Do Demographics and Training Matter in WIA Performance? An Exploratory Study

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The Workforce Investment Act uses measures of labor market outcomes to drive program performance. This paper examines the relationship of participant characteristics with key program outcome measures and evaluates the impact of different training interventions of program outcomes while controlling for participant characteristics. Paper suggests that future performance measures should be adjusted for participant characteristics and recommends directions for future research.

Key words: Workforce Investment Act, Performance Measures, Training

Policymakers have long wanted publicly funded job training programs to produce tangible results for participants in the labor market. During recent decades the Department of Labor has funded a host of studies to attempt to measure the impact of training programs (King, 2004). Policy makers brought this focus on performance to the creation of the Workforce Investment Act (WIA) in 1998. WIA, which replaced the Job Training Partnership Act (JTPA), established 17 performance measures to drive program performance. Most of these measures were labor market outcome measures, such as changes in participants' earnings and the rate at which participants are placed in jobs. WIA's performance policy included several other new features. First, data for labor market measures would be collected from unemployment insurance records, rather than traditional phone or mail follow-up surveys. Second, the performance goals related to these measures would be set through negotiations between the federal government and state agencies. The state agencies would in turn negotiate performance levels with local areas. Under JTPA, state and local performance goals were set using a regression model developed by the Federal Department of Labor, which considered participant demographics and local labor market conditions. The regression model adjusted goals based on the demographics of participants served and the local economic conditions, so that local areas or states serving a population that was relatively disadvantaged, or serving an area with slower economic growth, would have lower goals. Conversely, local areas in a more advantageous position were assigned higher goals. Under WIA, that model was abandoned[1].

The design of the WIA program responded to research findings, mostly from welfare reform studies, that seemed to show that "work first" was more effective than the more traditional "training and job placement" model (King, 2004). The new program created "One-Stop Career Centers" where—in theory—all key programs to assist the unemployed, such as WIA, Job Service, local educational agencies, would located together. These One-Stops are governed by a local area Workforce Investment Boards (WIBs), with each WIB having one or more One-Stops in its system. These One-Stop centers offer "universal access" services so that anyone could come in and access resources such as job listings, computers and printers for producing resumes, contacts for local employers, etc. People who formally registered in the system can further receive three levels of interventions:

- core services—essentially job search assistance—which mainly consists of access to information to help participants quickly find jobs with minimal staff help;
- intensive services, in which professional staff provide counseling, skills assessment and some support services such child care or transportation subsidies for clients,
- training services—mostly provided through a voucher system called Individual Training Accounts (ITAs)—where participants get traditional skill training and general education. OJT training may also be provided. (O'Leary, Straits & Wander, 2004)

The idea was that all participants first try to find a job their own, and if that was not successful they would then be enrolled in WIA and provided staff assistance and more intensive resources. Then, only as a last resort would formal training or OJT be provided.

The federal government has yet to complete a comprehensive evaluation of WIA. An assessment of the early

[1] For a complete history of performance policies in federal employment and training programs see Barnow and Smith (2004).

implementation of WIA performed by Social Policy Research Associates found that in general, the 17 performance measures made sense to program operators and that the system was focused on performance.

Problems that were identified with the measures were that there may be too many measures, and the definitions of some measures were vague (Social Policy Research Associates, 2004).

Problem Statement

WIA has produced a host of publicly available performance data based on its 17 performance measures. At the same time, the Federal Department of Labor is moving to a new performance measurement system dubbed "common measures" which consists of fewer labor market outcome measures that will cut across a host of federal employment programs in addition to WIA (Department of Labor, 2006). Policymakers at the state and local level and program managers must manage a system dominated by these measures. Yet, there is very little research on the factors that influence a programs performance on these measures. The unspoken assumption of Federal policymakers is that good programs will do well on the measures. Yet we know from previous research that participant characteristics and particular program interventions affect outcomes significantly. Lacking any well-funded, large-scale federal evaluation studies, policymakers and managers are adrift as they struggle to improve performance on these measures.

Theoretical Perspective

This paper is based on a stream of research stretching back to the 1960s, which uses experimental and quasi-experimental designs to evaluate the effectiveness of public training programs by measuring the labor market outcomes for participants (see for example Gay & Borus, 1980, Cragg, 19997, Barnow, 2000, Heckman, Heinrich& Smith 2002).[2] Recent studies in this stream of research include Bloom, et. al.(1997) that used experimental designs to evaluate the effectiveness of various program interventions within the JTPA program. Leigh (2000) examined the impact of federal programs on Dislocated Workers and Schochet, et.al. 2001 evaluated the impact of the federal Job Core program. Moore *et. al.* (2004) used a quasi-experimental design to assess the impact of different types of interventions in a state-funded worker training program in California. These studies and many others attempt to measure the impact of programs on participant labor market success while controlling for the characteristics of participants. Many studies have found that some groups, such as people with low levels or education, disabilities or limited ability to speak English, have a more difficult time succeeding in the labor market. Hence, studies often attempt to measure and account for these characteristics in assessing the impact of the program.

Research Questions

This paper attempts to answer two research questions which are fundamental to understanding the relationship between the WIA program and its performance measurement system:

1. What participant characteristics are associated with success on key WIA current and future performance measures?
2. After controlling for participant characteristics do the different training interventions have differing impacts on earnings or likelihood of employment after service?

Method and Limits

Study Population

In the WIA program, Adult participants are divided into two categories for program services: (a) "Adult" participants, who are essentially unemployed, low-income people over 21, and (b) "Dislocated Workers," who have recently been laid off from jobs. Throughout the program, these participants are treated separately and their outcomes are accounted for separately. The WIA legislation specifies that performance should be evaluated for each "program year," with a program year essentially being the one-year period that begins each July 1. In this study we analyze the experience of these two groups separately. To create the study population, we took electronic records of all Adult and Dislocated Worker participants from a larger urban area in California who

[2] For a complete discussion of the many methodological issues in evaluating these programs see Friedlander, et.al. (2000)

exited in program years 2002-03, 2003-04, 2004-05. Complete data were available for 7,913 Adult participants and 3,850 Dislocated Worker participants who had exited the WIA program in the study years.

Data Sources and Measures

Data came from two sources. First, we obtained administrative records indicating participant characteristics and services received. Second, we obtained data on labor market experience—specifically, earnings and employment status—resulting from matching participants to the unemployment insurance (UI) base-wage file. This match was done by the California Employment Development Department (EDD) to generate the current federal performance measures. Since the EDD does not yet calculate the "common measure" referred to in WIA as Average Earnings, we further used the data to calculate Average Earnings".[3] Table 1 shows the measures used in the study, and descriptive data for the study population. Due to space constraints, we only provide descriptive data for the variables that were statistically significant at the $p<0.05$ level in the final model, though in our models we tested many other variables. The measures fall into four categories – (1) the labor market outcomes we will try to predict, (2) participant characteristics, and (3) training interventions, and (4) variables that control for the participants' economic context.

Table 1. *Characteristics and Experiences of the Study Population*

Measure	***Adult***	***Dislocated Worker***
Labor Market Outcomes Measures		
Average Earnings (Earnings 2nd plus 3rd quarter after exit)	$10,349	$14,766
Entered Employment[4] (Found employed in base wage file 1st Quarter after exit)	75%	76%
Participant Characteristics		
Limited-English Speaker	12%	11%
Disabled	14%	<1%
Low Income	68%	45%
Ethnicity: Latino	42%	41%
Ethnicity: African American	31%	20%
Ethnicity: Asian	10%	10%
Ethnicity: White	16%	28%
Female	54%	51%
Receiving Public Assistance	69%	46%
Education: Less than Middle School	5%	7%
Education: Did not complete high school	15%	10%
Education: High School Diploma	51%	43%
Education: Some College	15%	23%
Education: Bachelor's Degree	13%	19%
Age at Exit	35.4 years	41.9 years
Training Interventions		
Intervention - Established Individual Training Account (ITA)	12%	17%
Intervention - Received On-the Job Training (OJT):	10%	3%
Intervention - Received Occupational Skills Training:	12%	18%
Context Variables		
Earnings 3rd Quarter Prior to Registration in the program	$2,615	$6,593

[3] Given that the federal government is shifting to the new "common measures" we chose to model two measures from the new common measures rather than the older WIA measures. The Average Earnings measure is a new measure, and is calculated by taking the total earnings of program exiters who are found employed in the 2nd and 3rd quarter after training, and dividing these total earnings by the number of program participants who exited the program in the appropriate quarter. A complete description of the new common measures can be found on the United States Department of Labor www site (www.dol.gov).

[4] Entered Employment is defined in the WIA legislation as a key outcome measure, and is measured as the number of program exiters who were found in the base wage file to be employed in the first quarter after exit, divided by the number of program exiters.

Measure	*Adult*	*Dislocated Worker*
Quarter Exited: The quarter exited was entered into the model as a dummy variable to control for seasonality and general economic conditions		

As the table shows, this local WIA program serves a relatively disadvantaged population. A large proportion of participants were receiving public assistance, and most were classified as "low income" when they entered the program. Latino was the dominant ethnic group, followed by African Americans and Whites, and women slightly out number men. Dislocated Worker participants tend to be older and more educated than Adult participants.

Analysis

We generated four regression models to answer our research questions. First, we used binary logistic regression to examine the impact of the variables on Entered Employment rates. Next, we used a linear multiple regression model to examine the relationship between the variables and the Average Earning after training. For both sets of analyses, we modeled the Adult and Dislocated Worker populations separately. Here we report the models that were the best fit in each case.

Results and Findings

The model for Entered Employment for Adult participants was highly significant according to the Omnibus test of coefficients, though the R^2 indicates the model accounted for a modest amount of the variance in the Entered Employment rate. The model found significant relationships between a number of participant characteristics and the probability of their finding employment when exiting the program. As the results in Table 2 indicate, Asians and Latinos were more likely to be employed than other ethic groups. The odds ratio indicates the amount by which the likelihood of entering employment changes with a one-point change in the dependent variable. For example, the odds of a Latino participant entering employment are 23.4% greater than those of ethnic groups not in the equation (for example, Whites). The odds of a "low income" participant entering employment are only 63.9% as high as the odds of a non-low-income participant entering employment. Put differently, the odds ratio for a non-low-income participant entering employment are 1/0.639, or 1.564, which means that the odds of a non-low-income participant entering employment are 56.4% greater than a low-income participant.

Adults with disabilities, those with low incomes, older participants, and those not having a high school diploma had a lower likelihood of finding a job after exiting from the program. With each year of participants' age, the odds of entering employment (under the WIA definition) decrease by 1.7% (calculated as 1-0.983). So the odds of a participant of 47 years of age (for example) entering employment will be 84.2% (calculated as 0.983 raised to the tenth power) of that for a 37-year-old participant, on average. Interestingly, none of the training interventions were significantly associated, positively or negatively, with finding employment. A significant seasonal effect was found for some quarters, with participants exiting in some quarters being significantly more likely to find employment and those exited in other quarters less likely to find employment.

Table 2. *Entered Employment Rate, Adult Participants, Binary Logistic Regression Results*

Variable	*Beta*	*S.E.*	*Wald*	*Sig.*	*Odds ratio*
Disability	-0.50	0.21	5.83	0.02	0.61
Low income	-0.45	0.09	26.78	0.00	0.64
Ethnicity - Latino	0.21	0.08	7.31	<0.01	1.23
Ethnicity - Asian	0.46	0.14	11.28	0.01	1.58
Education: Completed Middle School, but not High School	-0.20	0.10	4.12	0.04	0.82
Age at exit	-0.02	<0.01	31.39	0.00	0.98
2002 Q3_exited	-1.11	0.46	5.68	0.02	0.33
2003 Q1_exited	0.51	0.16	10.58	<0.01	1.67
2003 Q4_exited	0.26	0.11	5.28	0.02	1.30
2004 Q1_exited	0.53	0.11	21.75	0.00	1.70
Constant	2.10	0.16	184.82	0.00	8.20

N = 10,241, Cox & Snell R^2 = 0.026, Nagelkerke R^2 = 0.040
Omnibus test of coefficients (chi=squared) = 128.72
Omnibus test of coefficients (significance) = 0.00

The model for predicting the Entered Employment rate for Dislocated Worker participants was also highly significant overall but also predicted only a modest amount of the variance in this key outcome. Results are shown in Table 3. The variables which proved significant were different than for Adults. Again African Americans and Latinos were more likely to be employed than other groups, and previous earning were positively associated with the likelihood of finding employment. Age had a negative relationship with finding employment. For Dislocated Workers, having been on public assistance had a significant negative impact on the likelihood of finding employment. Two training variables were significantly associated with the likelihood of finding employment. Having received OJT training was positively associated with finding employment while, having received occupational skills training was negatively associated with finding employment. It may be that having established a track record with an employer through OJT may make continued employment more likely, while those who received occupational skills may have still had some significant skill deficiencies—compared to those who received no occupational skills training—following the training.

Table 3. *Entered Employment, Dislocated Worker Participants, Binary Logistic Regression Results*

Variable	***Beta***	***S.E.***	***Wald***	***Sig.***	***Odds ratio***
Ethnicity - Latino	0.41	0.08	24.93	0.00	1.51
Ethnicity - African American	0.31	0.09	10.78	0.00	1.37
Public Assistance	-0.21	0.07	8.40	0.00	0.81
Age at exit	-0.02	0.00	33.69	0.00	0.98
OJT Training	0.78	0.29	7.27	<0.01	2.19
Occupational Skills Training	-0.37	0.08	20.73	0.00	0.69
Earnings 2nd Qtr Prior to Dislocation	<.01	<0.01	4.78	0.03	1.00
2002 Q1 Exited	0.35	0.16	4.60	0.03	1.42
2002 Q2 Exited	-0.41	0.09	19.72	0.00	0.67
Constant	1.86	0.17	119.59	0.00	6.44

N = 4,879, Cox & Snell R^2 = 0.03, Nagelkerke R^2 = 0.05
Omnibus test of coefficients (chi=squared) = 153.01
Omnibus test of coefficients (significance) = <0.00

We turn now to the models which looked at the impact of the variables on earning after training. Results are shown in Table 4. For Adult participants, our model is highly significant overall and accounts for a considerable amout of the variance in earnings - over 23%. Participants having higher levels of education had greater earnings after exiting the program.. Not surprisingly, participants' previous earnings are positively associated with earnings after exit from the program, indicating that those that earned more in the past will earn more in the future. A number of characteristics had a negative association with Average Earnings, including having limited proficiency in English, being disabled, being Latino or African American, female or being on public assistance. Again we found some limited effects of seasonality or economic conditions,. Also, as with the Adult Entered Employment model, we found no significant relationship, positive or negative, between any training intervention and earnings.

Taking this model in conjunction with the Entered Employment model (Table 2), some interesting interactions arise. While Latinos are more likely than most others to find a job after exiting the program, Table 4 suggests that those jobs are at lower wages. And while Table 4 not surprisingly shows that participants having a higher degree of educational attainment also earn more, Table 2 further shows that they are more likely to find a job. In other words, participants of low educational attainment take a double hit – lower likelihood of finding a job, and less pay when they do.

Table 4. *Average Earnings, Adult Participants, Regression Results*

Variable	***B***	***S.E.***	***T***	***Sig.***
(Constant)	9,489.33	260.58	36.41	0.00
Limited English Speaker	-543.34	212.51	-2.55	0.01
Disability	-1,630.74	550.94	-2.96	<0.01
Ethnicity: Latino	-741.55	171.30	-4.32	0.00
Ethnicity: African American	-934.92	175.69	-5.32	0.00
Female	-608.97	129.32	-4.70	0.00
Public Assistance	-1,202.71	147.60	-8.14	0.00
Education: High School Diploma	588.84	179.89	3.27	0.00
Education: Some College	1,451.19	234.06	6.20	0.00
Education: Bachelor's Degree	3,862.74	253.27	15.25	0.00
Earnings 3rd Quarter Prior to Registration	0.60	0.02	33.55	0.00
2002 Q4_exited	-1,253.94	270.91	-4.62	0.00
2003 Q3_exited	856.20	288.84	2.96	0.00
2003 Q4_exited	899.82	276.11	3.25	0.01
2004 Q1_exited	938.40	254.49	3.68	0.00

Adjusted $R^2 = 0.230$, F = 170.305, N = 7,913

In the case of Dislocated Workers our model shows very different results. Again the model if highly significant and robust in that it accounts for over 30% of the variance in post-program earnings. The effects of demographic variables are similar to those in the Adult Participant model. Latino, African American, and female participants tend to earn less as do older participants. Those with higher levels of education earn more. Participants classified as "low income" on entering the program tend to have lower earnings after exiting the program. Prior earnings are positively associated with post-training earnings. In the case of Dislocated Workers, training was significantly related to earnings. Participants having established an ITA—a voucher which pays for training at some approved training institution—earn an average of over $12,000 less in the two quarter follow-up period compared to other trainees who got other training services or no training. Conversely, having received occupational skills training, which indicates longer training in a specific occupation, is associated with a large increase in earnings in this model - more than $11,000 extra over the 6-month follow-up period.

Taking this model in conjunction with the Entered Employment model (Table 3), some interactions arise. While Latino and African American Dislocated Workers are more likely than most others to find a job after exiting the program, those jobs are at lower wages. And older Dislocated Workers are less likely to find a job, and when they do find a job they earn less money than younger workers. While participants receiving "occupational skills" training earn more money than those who did not, they also, for reasons that are not clear, have a lower likelihood of finding a job.

And while Table 4 not surprisingly shows that participants having a higher degree of educational attainment also earn more, Table 2 futher shows that they are more likely to find a job. In other words, participants of low educational attainment take a double hit – lower likelihood of finding a job, and less pay when they do.

Table 6. *Average Earnings, Dislocated Worker, Regression Results*

Variable	B	S.E.	T	Sig.
(Constant)	12,644.60	789.69	16.01	0.00
Low Income	-1,277.54	276.77	-4.61	0.00
Ethnicity: Latino	-1,511.58	338.57	-4.46	0.00
Ethnicity: African American	-2,119.31	372.56	-5.68	0.00
Female	-1,690.01	261.93	-6.45	0.00
High School Diploma	1,386.90	399.21	3.47	0.00
Some College	2,818.730	463.06	6.08	0.00
Bachelor's Degree	5,226.42	500.19	10.44	0.00
Age at Exit	-40.06	12.52	-3.20	0.00
Intervention - Established ITA	-12,398.91	4,644.18	-2.67	<0.01
Intervention - Received Occupational Skills Training	11,247.52	4,638.82	2.42	0.01
Earnings 3rd Quarter Prior to Registration	0.67	0.02	29.06	0.00
y2002_q1_exited	1,102.04	548.18	2.01	0.04
y2002_q4_exited	-1,481.25	580.22	-2.55	0.01
y2003_q2_exited	-1,158.92	423.92	-2.73	<0.01

Adjusted $R^2 = 0.323$ F = 132.348 N = 3,850

Conclusions and Recommendations

These are exploratory results and it important that we do not over-interpret them, but a few important findings stand out and deserve consideration by policy makers and further research by analysts. First, as in most research on the labor market outcomes of training, demographics matter. Participants who are disadvantaged in the labor market because they are disabled, have limited English proficiency, are older or on public assistance are unlikely to have good success in the labor market regardless of what services they receive. This suggests to us that a system of adjusting performance standards for states, local area and agencies that serve more disadvantaged populations is rational and would make for good public policy. Other analysts who have examined the implementation of WIA agree (Siedlecki & King, 2005). Adjusting performance for the demographics removes the disincentive to serve the most disadvantaged who need the services most. The seems an essential policy to us if the program is to reach its target population of disadvantaged workers and effectively move people from dependence on public assistance to self support. Various forms of regression modeling with national populations provide a good tool for guiding these adjustments.

Second, our results suggest that training is not a universally effective intervention for participants. This finding could cause one to question the extent to which One-Stops have been able to effectively assess individuals' training needs and prescribe specific training interventions that will lead to good labor-market outcomes for program participants. Our data suggest relatively longer term and more expensive training services are not uniformly superior to shorter-term, less costly interventions such as job search assistance and one-on-one coaching and counseling. Our data suggests that On-The-Job training where employers are offered incentives to employ program participant does lead to a significant increase in post program employment, but that some other types of training have no affect or a negative affect. Additionally, we found that OJT improves participants' earnings after training.. We found no positive impact for any form of training on Adult WIA participants, which is by far the largest group in the program. For Dislocated Workers occupational skill training appeared to have a strong positive effect on earnings but, other forms of training was associated with lower earnings.

On the other hand, it seems to us that our findings probably hide much more complex relationships. The effects of training are probably governed by relationships our models could not measure. For example, it would be interesting and likely meaningful to discover the reason(s) why Dislocated Workers receiving "occupational skills" training have higher earnings, but a lower likelihood of finding a job. Experience suggests that factors such as the quality of training, the appropriateness of training for the local labor market, the motivation and ability of the participant are all key to understanding the impact of training. Still, it seems policymakers should be somewhat skeptical about the value of expensive training interventions in WIA. There is a need for researchers to undertake much more nuanced studies of the connections between training and labor market outcomes in WIA, with carefully controlled studies to identify the types of participants and types of training most likely to lead to

successful outcomes. This will undoubtedly require a mix of qualitative studies, experimental studies and large quasi-experimental analyses such as this one to hone in the value of training in WIA.

Finally, since our model has found that WIA outcome measures are related to demographic factors in some important ways, it will be interesting to see whether or not the demographics of participants change as the WIA-mandated outcome measures change. One-Stop operators and local area WIBs both have some incentive to perform well on the outcome measures, and when outcome measures can be affected simply by adjusting the demographic profile of those served, it would not be surprising if One-Stops and local area WIBs were to shift their resources toward serving those more likely to help improve their outcome measures. While such a shift in demographics of those served could be reasonably expected to occur, it seems that at least some policy-makers would consider a shift toward a more "advantaged" demographic profile to be neither desirable nor acceptable.

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