank, 2001).

In this paper we use administrative data on welfare recipients in the states of Missouri and North Carolina to obtain separate estimates of the effects of participating in sub-programs of each state's welfare-to-work program. Our data consist of all women who enter welfare between 1997:2 and 1999:4. We follow each recipient for sixteen quarters after they enter welfare and model their quarterly earnings as a function of demographic characteristics, prior welfare and work experience, and the specific types of welfare-to-work programs in which they participate.

We divide training into three categories on the basis of the intensity of the activity. First, we identify those who went through assessment but received no other training. Second, we consider those who participated in job readiness or job search activities, generally short term programs that are central to a work-first strategy. Third, we consider those who receive more intensive training, including basic education, vocational skill training, or other longer-term programs. Importantly, we develop several alternative approaches to modeling participation in more than one category of activity and examine the impact of sub-program participation under different assumptions about the nature of sub-program effects. The results from this analysis provide a clearer picture of differences in the effects of the sub-programs in terms of subsequent labor market success than found in many previous studies.

The remainder of the paper is as follows. In the next section we provide a brief review of relevant literature. In section III we describe our data and present the details of our empirical analysis. In section IV we introduce the various activities that are part of each state's welfare-to-

work program. In section V we present estimates of the effects of the various activities on the earnings of welfare recipients based on the simplest linear model. Section VI presents results of tests of whether the simple measures properly capture participation. Section VII considers the impact of participation by subgroup, and section VIII uses an alternative estimation strategy based on matching. In section IX we conclude.

II. Evaluation of Welfare-to-Work Programs

As the recent literature reviews by Leahy (2001) and Barnow and Gubits (2002) point out, broad areas of disagreement exist concerning the effects of programs designed to increase the employment, earnings, and probability of exit among women receiving welfare. Barnow and Gubits (2002) note that one reason for these inconsistent findings is that many studies do not adequately distinguish between specific types of services or activities. For example, it is common to see low-cost, job-oriented activities grouped together with the traditionally more intensive and expensive on-the-job training programs, which essentially muddles the distinction between a work-first strategy and one intended to increase general human capital. Some studies are plagued by unreliable records of individuals' participation in specific program activities and inaccurate information on the duration of their participation. Furthermore, there are always the problems associated with program services or activities that are not implemented as planned, and this likewise is typically not distinguished in individual service records.

Any program analysis faces the complication that human capital building approaches to aiding welfare recipients are rarely fully developed and implemented in welfare-to-work programs (Gueron and Pauly, 1991; Jencks and Edin, 1992; Friedlander and Burtless, 1995).

Even among programs that implement such strategies, few have collected sufficient longitudinal data to fully assess the effects of this approach. Studies that extend analyses beyond three or more years tend to reach different conclusions than short-term assessments; see for example, both the shorter-term and longer-term analyses of the effects of Riverside, California's GAIN program (Riccio et al., 1994 and Hotz et al., 2002).

An additional and related reason for the divergent findings is that researchers' definitions of what constitute longer- versus shorter-term programs differ widely. Some of the "longer-term," intensive education and training strategies in current welfare-to-work programs limit participation to 12 weeks. This contrasts with the earlier Job Opportunities and Basic Skills (JOBS) and Job Training Partnership Act (JTPA) programs, which generally defined long-term training as lasting six months to two years. In addition, few studies assess the cumulative effects of multiple, short-term episodes of participation in various types of welfare-to-work or training program activities.

More generally, this brief discussion suggests that we need better measures of welfare-to-work and training program activities, as well as a better understanding of what we are measuring. Our study of the effects of welfare-to-work program activities on the labor market outcomes of female welfare recipients responds to several shortcomings in the current literature. First, we examine participation in specific welfare-to-work program activities over a period when the emphasis on and use of alternative service strategies was changing. With comprehensive information on the types of services provided and the timing and length of participation that more precisely characterize participation, we assess the average and cumulative effects of different types of program activities on welfare recipients' outcomes. We

use complete data on the populations of welfare recipients in two states, facilitating a comparison of program effects across sites using the same approach and methods of analysis.

III. Data and Method of Analysis

Our analysis examines cash recipients in the Temporary Assistance for Needy Families (TANF) programs in the states of Missouri and North Carolina. Our data come from records maintained to administer the states' welfare programs, providing basic demographic and household information.

Our examination of employment for welfare recipients relies on earnings data collected by the states in support of their unemployment insurance programs. Employers report total earnings for each individual in covered employment during each quarter, and we merge this information with records of welfare recipients. While these data omit self-employment, illegal or informal employment, and a small number of jobs not covered by unemployment insurance, the overwhelming majority of employment within each state is included. For welfare recipients in Missouri, we use employment data collected by the states of Missouri and Kansas, ensuring employment coverage for welfare recipients in Kansas City, Missouri, who often work in Kansas.² For welfare recipients in North Carolina, we use that state's employment data. Of course, employment will be understated for individuals who move out of state after leaving

²Approximately one in seven jobs held by welfare recipients in Jackson County (the central county in the Kansas City metropolitan area) is in Kansas. In St. Louis, the proportion of individuals holding jobs in Illinois is much lower, reflecting the relatively poor economy in East St. Louis.

welfare.³ We correct all earnings measures for inflation relative to 1997:2.

We focus on female payees, age 18 but less than 65 years, in single parent households, excluding “child only” cases.⁴ We use quarters as our time unit, so that an individual who receives TANF cash payments at any point during a given quarter is considered a welfare recipient during that quarter. This approach tends to smooth welfare receipt, eliminating apparent movements off of welfare that are due to administrative errors and cause a case to be omitted from the files for a month or two.⁵ We focus on the subset of individuals who are new entrants into the TANF cash program during the quarters 1997:2 through 1999:4, that is, those who receive payments during at least one of these quarters but not the prior quarter. We then follow these individuals for up to 16 quarters after welfare entry, identifying their participation in work component activities and earnings during that period.⁶

Our dependent variable is earnings obtained in a specific quarter, and the determinants include individual characteristics, labor market experience and welfare receipt prior to entering

³Kornfeld and Bloom (1997) compare experimental (job-training program) earnings impact estimates calculated using unemployment insurance (UI) data with those based on other more costly earnings data sources and conclude that UI wage data provide valid estimates for all low income persons except a small subgroup of male youths with past arrests. See Hotz and Scholz (2000) for a general discussion of the advantages and limitation of these data for studying the employment patterns of welfare recipients.

⁴The payee in a child only case is not a parent and receives payment on behalf of the children. Such payees normally do not face work or training requirements, and their income does not count in the calculation of benefits.

⁵Luks and Brady (2003) studied the definition of welfare spells and concluded that because of “administrative churning,” a break of up to three months is necessary in most cases to say with confidence that a recipient has gone off of welfare.

⁶We do not have a full 16 quarters of follow-up data for those entering TANF near the end of our entry window.

welfare, measures of the local labor market during the current quarter, and work component participation after entering welfare. Since an individual who comes onto welfare and then obtains adequate employment will subsequently be required to move off of welfare, taking account of welfare exits would be tantamount to controlling for labor market success. We therefore structure our analysis to predict earnings in the 16 quarters following welfare entry regardless of whether the individual leaves welfare during that period.

For an individual who leaves welfare for at least one quarter and then returns, we encounter the question of how each entry onto welfare is to be treated. In the absence of welfare data prior to 1995 in North Carolina, we are not able to identify a “first” entry onto welfare. Eliminating subsequent welfare entries after the first entry observed would omit later welfare entries but not earlier ones. We therefore treat each entry onto welfare separately, counting the 16 quarters from that entry even if those same quarters are also included in the period following a prior or subsequent entry.⁷ The analysis should thus be properly viewed as identifying earnings outcomes following a particular entry onto welfare. We control for the extent of the welfare experience in the prior two years, but we do not control for past participation in welfare-to-work activities or other training. Hence, the estimated impact of welfare-to-work (or work component⁸) participation is an incremental impact, indicating the effect beyond whatever training was received prior to entering welfare. As such, these estimates address the appropriate policy question of how the “average” welfare recipient’s earnings trajectory is affected by these

⁷We found that in both Missouri and North Carolina, approximately one in ten quarters in our analysis appears twice, with less than 1 percent of earnings quarters appearing more times.

⁸We use the term “work component” to refer to the particular components or subprograms of welfare-to-work program activities.

welfare-to-work and training program activities.

It is important to recognize that entry onto welfare is selective not only of particular kinds of individuals but is also selective along a temporal dimension for these individuals. We focus on female payees in single-parent households, with the obvious implication that a woman can only enter welfare during a period when she is caring for children without the financial support of a spouse. It must also be a period in which her own earnings are low enough that she qualifies for TANF payments. For low-skilled individuals who are normally employed, entry onto welfare will occur in a period where there is an unexpected negative event or circumstance, that is, a period of unusually “bad luck.” Insofar as such circumstances are not perfectly correlated over time, subsequent earnings would be expected to increase even in the absence of any government intervention. For this reason, our analysis will control for the period since entry onto welfare for the individual. This approach accounts for “regression to the mean” and for the impacts of the TANF program that may not be captured in work component participation.

Perhaps the most important challenge in assessing the impact of participation in work component programs is that participation is not random. Whether a TANF recipient is required to participate in a work component activity and the activity that is recommended depends on the circumstances of the recipient. Program rules exempt certain recipients from participation, such as individuals with very young children. Other exemptions are based on the judgment of the caseworker, as where an individual is viewed as facing personal obstacles that make it too difficult to engage in training or employment. There is also an element of personal choice. In Missouri, individuals who fail to participate in required programs face sanctions that reduce their payments (generally by about 25 percent) but are permitted to continue receiving these reduced

TANF benefits until the five years of eligibility is exhausted. However, in North Carolina, those who fail to cooperate can have the full value of their benefit withheld. Equally important, in both Missouri and North Carolina, individuals who work a minimum number of hours are exempted from participation in work component activities. As a result, those who participate may be individuals whose labor market opportunities are particularly limited or who are facing an extended streak of bad luck.

We attempt to deal with the problem of selection in a number of ways. As noted above, we control for a variety of personal characteristics, including number and age of children and recipient educational attainment, in addition to labor market experiences in the two years prior to entering welfare. We also fit models that control for individual fixed effects. This approach, in essence, obtains estimates of the impact of work component participation by comparing a recipient's experience prior to component participation with her subsequent experience.

The kinds of models we use make a variety of assumptions about effects of the program as well as control variables. Implicitly, program impacts are assumed to be the same for all individuals, and the linear model is assumed to adequately account for all control variables. If impacts of either the program or control variables differ by subgroup, estimates of program effects may be biased. As a test of the models' assumptions, we divide the sample by education, race, and prior employment experience, estimating the model separately for each. Our findings suggest that the model's assumptions are, in fact, violated: estimates of program impact appear to differ dramatically by prior employment experience.

Matching methods are more general than linear models in that they provide estimates of program effect that relax several of the assumptions of the linear model. First, these models

recognize that program effects may differ across individuals, explicitly producing estimates that are averages across individuals. In addition, it is well-known that linear regression models of the kind we are using may perform badly when participants and comparison groups have very different values on control variables. In the extreme case, some of the treated cases may not have any comparable cases in the comparison sample, and a matching approach allows us to identify such failures of common support. In the final section of the paper, we implement probability score matching to determine whether this approach provides different estimates.

We also undertook an instrumental variables estimation approach, using variation over time in the level of participation in training programs across counties as the identifying variable. However, estimates were frequently implausible, suggesting that the identifying variable was correlated with unmeasured individual or labor market differences. We therefore do not report those estimates here.

IV. Work Component Activities

The emphasis on moving welfare recipients to work began to take concrete form in the early 1990s with the implementation of the federal JOBS program, which, for the first time, required states to provide explicit services to recipients of Aid to Families with Dependent Children (AFDC). These programs expanded during the decade under federal waivers to states that allowed modification of the AFDC program and then under the federal reforms that replaced AFDC with Temporary Assistance for Needy Families (TANF). Nationally, there was substantial emphasis on the work-first approach, which focused primarily on getting recipients into jobs and only secondarily on training programs to improve skills. North Carolina explicitly

adopted this strategy, whereas Missouri's approach was less clear. Under JOBS, Missouri had tended to emphasize long-term training, and the program was modified in the direction of work-first only in the face of federal pressure implicit in the TANF rules. Nonetheless, Missouri's program retained a much greater emphasis on long-term training, and by 2000, Missouri had managed another policy turnaround, adopting rules that increased the ability of TANF recipients to engage in long-term training.

We have classified the various work component activities into six categories that allow comparability between Missouri and North Carolina. Table 1 provides basic information on the character of these activities. We present statistics on the duration of each activity and the number of hours per week of participation normally scheduled. We have calculated duration as the number of weeks between the date the activity commences and the date when it is completed.

As expected, there are substantial differences between activities in their duration and intensity, as well as differences between states. The first category, assessment, may include formal paper-and-pencil testing, as well as development of a "self-sufficiency plan," which provides a schedule of activities leading to employment and exit from TANF. In North Carolina, the numbers in the table show that these activities usually take only around three hours per week and extend for less than two weeks. In Missouri, both the reported duration and intensity of assessment activities are greater, but we have evidence that the longer duration is at least partly due to systematic errors in data entry.⁹

⁹Although Missouri's case managers are required to specify the date when assessment is completed, in practice they may frequently fail to enter it. In some cases, this may occur when individuals are classified as exempt or are removed from the program for some other reason. By statute, assessment can take no more than 30 days, in contrast to a median reported assessment time of 4.9 weeks. We were told that apparent deviations from the 30-day limit very

Job search and job readiness training are similar in both locations, although the upper tail is much higher for Missouri, likely reflecting data errors. The category basic education includes attendance in public schools up through twelfth grade, and English as a second language training, although the largest category by far is adult education and literacy programs, such as those preparing individuals for the high school equivalency diploma. Interestingly, the median number of weeks is slightly greater in North Carolina than in Missouri, although there are more individuals with very long involvement in Missouri. In the case of post-secondary education, the median involvement is about 20 weeks in Missouri but only 14 in North Carolina. Yet, hours of involvement per week is much higher in North Carolina, with the median over 40 hours as compared to less than 20 in Missouri, very likely due to differences in coding practices.¹⁰

The typical vocational and technical skills training program lasts about nine weeks in Missouri but only six weeks in North Carolina. Relative to these two work component categories, work experience involves a relatively small number of welfare recipients and is more likely to be offered to those welfare recipients who are unsuccessful in securing employment through participation in other work component activities. The types of activities defined as “work experience” may differ appreciably across programs. Yet once more, the patterns of participation are similar in the two states, with the exception of Missouri’s longer upper tail.

Despite differences in the duration of training, it is perhaps worth noting that the median

likely reflect entry errors.

¹⁰In Missouri, caseworkers are instructed to include in the scheduled hours one hour of study for each class hour, so 17 scheduled hours would indicate 8.5 hours of classes per week, more than half-time in most colleges. We suspect that the 42.5 hours per week scheduled in North Carolina reflects a more liberal coding for study time.

duration of participation is short in all activities, less than 10 weeks in every category except for post-secondary education. Differences in duration among recipients in a particular type of activity are greater in Missouri than in North Carolina, due largely to the longer upper tail in the Missouri distribution.

In order to avoid problems associated with small numbers of observations, we group together activities in the bottom four categories as “intensive.” Although there is appreciable variation among them, in both states median duration is longer for each of these categories than for assessment, job readiness or job search. We therefore consider the three categories of participation as assessment, job readiness or job search, and intensive training.

Since a large share of participants enter more than one type of component, it is necessary to decide how impacts will be gauged in such cases. A simple additive model would assume that a component contributes to outcomes without regard for whether it is combined with other components. Such an approach would also require that we decide how individuals who participate in more than one component within our categories will be treated. In keeping with our focus on the impact of component intensity, we have identified the type of training by the highest intensity component that the individual participated in since coming onto welfare. In particular, a quarter is coded as “assessment only” if the individual received assessment services at some point since coming onto welfare but has not received any other work component services. The “job readiness or job search” category applies to individuals who received such services, possibly also receiving assessment, but who did not receive intensive services. The final category, intensive services, is reserved for those who received intensive services, without regard for whether they received any other services. Hence, the intensive service category

includes any effects of other services received by such individuals, and impact estimates much be interpreted accordingly.

TANF recipients are most likely to participate in work components shortly after they enter the program. Table 2 indicates job component participation by quarter since entering welfare. The sample of cases is limited to those entering welfare in 1997:2-1997:4 in order to allow us to examine a full 16 quarters of data following entry. The first column of figures shows that, in Missouri, 10 percent of the sample participates in some component in the first quarter on welfare, whereas the number for North Carolina is 9 percent.

In both states, the proportion who had participated in at least one component increases to over 20 percent in the second quarter. The number increases somewhat more slowly in successive quarters, exceeding half by the end of our 16-quarter period. Since most individuals do not enter welfare at the beginning of a quarter, it is easy to see that the hazard of beginning a first work component (that is the chance per unit time) must be at its highest in the first quarter, declining in every quarter after that. Of course, the chance of participation declines in part because, after several quarters, a substantial portion of recipients have left welfare. In both states, for those individuals who have participated in at least one work component activity in the four years after entering TANF, about 80 percent had participated in the first two years.

Of those participating in a component in their first quarter, in both states more than half participate in assessment only, while 1.8 percent in both states are listed as job search/readiness (these may or may not have participated in assessment). More than twice as many participants in Missouri (as in North Carolina)—nearly a third of those in some components—participate in an intensive activity in the first quarter. As we look at later quarters, we see that there is greater

involvement in intensive activities in Missouri but that by the end of the 16 quarters most of the difference has disappeared.

Other patterns are quite similar by state, although by the sixteenth quarter, a substantially larger share of North Carolina's recipients have participated in assessment only, while more Missouri recipients have participated in job search/readiness. It is perhaps useful to note that in both Missouri and North Carolina, the number of recipients coded as having participated in assessment remains steady after about the eighth quarter. This implies that although new participants may be assessed each quarter, an equal number of those who were assessed in prior quarters are receiving other services.

How has participation changed for those entering welfare during the period of our study? Table 3 examines cumulative participation at the eighth quarter after entering TANF by quarter of entry. We see in both states that the chance of participation in any component has increased from about 40 percent to over 50 percent. The two more intensive activities show substantial increases, both increasing by more than 50 percent. The assessment category does not increase over time. This is a result of the fact that although more individuals are, in fact, receiving assessment services, the growth in other services hides this.

V. Effects of Work Component Participation: The Linear Model

Table 4 specifies the regression models that we estimate using Missouri and North Carolina data. In each case, the dependent variable is the earnings in a quarter for an individual following entry onto TANF. The total sample size is the number of quarters following welfare entries, and for each of the models estimated, we correct the standard errors to account for clustering, i.e., the

impact of a common error structure for earnings of a given individual.

Work component participation is captured by four alternative specifications. Specification (a) groups all activities together, simply capturing participation with a dummy that is coded one in all quarters following participation in any work component. This allows us to gauge an average or overall impact of participation on earnings in all subsequent quarters within our 16-quarter window. Specification (b) separates out the three types of work component participation, identifying each with a dummy. The dummy for assessment only is coded as one in the quarter when assessment services are received until some other services is received. If the individual then participates in job readiness/search, the assessment dummy is set to zero in that and subsequent quarters, while the job readiness/search dummy is set to one. Finally, if an individual participates in an intensive activity, the dummy for that measure is set to one in that and all subsequent quarters.

Specification (c), like (a), groups activities together, but includes a variable identifying the length of time that has passed since participation occurred. This allows for the possibility that the impact of participation may change depending on the time between participation and the quarter in question. Specification (d) includes a separate measure of each of the three participation types. The three measures each identify the number of quarters since participation in the specific component class. Only one of these measures is nonzero in a given quarter, since each is associated with one of the component dummies.

We present results with three sets of controls. Table 4 shows that Model 1 controls only for calendar quarter dummy variables and time since coming onto welfare (captured using 15 dummies). Model 2 adds control variables to Model 1 for individual welfare recipient

characteristics, county unemployment rates in each quarter, and dummies for each county.

Model 3 adds controls for individual fixed effects to Model 2.

Given the large number of models estimated, it is not possible to present the complete model results for each specification.¹¹ We focus our discussion on the key results, the estimates of the impact of participation in work components on earnings. We begin this discussion with the results presented in Table 5, which show the coefficient estimates and standard errors for the work components variables, specifications (a) and (b), that estimate the average impact of participation on earnings in all subsequent quarters.

In Model 1, where work component participation in any of the components is identified by a single dummy and where no recipient characteristics or location attributes are controlled, we observe a negative coefficient of several hundred dollars in both states, showing that earnings are appreciably lower in quarters that follow work component participation. The coefficients for Model 2 shows that somewhat less than half of this effect is due to measurable characteristics of the individual, the county, as well as experiences prior to entry into the TANF program. The kinds of people who participate in work component activities earn \$100 to \$200 less than others with similar characteristics in the absence of any participation.

Model 3 controls for individual fixed effects. This specification includes characteristics that may change between quarters, such as age and number of children, as well as measures relating to a particular TANF spell, i.e., prior welfare and employment experience. Recipient

¹¹The complete set of model results are available upon request from the authors.

characteristics that seldom change, such as race and education¹² are omitted, as are county dummies, because very few individuals move between counties. We see that in both states, participation in any work component appears to reduce earnings by about \$90. In each of these models, the estimated effect is fairly precisely estimated, with standard errors between \$5 and \$8.

The lower portion of Table 5 identifies the overall impact of participation in each of the three work components. This specification aims to identify separate impacts of participation in the three component classes. Here we see that there are substantial differences between estimated impacts. We see that assessment only would appear to reduce earnings when we compare similar individuals, but when we control person fixed effects, the impact becomes much smaller. In contrast, quarters following job search or job readiness training have earnings that are between \$75 and \$140 lower than other quarters even after controlling for person fixed effects. Finally, intensive training is associated with appreciable negative impacts in the fixed effects model, \$182 in Missouri and \$140 in North Carolina. Our conclusion is that there is little evidence that these kinds of work experience activities are beneficial over the observed period.

Of course, the specifications reported in Table 5 ignore the possibility that earnings respond with a lag to participation in various activities. Table 6 presents results that allow for this kind of impact. The upper part of the table presents results that focus on participation in any component. It should be noted that the variable identifying time since participation is coded with a value of zero in the quarter in which participation occurs, and then increments by one each

¹²Education information on the file is not generally updated during a welfare spell. Changes over time are as likely to reflect coding errors as genuine educational advancement.

quarter after that. Hence, the coefficient of the participation dummy can be taken as an estimate of the expected earnings in the quarter of participation, with the coefficient of the variable identifying quarters since participation indicating incremental gains in each quarter after participation.

Models 1-3 in Table 6 indicate negative initial effects for participation, followed by gains in each quarter after that point. It appears that controls reduce the estimated negative initial impact substantially, while reducing the estimated quarterly (positive) effect only slightly. In Model 1, in the quarter of participation, earnings are about \$350-500 below their expected value, and the shortfall declines by about \$30 each quarter, implying that participants catch up only near the end of 16 quarters. In contrast, Model 3 implies a much smaller initial decrement, less than \$140, with a breakeven time of about seven or eight quarters.

Results for each the component types are presented in the lower portion of Table 6. The basic pattern of results is quite similar for the two states in Models 1-3. Coefficients imply negative initial impacts followed by a catch-up period, but types of component activity differ in the extent to which benefits ultimately accrue. The exception is that assessment in North Carolina appears to have a positive initial impact.

Focusing on Model 3, job search and job readiness training reduce earnings by \$72 in Missouri and \$148 in North Carolina. The recovery per quarter is in the range of \$12-14, implying that the negative initial impact disappears after 7 to 10 quarters. In both sites, earnings in the initial quarter of intensive training are reduced by about \$320, and the catch-up period is 5 to 6 quarters.

VI. Alternative Specifications for Work Component Activities

The specification above provides parsimony at the cost of many assumptions about how participation in work component activities affects labor market success. In this section, we investigate the extent to which several of these assumptions may be violated. We first consider whether the grouping of various activities as “intensive” hides important differences in impact. We next examine whether our hierarchical structure—in which we consider only the impact of the most intensive activity—is justified. The alternative specification we consider nests both the hierarchical model and the simple additive model, allowing us to consider which alternative is preferable. Finally, we consider whether the order of the activities plays a role, testing a specification where we allow the most recent activity to differ in importance.

Disaggregating Intensive Activities

In the above analyses, we have grouped four kinds of activities as “intensive,” reflecting the greater time investment that they entail. Table 7 presents regression equations that estimate separate effects for these four measures. Here we use the same hierarchical coding system described above, so that in a given quarter, training activity refers only to the highest order participation since coming onto welfare. The ordering of these activities (originally grouped together) continues to be based on approximate intensity: work experience the lowest order, followed by basic education, vocational and technical education, and post-secondary education.

Columns 1 and 2 identify models that do not distinguish time since the activity, whereas columns 3 and 4 allow the impact of an activity to shift since participation. In Missouri, the classification of activities changes during our period. Through 1998, there is a separate coding for activities classified as “vocational and technical training” and “post-secondary training,” but

after 1998, these are combined. To accommodate this coding, we include in our specification separate measures for these activities for participation occurring up through 1998, and a combined measure for activities after 1998. The analysis for both states includes estimates that control for all the basic background variables (columns 1 and 3), as well estimates based on an individual fixed effects model (columns 2 and 4).

In both Missouri and North Carolina, there are important differences between activity impacts. If we look at columns 1 and 2, we see that, in Missouri, vocational and technical training is generally associated with a smaller earnings decrement than the other intensive activities. In contrast, in North Carolina, this category displays earnings losses that are as great as those for other categories. When we consider the models that allow for delayed impact, we also observe differences. In Missouri, those who participate in basic education experience an initial loss in the range of \$300, followed by a quarterly gain indicating a “catch-up” period of three to five years. In North Carolina, although the initial quarterly loss is similar, the catch-up period is only two years. In both states, work experience displays a similar initial loss, but in most specifications a slightly shorter catch-up period.

Vocational and technical training in both states displays a substantial initial loss, but the annual improvement is substantial. The catch-up period is between one and two years, and the annual gain is in the range of \$100 each quarter. This suggests that the long-term benefits of such training could be substantial, especially when we note that quarterly earnings average well below \$2000. Post-secondary education displays a similar pattern, but with even larger initial costs and larger annual returns.

Despite what are clearly important differences in the impacts of the intensive activities,

these results do provide some support for our decision to aggregate them. For each intensive activity, both the initial loss and the annual gain are substantially greater than for assessment, or job search and job readiness training. By combining the intensive activities, we capture much of the difference between types of training.

The Activity Hierarchy

In all the above analyses, our coding of training activities identifies for a given quarter the highest intensity activity undertaken since entering welfare. Implicit in this coding is the assumption that lower order training activities have no influence on labor market outcomes when they are combined with a higher level activity. For example, if an individual participates in assessment in one quarter and then in a more intensive activity in the later quarter, only the more intensive activity is coded as having occurred in subsequent quarters.¹³ This assumption is easily tested by including variables that capture participation in lower order activities.

Such an approach requires adding a dummy to the model for each activity identifying when it has occurred along with a higher-order component. If the pure hierarchical model is correct, the coefficients on additional dummies will not be statistically significant. This model also nests the pure additive model, which assumes that participation in each activity has a given impact on labor market success in all quarters subsequent to participation regardless of participation in other activities. If the additive model is correct, for each activity, coefficients for the two dummies will be the same.

¹³In the example, for quarters after assessment occurs but prior to participation in a more intensive activity, assessment is coded as the relevant activity. Hence, assessment is assumed to have an effect on labor market activities in any intervening quarter.

Table 8 presents models that enter such measures.¹⁴ Focusing on the second column (which controls for fixed effects), we see that, for North Carolina, the second set of coefficients is only statistically significant in one case, and significance is borderline, implying that the hierarchical model works well. In contrast, in Missouri there are substantial departures from the hierarchical model in the case of basic education, and vocational and technical training. It appears that when basic education is combined with some other activity, it continues to have a negative impact on labor market outcomes. When vocational and technical training is combined with post-secondary education (the only higher order activity), it has strong positive impact on earnings. Of course, these models estimate impacts for subsequent quarters without distinguishing the length of time since the activity occurred.

When we turn to the models that allow for effects to vary according to time since participation (columns 3 and 4), we find that estimates for North Carolina imply that the hierarchical model is clearly violated in three cases. Coefficients imply that assessment causes a substantial decrement in ultimate earnings—a decline that grows with time—when it is combined with other activities, in contrast to its effect when it is the sole activity. Work experience and job search also show effects when combined with other activities. Finally, we see that vocational and technical training has a substantial impact when it is combined with post-secondary education. This effect is much like that when it is the highest order activity, as it

¹⁴In panel B, no dummy is included for the highest order activity, post-secondary schooling. In Missouri, since we have both a measure for post-secondary schooling and for the activity which may be either post-secondary schooling or vocational and technical training, we could have included a measure of the combined activity. However, the substantive meaning of such a measure is unclear, and so we have constrained it to be zero. The number of cases affected is very small.

implies an initial decrement, followed gains occurring over time. In Missouri, we find that in the model allowing for delayed effects only identifies significant deviations from the hierarchical model in the case of vocational and technical training.

Although we find violations of the hierarchical model are common, our results do not point to any simple alternative structure. Estimates of coefficients for the two sets of dummies are often clearly different, so the simple additive model does not appear to be unambiguously better than the hierarchical structure. Differences between results for Missouri and North Carolina, which may also reflect differences in how these activities are implemented in the states, further complicate efforts to find an appropriate alternative.

Order of Participation

Our coding does not distinguish the order in which participation occurred for an individual who has participated in multiple activities. Although many alternative structures are possible, a plausible alternative would be to allow the most recent activities to have the greatest impact. In order to test for such an effect, we take the most general models fitted in Table 8 and add measures that identify the last work component activity undertaken. The coefficients reported in Table 9 show the extent to which the impact of a particular activity differs from that predicted in this general model when it is the last activity prior to the quarter in question. Post-secondary education is not listed, since it is collinear with the other measures taken together. In effect, we are only able to estimate the relative effect of being the most recent activity.

Estimates of coefficients in columns 1 and 2 of Table 9 are statistically and substantively significant, but it is the *relative* size of these coefficients that is meaningful. As an example, consider the coefficients in column 2 for Missouri for an individual who has participated in

assessment and work experience. The coefficients tell us that if work experience is the last component, then the earnings are expected to be higher by \$78 (the difference between \$204 and \$126) than if assessment is the last component. Similarly, if an individual participates in work experience and post-secondary education, earnings are higher by \$204 if work experience is the last component rather than post-secondary education. The positive coefficients indicate that earnings are greater if post-secondary education is not the last activity the individual participates in.

The model that allows for effects of time since participation also indicates many statistically significant and large impacts. While there are many differences by type of component activity, in most cases, if an activity is the last one, the short-term negative impact of participation is more pronounced, but the benefits for each quarter following it are greater. This confirms the intuition that when additional activities follow one another, the impact of earlier activities tends to be diminished.

The extent to which these patterns reflect actual impact of activities is an open question. It is easy to see that if the caseworkers place clients into programs when clients are unable to obtain employment, the low measures of impact for earlier activities may reflect this selection. If this is the case, we may be observing how labor market success influences the choice of activities rather than the reverse.

The tests in this section suggest that the measures used to represent component activities used in the previous section do not fully represent the relationship between participation and outcomes. Nonetheless, there is no parsimonious alternative that is clearly preferable. In the sections that follow, we will return to our simple three-part classification of activities. We

believe that the benefits of a simple specification outweigh the problems due to potential misspecification, but it is worth emphasizing that some kinds of inferences based on the simple model may be misleading.

VII. Effects of Work Component Participation: Comparisons Between Subgroups

All of the models we have fitted assume that the impact of program participation is the same for all individuals. Tables 10-12 provide simple tests of this, dividing the sample by education, race and work experience. Of course, two issues are of concern. The first is that if effects differ by individual characteristics, there may be policy implications for the kinds of individuals who should be channeled into training. The second is that estimates of program effect may be biased and may not even reflect average program effect.

The results in Table 10 suggest that component participation is more beneficial--or less detrimental--to individuals with less education. In every case, negative estimated effects in the quarter of participation are smaller for those with less than a high school education. For example, Model 3 implies that any participation in Missouri reduces earnings by \$86 for those with no high school diploma but by \$166 for high school graduates. For North Carolina, the comparable figures are \$51 and \$137. However, the dollar catch-up per quarters is generally greater for the more educated group. Still, time for the catch-up is generally somewhat longer for the more educated sample, although the difference is modest.

Table 11 considers whether impacts differ for whites and nonwhites. Again, there are substantial differences, and the direction of effects is unexpected. Almost without exception, whites experience greater benefits or smaller losses than nonwhites from participation.

Estimates for any participation imply that earnings are \$51 to \$108 lower for whites in quarters after participation, but \$164 to \$190 lower for nonwhites. The incremental gains following participation are similar for the two groups, implying that whites' earnings catch up much more quickly than do nonwhites. For whites, 3 to 5 quarters after participation, earnings have caught up, whereas for nonwhites, our estimates imply that earnings catch up only 9 quarters later. When we look at particular components, the initial impacts are generally larger (more negative) for more intensive training, but the basic patterns remain.

In Table 12, we present results that are divided by the work history of individuals in the eight quarters prior to entering welfare. We have divided the sample into those who have either no earnings or earnings only in one quarter during that two year period, those with between two and six quarters with earnings, and those with seven or eight quarters of earnings. Differences across these three groups in estimates of participation impact are large. For those with the most limited work history, the impact of participation is either positive in the quarter of participation or in the quarter after. Impacts are generally initially negative for the group with two to six quarters of employment. Earnings would appear to become positive only after 5-10 quarters. For those with extensive work histories, the program appears to have strong negative impacts. If we look at estimates of impact for any component participation, earnings following participation remain below their pre-participation levels during the full 16 quarters of our data.

The conclusion is clearly that for those with very little prior workforce participation, program effects are positive and substantial. In contrast, estimates imply that those with the greatest prior work history who participate in job components never receive earnings that are equivalent to earnings prior to component participation.

It is natural to ask whether these patterns may be due to selection into job components. In fact, individuals who are successful in obtaining employment are not required to participate, and so to some degree, participation may be reflecting, rather than causing, labor market outcomes. In considering the estimates that control for person fixed effects, the estimates are based on an implicit comparison between quarters following component participation and prior components. If an individual only enters a component following serious difficulty obtaining employment, the estimates may reflect such prior difficulties. In order for such selection to explain observed impacts, it would be necessary that the selection be very different based on prior employment history. Certainly, such a selection process would be complex.

Whatever processes are producing observed effects must be common to Missouri and North Carolina. While the two systems share a focus on moving recipients into employment, North Carolina's system would appear to be much more punitive. Not only is North Carolina's work-first orientation less open to recipient choice, but sanctions are much more stringent, with those who fail to cooperate forced off the system.

VIII. Effects of Work Component Participation: Matching Estimates

If impact differs for subgroups, estimates based on linear models will not in general identify the expected impact of the program. In contrast, matching estimators are designed to provide the average program impact, even when that impact differs by type of individual. Like the estimates reported in Tables 5 and 6, matching estimates are based on the assumption that once all variables are controlled, there are no unmeasured differences influencing earnings that are associated with program participation.

The matching analysis, like the linear least squares analysis, uses quarters as the units of analysis, and the matching variables are those listed in Table 4, Column 2. Although there are a variety of matching methods, the most popular methods match each case in the treatment with comparison cases according to a propensity score, where the propensity score is the estimated probability that a given case is in the treatment group. For the analysis that considers the impact of participation in any component, we have determined the propensity score using a logit specification.¹⁵ For analyses that distinguish the three kinds of component participation, we have estimated propensity score based on a multinomial logit model.¹⁶ We have matched each treatment quarter with 10 comparison quarters, based on propensity score. Given our very large sample, it was not possible to undertake matching on the full sample. For the analysis that considers the impact on any component, we used a 10 percent sample; for the analysis that distinguishes the three types of training, we used a 20 percent sample. We report standard errors calculated from the standard deviation of estimates of impact for each treatment case.¹⁷

Table 13 provides matching score estimates. The first column on the left for each state provides a comparison between earnings following training and the earnings with no training. These estimates most closely correspond to Model 2 estimates in Table 5. The matching results

¹⁵The classic reference for propensity score matching is Rosenbaum and Rubin (1983). See also Mueser, Troske and Gorislawsky (2003) for a comparison of alternative matching methods.

¹⁶For a discussion of adapting matching estimators to the case with multiple treatments, see Lechner (2002).

¹⁷This standard error fails to take account of sampling error in the estimation of the propensity score. Computational limits prevented us from calculating appropriate bootstrap standard errors. However, Mueser, Troske and Gorislawsky (2003) found that in large samples such as ours, bootstrap standard errors were not systematically different than those calculated based on the standard deviation of estimated effects across treated cases.

show that in Missouri, participation in any component implies a deficit of \$85 in quarterly earnings, while the comparable linear model implies a \$127 deficit. For North Carolina, these same figures are deficits of \$138 and \$192. When we look at estimates for the three types of services, we find that the basic pattern for the matching estimates correspond to those reported in Table 5. One difference is that, in North Carolina, the matching estimates imply a small positive impact of assessment, whereas the linear model's estimates imply a small negative impact. While other differences are of little substantive importance, most of the estimates in Table 13 are statistically significant.

Figure 1 shows the matching estimates of participation in any component by the time since the start of participation. We see that in the first quarter of participation, earnings are below their expected level by \$600 to \$950 in Missouri and North Carolina, respectively. In both states, earnings increase following this initial quarter, reaching a breakeven point after 5 or 6 quarters. Thereafter, the earnings increment is positive, increasing to \$200 nine quarters later, and approaching \$400 fifteen quarters later.

Estimates of the impact of assessment by quarter since participation (Figure 2) are somewhat different for the two states. Estimated impacts are initially negative in both states, but increase for North Carolina much faster, with positive impacts for most quarters that are more than twice those estimated for Missouri. The impact of job readiness/search are somewhat more similar (Figure 3), with a negative initial impact becoming positive 4 to 6 quarters after participation. In general, positive estimates in both states are modest, less than \$200, in later quarters.

Impact estimates for intensive training by quarter (Figure 4) show very similar patterns in

the two states. In the first quarter of participation, earnings are lower by \$800 to \$1200. After 6 quarters, earnings have caught up, increasing in the remaining quarters to over \$500.

IX. Conclusion

A primary objective of this study was to provide a clearer picture of the differences in the effects of work components or sub-programs of welfare-to-work programs in terms of welfare recipients' subsequent labor market outcomes. Our analyses covered a four-year period when the emphasis on and use of alternative service strategies was changing.

As described earlier, North Carolina and Missouri adopted somewhat different approaches to helping welfare recipients become employed. North Carolina focused more explicitly on work-first strategies to get welfare recipients quickly into jobs, whereas Missouri retained a greater emphasis on longer-term training. Despite the differences in their overall welfare-to-work strategies and the nature (i.e., duration and intensity) of welfare recipients' participation in these activities, the results of the models estimated separately for these two states showed remarkably consistent findings of the effects of work components participation on earnings. Generally, the impacts of work components participation were initially negative but improved over time, in most cases turning positive by the sixth quarter after participation.

Future research might extend these analyses over a longer period in which earnings following participation are tracked to better estimate changes in impacts of work components participation over time. In addition, although this study doesn't produce definitive answers to some of the larger questions about whether a human capital development or work-first approach to helping welfare recipients is more effective, program administrators could use the information

produced in studies like this to adjust sub-program participation rates in ways that might improve earnings outcomes for participants.

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Table 1: Work Component Activities Duration and Intensity

Activity	Missouri				North Carolina			
	Duration (Weeks)			Median Hours per Week	Duration (Weeks)			Median Hours per Week
	25th Percentile	Median Duration	75th Percentile		25th Percentile	Median Duration	75th Percentile	
Assessment	1.6	4.9	59.7	20	0.0	1.4	4.3	3
Job search and job readiness training	1.6	4.4	23.0	25	2.4	4.9	10.3	20
Work experience	1.9	6.4	28.1	20	2.4	5.7	12.1	26
Basic education	1.6	5.9	30.9	20	4.1	8.4	15.0	20
Vocational and technical skills training	2.6	9.4	44.4	25	2.7	6.3	13.0	35
Post-secondary education	3.6	19.3	116.4	17	7.4	13.8	24.5	42.5

Statistics are based on all work component activities that begin in the quarters 1997:2-2000:2 in Missouri and 1997:2-2001:4 in North Carolina for TANF payees who are females aged at least 18 but less than 65 in the single parent program and are not child only cases.

Table 2: Component Participation by Quarter After TANF Entry

Cumulative TANF Recipients Participating In Component (Percent)						
Quarter After TANF Entry	No Component	Assessment Only	Job Search/ Readiness, No Intensive Training	Intensive Training	Total	
Missouri						
1	90.0	5.2	1.8	3.0	100.0	
2	79.5	9.0	3.9	7.6	100.0	
3	73.2	11.6	5.4	9.8	100.0	
4	68.8	12.9	6.7	11.6	100.0	
5-8	61.2	13.8	10.0	15.0	100.0	
9-11	54.1	14.2	13.3	18.4	100.0	
12-15	49.6	14.5	14.5	21.5	100.0	
16	47.2	14.5	14.9	23.4	100.0	
North Carolina						
1	90.8	6.3	1.8	1.2	100.0	
2	76.4	13.3	5.2	5.1	100.0	
3	70.9	14.9	6.5	7.6	100.0	
4	66.8	16.2	7.5	9.5	100.0	
5-8	54.9	18.3	10.7	16.1	100.0	
9-11	51.1	18.4	11.3	19.2	100.0	
12-15	48.5	18.4	11.6	21.5	100.0	
16	48.2	18.2	11.6	22.0	100.0	

Table 3: Component Participation Eight Quarters After Entering Welfare by Quarter of Entry

TANF Recipient Cumulative Participation in 8th Quarter					
First Quarter in TANF Spell	No Component	Assessment Only	Job Search/ Readiness, No Intensive Training	Intensive Training	
Missouri					
1997:2	58.9	14.5	10.7	16.0	100.0
1997:3	58.7	13.5	11.6	16.2	100.0
1997:4	54.6	14.0	13.2	18.2	100.0
1998:1	54.3	13.6	15.0	17.2	100.0
1998:2	54.0	11.2	18.0	16.9	100.0
1998:3	51.9	11.5	16.9	19.7	100.0
1998:4	48.9	10.8	18.6	21.8	100.0
1999:1	45.0	11.6	20.2	23.3	100.0
1999:2	45.7	12.4	19.5	22.4	100.0
1999:3	43.7	12.9	18.6	24.9	100.0
1999:4	42.3	14.7	16.4	26.7	100.0
North Carolina					
1997:2	60.7	17.3	8.8	13.3	100.0
1997:3	60.1	16.3	9.2	14.5	100.0
1997:4	58.5	16.3	9.8	15.4	100.0
1998:1	53.3	17.4	11.6	17.6	100.0
1998:2	54.4	17.2	11.3	17.1	100.0
1998:3	53.7	15.9	11.6	18.8	100.0
1998:4	50.8	16.3	13.2	19.7	100.0
1999:1	49.4	16.8	13.1	20.8	100.0
1999:2	49.4	17.7	13.5	19.4	100.0
1999:3	50.4	16.5	12.6	20.6	100.0
1999:4	50.3	15.5	13.6	20.6	100.0

Table 4: Regression Models Estimating the Impact of Work Component Participation on Quarterly Earnings

Controls	(1)	(2)	(3)
Constant	x	x	x
Current quarter (calendar quarter dummy)	x	x	x
Time since coming onto welfare (15 dummies)	x	x	x
Unemployment rate in that county in that quarter		x	x
Dummy for each county		x	
Age and age-squared		x	x
Age of oldest child		x	x
Number of children		x	x
Nonwhite		x	
Less than high school		x	
Prior 8 quarter work history: Proportion of time working, no work, worked all 8 quarters		x	x
Earnings prior 4 quarters		x	x
Earnings prior quarters 5-8		x	x
Prior 8 quarter proportion of time receiving welfare		x	x
Fixed person effects			x
Work Component Participation			
(a) Participation in any component	Model 1a	Model 2a	Model 3a
(b) Participation in 3 classes of components: assessment only, job readiness/search, or intensive services.	Model 1b	Model 2b	Model 3b
(c) Participation in any component and quarters since participation	Model 1c	Model 2c	Model 3c
(d) Participation in 3 components (listed above) and quarters since participation.	Model 1d	Model 2d	Model 3d

Table 5: Estimates of the Impact of Work Component Participation on Quarterly Earnings

Work Component Participation		Missouri N = 827,016			North Carolina N = 1,038,490		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
(a) Participation in any component	Coef. (SE)	-223.51 (11.81)	-127.39 (10.65)	-92.33 (7.78)	-340.462 (10.83)	-192.16 (9.57)	-85.43 (4.96)
(b) Participation in:							
Assessment Only	Coef. (SE)	-142.61 (17.37)	-76.19 (15.41)	-16.29 (11.35)	-140.37 (14.67)	-35.92 (12.96)	-5.10 (6.46)
Job search and job readiness training	Coef. (SE)	-107.62 (17.75)	-83.72 (16.34)	-74.14 (11.05)	-399.33 (15.85)	-220.08 (14.51)	-137.93 (7.69)
Intensive Training	Coef. (SE)	-373.80 (14.45)	-199.74 (13.24)	-181.61 (10.80)	-508.19 (13.54)	-332.81 (12.27)	-140.30 (6.56)

Table 6: Estimates of the Impact of Work Component Participation on Quarterly Earnings

		Missouri N = 827,016			North Carolina N = 1,038,490		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
(c) Participation in any component	Coef.	-352.05	-279.28	-134.48	-489.60	-344.74	-121.13
	(SE)	(10.44)	(9.55)	(8.05)	(9.21)	(8.42)	(5.12)
Quarters since participation	Coef.	26.12	31.14	20.54	30.77	32.16	17.72
	(SE)	(1.79)	(1.69)	(1.01)	(1.61)	(1.49)	(0.63)
<hr/>							
(d) Participation in:							
Assessment Only	Coef.	-235.57	-173.60	-2.90	-257.45	-154.37	18.58
	(SE)	(15.85)	(14.56)	(12.37)	(12.36)	(11.43)	(6.87)
Quarters since participation	Coef.	21.23	22.62	6.84	25.96	27.01	2.09
	(SE)	(2.94)	(2.75)	(1.67)	(2.33)	(2.12)	(0.88)
Job search and job readiness training	Coef.	-231.25	-216.55	-72.05	-616.56	-433.15	-148.74
	(SE)	(14.94)	(13.91)	(12.09)	(14.43)	(13.77)	(8.50)
Quarters since participation	Coef.	28.32	30.88	12.38	36.81	36.60	14.54
	(SE)	(3.05)	(2.88)	(1.62)	(2.72)	(2.51)	(1.10)
Intensive Training	Coef.	-665.39	-527.15	-319.08	-965.61	-783.86	-323.23
	(SE)	(12.87)	(12.33)	(11.53)	(13.06)	(12.33)	(7.33)
Quarters since participation	Coef.	61.57	69.47	51.92	83.02	81.59	60.94
	(SE)	(2.58)	(2.45)	(1.44)	(2.50)	(2.35)	(0.93)

Table 7: Estimates of the Impact of Work Components on Quarterly Earnings: Disaggregated Measures

Disaggregated Measures of Component Participation ¹		Missouri (N = 827,016)				North Carolina (N = 1,038,490)			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Assessment only	Coef.	-77.82	-16.60	-172.08	-4.18	-12.53	-14.32	-117.91	3.31
	(SE)	(15.41)	(11.34)	(14.56)	(12.36)	(13.14)	(6.56)	(11.48)	(6.98)
Quarters since participation	Coef.			22.03	6.67			24.19	4.56
	(SE)			(2.76)	(1.67)			(2.15)	(0.90)
Job search and job readiness training	Coef.	-86.00	-74.98	-214.50	-74.27	-187.38	-163.02	-328.05	-169.78
	(SE)	(16.35)	(11.06)	(13.91)	(12.08)	(14.60)	(7.81)	(13.01)	(8.40)
Quarters since participation	Coef.			30.27	12.49			33.71	15.14
	(SE)			(2.89)	(1.62)			(2.54)	(1.11)
Work experience	Coef.	-203.42	-177.87	-383.60	-197.97	-316.37	-225.58	-513.62	-281.77
	(SE)	(24.83)	(21.78)	(23.54)	(24.39)	(28.44)	(17.04)	(27.51)	(19.05)
Quarters since participation	Coef.			41.37	20.53			46.26	30.76
	(SE)			(4.71)	(3.15)			(5.44)	(2.53)
Basic education	Coef.	-220.23	-262.06	-343.68	-258.43	-198.76	-191.12	-410.08	-245.09
	(SE)	(15.69)	(17.12)	(15.62)	(18.95)	(28.67)	(18.07)	(24.76)	(20.27)
Quarters since participation	Coef.			27.63	11.58			50.75	29.91
	(SE)			(2.86)	(2.31)			(6.28)	(2.87)
Vocational and technical training	Coef.	-31.57	-101.84	-604.52	-424.26	-326.28	-193.07	-704.08	-384.50
	(SE)	(28.77)	(19.33)	(25.39)	(21.72)	(13.45)	(7.16)	(12.29)	(7.78)
Quarters since participation	Coef.			117.89	97.41			88.86	71.70
	(SE)			(5.87)	(2.73)			(2.78)	(1.08)
Vocational and technical training or post-secondary education	Coef.	-563.75	-210.18	-835.45	-447.41				
	(SE)	(25.34)	(18.50)	(24.44)	(23.85)				
Quarters since participation	Coef.			168.62	163.18				
	(SE)			(9.96)	(8.70)				
Post-secondary education	Coef.	-158.50	-27.70	-796.57	-505.20	-85.77	-37.73	-823.34	-473.95
	(SE)	(35.78)	(29.98)	(36.59)	(34.45)	(74.99)	(34.28)	(68.78)	(38.70)
Quarters since participation	Coef.			127.64	115.60			165.06	143.13
	(SE)			(7.98)	(3.86)			(17.18)	(5.32)
Adjusted R-square		0.1138	0.0350	0.1171	0.0368	0.2005	0.0662	0.2050	0.0713
Basic controls ²		x	x	x	x	x	x	x	x
Individual fixed effects ³			x		x		x		x

¹Dummy indicates highest order component activity individual participated in.²Controls as indicated in Model 2 in Table 4.³Controls as indicated in Model 3 in Table 4.

Table 8: Estimates of the Impact of Work Components on Quarterly Earnings: Measures of Participation in Multiple Activities

A. Disaggregated Measures of Component Participation ¹	Missouri (N = 827,016)				North Carolina (N = 1,038,490)				
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Assessment Only	Coef.	-78.57	-13.86	-170.63	-6.68	-14.05	-15.99	-113.35	-11.33
	(SE)	(15.42)	(11.46)	(14.55)	(12.54)	(13.15)	(6.58)	(11.45)	(7.08)
Quarters since participation	Coef.			21.49	6.56			22.44	3.95
	(SE)			(2.76)	(1.67)			(2.16)	(0.90)
Job search and job readiness training	Coef.	-71.05	-66.82	-197.01	-68.31	-93.04	-100.34	-338.34	-131.55
	(SE)	(19.15)	(12.49)	(15.74)	(13.42)	(28.72)	(15.65)	(27.17)	(16.31)
Quarters since participation	Coef.			32.42	12.76			57.60	27.49
	(SE)			(3.14)	(1.76)			(3.42)	(1.62)
Work experience	Coef.	-162.77	-208.43	-343.80	-198.90	-173.66	-171.28	-453.68	-201.01
	(SE)	(28.93)	(24.45)	(27.22)	(26.98)	(40.74)	(22.72)	(38.66)	(24.58)
Quarters since participation	Coef.			48.24	22.26			66.38	42.16
	(SE)			(5.09)	(3.47)			(6.02)	(2.85)
Basic education	Coef.	-182.05	-304.90	-298.69	-262.03	-45.75	-146.53	-330.15	-162.93
	(SE)	(21.32)	(20.32)	(19.78)	(22.00)	(40.29)	(23.58)	(35.89)	(25.62)
Quarters since participation	Coef.			33.88	13.39			69.03	39.31
	(SE)			(3.43)	(2.64)			(6.73)	(3.14)
Vocational and technical training	Coef.	20.51	-53.89	-556.45	-354.92	-168.90	-138.83	-624.50	-285.34
	(SE)	(33.76)	(22.70)	(29.64)	(25.21)	(31.00)	(16.27)	(28.54)	(16.71)
Quarters since participation	Coef.			126.20	100.04			108.73	81.88
	(SE)			(6.39)	(3.11)			(3.66)	(1.61)
Vocational and technical training tech or post-secondary education	Coef.	-583.53	-377.02	-780.26	-476.57				
	(SE)	(30.94)	(23.32)	(30.86)	(27.61)				
Quarters since participation	Coef.			157.16	145.46				
	(SE)			(10.84)	(9.24)				
Post-secondary education	Coef.	-141.10	-122.76	-747.98	-506.30	261.70	-41.94	-517.30	-300.52
	(SE)	(39.82)	(31.98)	(39.72)	(36.44)	(109.78)	(49.85)	(94.21)	(51.90)
Quarters since participation	Coef.			131.53	113.72			168.47	138.49
	(SE)			(8.59)	(4.20)			(18.26)	(5.96)

Table 8: Continued

B. Additional Impact Combined with Higher Order Component		Missouri (N = 827,016)				North Carolina (N = 1,038,490)			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Assessment	Coef.	-35.49	1.50	-34.45	-17.76	-108.25	-68.17	41.18	-40.31
	(SE)	(17.69)	(12.87)	(18.03)	(15.20)	(27.90)	(15.09)	(26.72)	(15.85)
Quarters since participation	Coef.			-4.94	-0.49			-30.52	-14.816
	(SE)			(2.68)	(1.77)			(2.86)	(1.43)
Job search and job readiness training	Coef.	-32.94	78.10	5.82	29.17	-73.71	16.21	-84.39	-43.54
	(SE)	(21.38)	(16.02)	(23.92)	(20.69)	(19.81)	(10.06)	(18.72)	(11.36)
Quarters since participation	Coef.			-9.18	-3.77			5.24	1.96
	(SE)			(3.62)	(2.56)			(3.44)	(1.55)
Work experience	Coef.	-19.40	28.29	-75.16	-55.25	-84.05	20.97	-226.26	-131.25
	(SE)	(29.52)	(23.71)	(31.61)	(30.05)	(25.60)	(13.90)	(25.46)	(16.28)
Quarters since participation	Coef.			0.01	-0.30			22.73	19.47
	(SE)			(5.95)	(3.61)			(5.63)	(2.45)
Basic education	Coef.	-91.09	-122.23	16.18	71.11	-112.27	-40.83	-71.22	-34.86
	(SE)	(40.52)	(36.21)	(56.83)	(57.51)	(34.07)	(21.25)	(36.75)	(26.89)
Quarters since participation	Coef.			-9.57	-24.11			-1.42	-5.59
	(SE)			(7.80)	(5.99)			(7.87)	(4.13)
Vocational and technical training	Coef.	172.22	455.27	-92.78	90.41	-415.00	96.85	-549.80	-302.91
	(SE)	(45.36)	(32.46)	(74.22)	(57.46)	(137.14)	(58.01)	(156.33)	(74.12)
Quarters since participation	Coef.			31.29	29.34			45.56	51.03
	(SE)			(11.53)	(7.48)			(25.82)	(9.25)
Adjusted R-square		0.1139	0.0361	0.1173	0.0361	0.2008	0.0662	0.2057	0.0716
Basic controls ²		x	x	x	x	x	x	x	x
Individual fixed effects ³			x		x		x		x

¹Dummy indicates highest order component activity individual participated in.

²Controls as indicated in Model 2 in Table 4.

³Controls as indicated in Model 3 in Table 4.

Table 9: Estimates of the Impact of Work Components on Quarterly Earnings: Impact of Ordering

Additional Impact as Most Recent Activity ¹	Missouri (N = 827,016)				North Carolina (N = 1,038,490)				
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Assessment	Coef.	18.99	125.90	-293.51	-167.58	70.86	450.33	-427.82	-114.38
	(SE)	(91.50)	(56.24)	(95.45)	(60.88)	(152.13)	(59.22)	(164.69)	(63.18)
Quarters since participation	Coef.			90.77	55.64			112.59	75.67
	(SE)			(12.40)	(8.76)			(8.73)	(3.88)
Job search and job readiness training	Coef.	212.95	184.32	-319.43	-310.54	351.76	600.24	-333.91	-42.64
	(SE)	(89.37)	(54.19)	(91.12)	(60.00)	(151.94)	(58.98)	(164.16)	(62.84)
Quarters since participation	Coef.			94.33	62.70			104.64	59.98
	(SE)			(8.37)	(6.68)			(5.44)	(2.69)
Work experience	Coef.	158.53	203.88	-403.52	-362.63	374.24	596.11	-319.87	-41.64
	(SE)	(99.64)	(62.19)	(100.20)	(74.15)	(155.51)	(61.06)	(166.78)	(66.03)
Quarters since participation	Coef.			100.59	79.05			98.36	63.14
	(SE)			(11.02)	(9.06)			(9.17)	(4.62)
Basic education	Coef.	176.81	271.98	-392.69	-346.96	463.01	625.73	-265.47	-68.15
	(SE)	(91.35)	(59.09)	(97.72)	(78.37)	(157.26)	(62.84)	(169.27)	(69.95)
Quarters since participation	Coef.			68.25	48.91			95.12	68.01
	(SE)			(8.36)	(7.88)			(11.37)	(5.79)
Vocational and technical training	Coef.	175.78	-21.35	-387.03	-454.44	282.46	378.05	-553.07	-292.88
	(SE)	(102.07)	(63.94)	(110.64)	(91.01)	(150.77)	(58.48)	(162.12)	(62.48)
Quarters since participation	Coef.			98.82	79.45			124.68	83.74
	(SE)			(15.12)	(10.44)			(5.46)	(2.57)
Adjusted R-square		0.1140	0.0363	0.1178	0.0360	0.2012	0.0667	0.2083	0.0731
Basic controls ²		x	x	x	x	x	x	x	x
Individual fixed effects ³			x		x		x		x

¹Specification includes measures of activity participation as listed in panels A and B of Table 8 (corresponding column numbers).

²Controls as indicated in Model 2 in Table 4.

³Controls as indicated in Model 3 in Table 4.

Table 10: Estimates of the Impact of Work Component Participation on Quarterly Earnings by Education

		Less than HS			HS or More			
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Missouri		N	359,769			467,247		
(c)	Participation in any component	Coef.	-216.58	-184.01	-85.64	-426.38	-354.27	-165.61
		(SE)	(12.45)	(11.35)	(8.35)	(15.60)	(14.68)	(13.01)
	Quarters since participation	Coef.	19.76	23.67	14.66	32.94	38.45	26.86
		(SE)	(2.15)	(2.03)	(1.08)	(2.67)	(1.69)	(1.59)
(d) Participation in:								
	Assessment Only	Coef.	-114.40	-107.56	6.76	-286.05	-221.86	-2.07
		(SE)	(19.55)	(18.05)	(12.71)	(23.61)	(22.12)	(20.18)
	Quarters since participation	Coef.	17.67	19.34	6.53	23.61	25.83	8.29
		(SE)	(3.65)	(3.45)	(1.77)	(4.32)	(4.09)	(2.63)
	Job search and job readiness training	Coef.	-118.38	-147.92	-46.42	-297.13	-251.86	-78.15
		(SE)	(19.05)	(17.86)	(13.01)	(21.39)	(20.27)	(18.97)
	Quarters since participation	Coef.	23.72	24.60	10.59	26.17	33.19	11.72
		(SE)	(3.82)	(3.61)	(1.86)	(4.22)	(4.01)	(2.43)
	Intensive Training	Coef.	-429.97	-337.94	-201.62	-825.70	-714.06	-424.03
		(SE)	(14.96)	(14.38)	(11.62)	(20.02)	(19.55)	(19.17)
	Quarters since participation	Coef.	40.85	47.69	33.67	88.64	94.85	74.87
		(SE)	(2.97)	(2.87)	(1.45)	(4.12)	(3.93)	(2.38)
North Carolina		N	273,681			764,809		
(c)	Participation in any component	Coef.	-242.43	-188.72	-50.82	-491.96	-360.61	-137.59
		(SE)	(14.02)	(12.73)	(7.48)	(11.53)	(10.79)	(6.65)
	Quarters since participation	Coef.	26.14	25.81	12.57	38.84	39.47	24.44
		(SE)	(2.69)	(2.45)	(1.10)	(1.99)	(1.86)	(0.77)
(d) Participation in:								
	Assessment Only	Coef.	-54.17	-40.77	39.16	-238.22	-146.65	24.10
		(SE)	(18.58)	(17.15)	(9.86)	(15.76)	(14.78)	(8.98)
	Quarters since participation	Coef.	28.29	27.81	5.03	29.64	30.49	5.04
		(SE)	(3.80)	(3.42)	(1.44)	(2.89)	(2.66)	(1.11)
	Job search and job readiness training	Coef.	-352.03	-278.55	-70.20	-621.62	-452.77	-180.95
		(SE)	(21.07)	(19.97)	(11.89)	(18.86)	(18.20)	(11.28)
	Quarters since participation	Coef.	27.02	26.87	10.81	48.28	46.78	21.66
		(SE)	(3.97)	(3.63)	(1.65)	(3.56)	(3.23)	(1.42)
	Intensive Training	Coef.	-621.09	-522.20	-199.70	-1017.72	-851.80	-370.38
		(SE)	(19.61)	(18.16)	(10.70)	(16.58)	(15.92)	(9.50)
	Quarters since participation	Coef.	61.01	60.13	46.16	95.42	93.49	70.76
		(SE)	(3.79)	(3.50)	(1.51)	(3.14)	(2.98)	(1.16)

Table 11: Estimates of the Impact of Work Component Participation on Quarterly Earnings by Race

		White			Nonwhite			
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Missouri		N	470,213			356,803		
(c)	Participation in any component	Coef.	-241.28	-199.42	-107.82	-517.73	-391.93	-190.16
		(SE)	(13.13)	(12.34)	(12.78)	(16.49)	(15.03)	(8.95)
	Quarters since participation	Coef.	29.28	30.35	21.66	28.84	33.13	21.47
		(SE)	(2.25)	(2.15)	(1.51)	(2.88)	(2.69)	(1.21)
(d) Participation in:								
	Assessment Only	Coef.	-136.85	-122.91	3.84	-383.93	-251.32	-28.84
		(SE)	(19.46)	(18.49)	(19.45)	(25.97)	(23.37)	(13.90)
	Quarters since participation	Coef.	21.16	21.23	9.50	31.64	26.12	6.39
		(SE)	(3.43)	(3.27)	(2.46)	(5.25)	(4.88)	(2.04)
	Job search and job readiness training	Coef.	-112.89	-112.09	-21.16	-439.11	-350.43	-162.93
		(SE)	(19.10)	(18.25)	(19.26)	(23.16)	(21.32)	(13.37)
	Quarters since participation	Coef.	25.49	24.48	8.64	43.40	39.77	19.84
		(SE)	(3.82)	(3.67)	(2.41)	(4.82)	(4.54)	(1.95)
	Intensive Training	Coef.	-525.23	-425.57	-290.18	-863.71	-675.14	-380.76
		(SE)	(16.07)	(15.57)	(18.12)	(20.71)	(20.00)	(12.95)
	Quarters since participation	Coef.	65.91	67.86	52.55	63.09	72.90	54.86
		(SE)	(3.30)	(3.16)	(2.12)	(4.15)	(3.88)	(1.75)
North Carolina		N	363,811			674,679		
(c)	Participation in any component	Coef.	-322.80	-179.34	-51.39	-600.44	-375.70	-163.94
		(SE)	(15.07)	(14.47)	(9.09)	(11.52)	(10.42)	(6.21)
	Quarters since participation	Coef.	29.82	30.60	16.65	30.45	32.44	17.53
		(SE)	(2.66)	(2.49)	(1.03)	(2.01)	(1.85)	(0.79)
(d) Participation in:								
	Assessment Only	Coef.	-199.85	-83.66	34.04	-300.46	-146.09	4.57
		(SE)	(19.04)	(18.38)	(11.52)	(15.97)	(14.58)	(8.57)
	Quarters since participation	Coef.	22.95	23.58	1.19	33.17	32.05	3.79
		(SE)	(3.48)	(3.23)	(1.36)	(3.11)	(2.80)	(1.17)
	Job search and job readiness training	Coef.	-424.52	-223.69	-57.75	-753.88	-482.27	-202.06
		(SE)	(24.26)	(23.91)	(15.16)	(17.92)	(16.82)	(10.31)
	Quarters since participation	Coef.	30.52	32.09	10.68	40.24	37.97	16.26
		(SE)	(4.49)	(4.19)	(1.80)	(3.39)	(3.11)	(1.38)
	Intensive Training	Coef.	-752.23	-602.02	-243.63	-1118.08	-812.58	-372.19
		(SE)	(23.37)	(23.03)	(14.24)	(15.93)	(14.69)	(8.67)
	Quarters since participation	Coef.	90.57	88.75	66.43	77.50	75.87	57.32
		(SE)	(5.00)	(4.74)	(1.70)	(2.88)	(2.69)	(1.12)

Table 12: Estimates of the Impact of Work Component Participation on Quarterly Earnings by Work Experience

		Work 0-1 qtrs			Work 2-6 qtrs			Work 7-8 qtrs			
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
Missouri		N	194,731			375,583			256,702		
(c)	Participation in any component	Coef.	-42.29	-20.62	21.13	-304.98	-268.25	-122.86	-611.51	-490.31	-257.96
		(SE)	(15.57)	(15.32)	(9.85)	(13.85)	(13.07)	(10.27)	(21.01)	(20.11)	(20.58)
	Quarters since participation	Coef.	25.34	27.02	21.55	26.99	29.73	21.29	33.61	38.14	23.98
		(SE)	(2.87)	(2.81)	(1.16)	(2.33)	(2.25)	(1.32)	(3.92)	(3.76)	(2.54)
(d)	Participation in:	Coef.	-9.07	-10.40	52.55	-209.73	-179.09	-10.22	-399.25	-281.31	-20.11
		(SE)	(23.66)	(23.80)	(15.14)	(20.58)	(19.71)	(15.74)	(32.45)	(31.06)	(31.54)
	Assessment Only	Coef.	11.79	11.51	5.55	23.52	24.13	9.19	29.13	28.06	8.53
		(SE)	(4.70)	(4.62)	(1.91)	(3.99)	(3.90)	(2.18)	(6.03)	(5.74)	(4.17)
	Job search and job readiness training	Coef.	75.06	66.15	61.49	-205.85	-196.42	-50.16	-511.26	-413.63	-191.95
		(SE)	(24.86)	(24.76)	(15.53)	(19.48)	(18.80)	(15.32)	(28.51)	(27.51)	(30.04)
	Quarters since participation	Coef.	25.97	25.10	13.77	24.10	24.41	10.42	35.32	40.07	13.68
		(SE)	(5.33)	(5.24)	(1.95)	(3.58)	(3.48)	(2.11)	(6.58)	(6.34)	(3.90)
	Intensive Training	Coef.	-172.72	-108.08	-20.44	-564.78	-493.22	-289.93	-1138.88	-969.31	-611.33
		(SE)	(19.46)	(19.32)	(13.53)	(16.76)	(16.15)	(14.55)	(28.09)	(27.62)	(30.74)
	Quarters since participation	Coef.	44.18	47.12	39.57	62.37	66.99	51.42	97.43	102.65	79.25
		(SE)	(3.98)	(3.90)	(1.56)	(3.38)	(3.26)	(1.83)	(6.23)	(6.02)	(3.91)
North Carolina		N	238,542			408,273			391,675		
(c)	Participation in any component	Coef.	-42.90	71.97	94.79	-351.92	-258.28	-72.59	-789.93	-599.54	-308.28
		(SE)	(16.28)	(16.27)	(9.32)	(23.38)	(11.96)	(7.70)	(41.14)	(15.07)	(9.76)
	Quarters since participation	Coef.	27.60	29.85	9.27	23.38	24.30	11.89	51.17	44.83	29.72
		(SE)	(2.97)	(2.87)	(1.12)	(2.37)	(2.24)	(0.99)	(3.08)	(2.59)	(1.14)
(d)	Participation in:	Coef.	112.26	181.45	156.12	-166.53	-79.91	56.89	-519.07	-336.65	-110.40
		(SE)	(22.58)	(22.82)	(12.70)	(16.99)	(16.40)	(10.51)	(21.14)	(19.77)	(12.78)
	Assessment Only	Coef.	20.62	22.86	-5.65	17.91	18.50	-2.26	36.93	39.34	11.01
		(SE)	(4.39)	(4.22)	(1.57)	(3.48)	(3.24)	(1.42)	(3.80)	(3.53)	(1.58)
	Job search and job readiness training	Coef.	-112.30	40.30	84.93	-445.98	-329.80	-87.67	-970.01	-750.20	-381.18
		(SE)	(25.28)	(25.44)	(15.25)	(19.44)	(19.13)	(12.61)	(26.10)	(25.15)	(16.56)
	Quarters since participation	Coef.	27.57	28.69	3.08	30.61	18.50	9.42	52.54	52.32	28.96
		(SE)	(5.15)	(4.99)	(1.89)	(3.85)	(3.24)	(1.69)	(4.73)	(4.43)	(2.05)
	Intensive Training	Coef.	-348.54	-215.02	16.47	-734.91	-634.69	-234.03	-1435.56	-1220.80	-631.21
		(SE)	(23.05)	(22.42)	(12.96)	(17.94)	(17.10)	(10.86)	(23.57)	(22.50)	(14.25)
	Quarters since participation	Coef.	62.76	65.38	44.31	71.56	70.63	51.83	106.92	106.96	84.11
		(SE)	(4.46)	(4.29)	(1.66)	(3.66)	(3.51)	(1.42)	(4.37)	(4.19)	(1.73)

Table 13: Matching Estimates of the Effects of Work Component Participation on Quarterly Earnings

		Missouri			North Carolina		
		Comparison Group			Comparison Group		
		Participation			Participation		
		No	Assessment	Job Readiness/ Search But Not	No	Assessment	Job Readiness/ Search But Not
Participation		Participation	Only	Intensive	Participation	Only	Intensive
Any Component	N	35,612			46,855		
	difference (SE)	-84.50 (21.64)			-138.38 (6.70)		
Assessment Only	N	19,238			34,788		
	difference (SE)	-85.61 (12.24)			26.27 (9.64)		
Job Readiness/Search But Not Intensive	N	23,042	23,025		23,149	23,151	
	difference (SE)	-36.18 (32.54)	44.81 (32.56)		-180.02 (10.89)	-247.53 (10.96)	
Intensive	N	28,860	28,841	28,857	35,762	35,761	35,734
	difference (SE)	-180.74 (9.59)	-137.21 (9.59)	-154.23 (9.60)	-268.04 (8.89)	-331.81 (8.94)	-131.61 (8.94)

Figure 1: Matching Estimates of Participation in Any Component

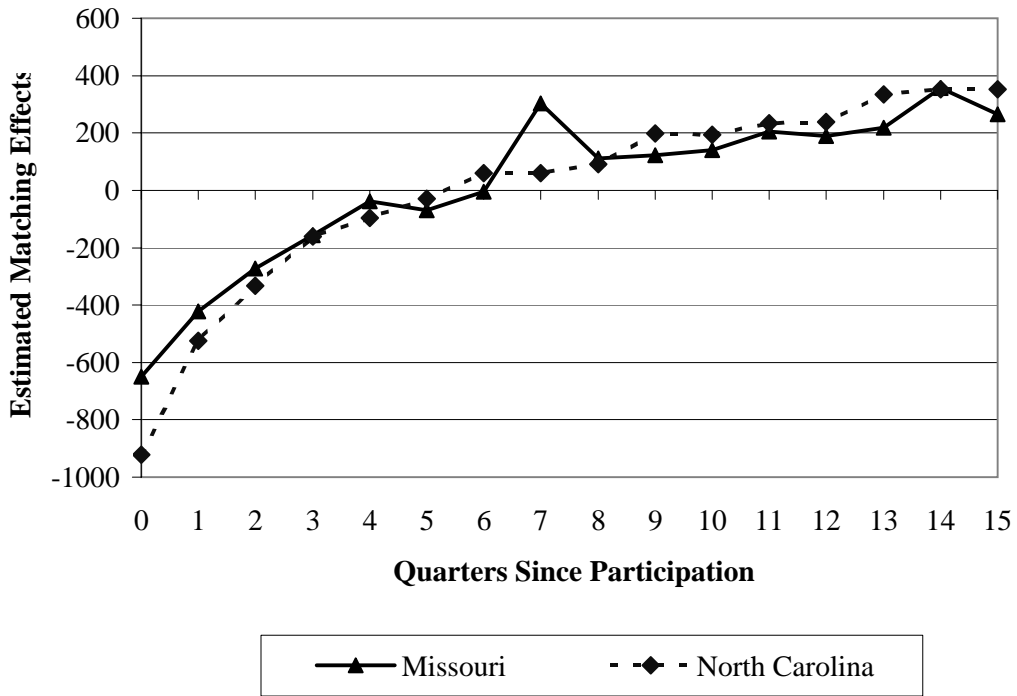


Figure 2: Matching Estimates of Participation in Assessment Only

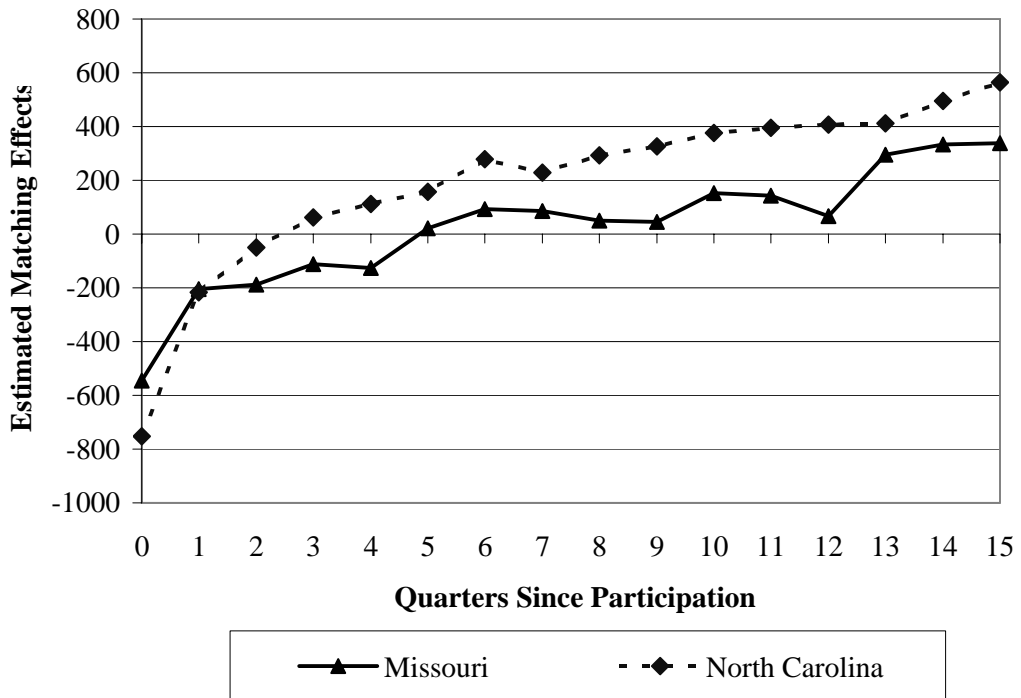


Figure 3: Matching Estimates of Participation in Job Readiness/Search

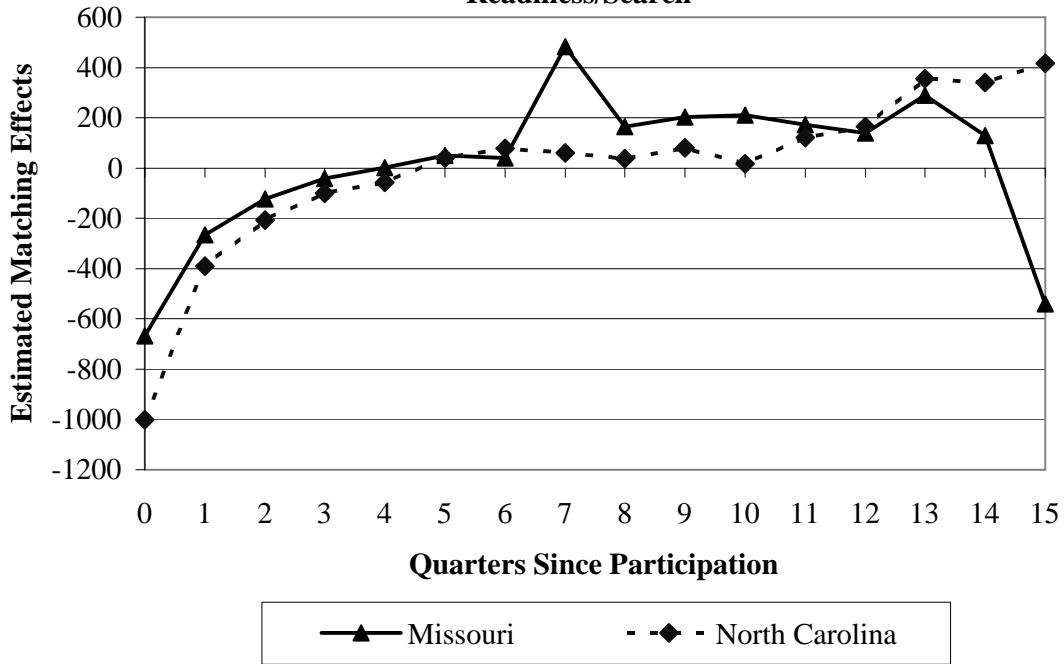


Figure 4: Matching Estimates of Participation in Intensive Training

