IMPLEMENTATION AND RELATIVE IMPACTS OF TWO JOB SEARCH ASSISTANCE PROGRAMS IN SACRAMENTO COUNTY, CALIFORNIA

REPORT APPENDICES

THE JOB SEARCH ASSISTANCE STRATEGIES EVALUATION

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Implementation and Relative Impacts of Two Job Search Assistance Programs in Sacramento County, California: Report Appendices

The Job Search Assistance Strategies Evaluation

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A. Analytic Approach

This appendix provides additional information on the analytic models and methods used to produce the impact estimates presented in Chapters 5 and 6. The first section presents the model and provides a full list of the covariates included in regression analyses. The second section describes our approach to missing data.

A.1. Analytic Model

We use the following equation to estimate the differential impact of the Standard Job Club compared to the Fast Track Job Club:

$$y_i = \alpha + \delta G_i + Z_i'\gamma + X_i'\beta + \varepsilon_i$$

where

y_i is the outcome of interest (e.g., employment, earnings, public benefit receipt);

α is the intercept, which can be interpreted as the regression-adjusted Fast Track Job Club mean;

δ is the incremental effect of the Standard Job Club relative to the Fast Track Job Club on the outcome;

G_i is the random assignment group indicator (1 for those individuals assigned to the Standard Job Club; 0 for the individuals assigned to the Fast Track Job Club);

Z_i is a vector of pre-intervention measures of key outcomes;

γ is a vector of coefficients capturing the relationship between pre-intervention measures of key outcomes and the (post-intervention) outcome;

X_i is a vector of baseline characteristics centered around means;

β is a vector of coefficients capturing the relationship between baseline characteristics and the outcome;

ε_i is the residual error term; and

i is a subscript indexing individuals.

We use ordinary least squares to estimate these parameters, testing whether the δ coefficient is significantly different from 0 to determine whether outcomes differ between the two JSA models.

The covariates included in the model differ somewhat for employment and earnings outcomes from the NDNH and other outcomes (see Exhibit A.1). Access to NDNH data is tightly controlled to protect study participants. These protections limit the measures that can be combined with NDNH employment and earnings data, resulting in a slightly different set of available covariates.

Exhibit A-1. Covariates Included in the Analytic Model

	Employment and Earnings (NDNH)	Public Benefits (DHA administrative data)	Service Receipt and Other Outcomes (Six month follow-up survey)
Pre-intervention measures of outcomes			
Quarterly employment for the 7 quarters prior to the quarter of application	x		
Quarterly earnings for the 7 quarters prior to the quarter of application	x		
Self-reported employment at application		x	x
Self-reported hourly wage at application		x	x
Self-reported stability of employment prior to application		x	x
Self-reported employment in year prior to application		x	x
Receipt of Family Assistance/Safety Net benefits within 3 months prior to random assignment		x	x
Receipt of Family Assistance/Safety Net benefits within 12 months prior to random assignment		x	x
Value of Family Assistance/Safety Net benefits		x	x
Receipt of SNAP benefits within 3 months prior to random assignment		x	x
Receipt of SNAP benefits within 12 months prior to random assignment		x	x
Value of SNAP benefits		x	x
Baseline characteristics			
Gender	x	x	x
Race/Ethnicity	x	x	x
Age	x	x	x
Marital status	x	x	x
Number of adults in the household		x	x
Number of children in the household	x	x	x
Age of youngest child	x	x	x
Educational Attainment	x	x	x
Received post-secondary vocational or technical certificate at baseline	x	x	x
Training and classes (Adult basic education / English as a second language / Vocational, technical or trade school / Classes on how to succeed in school / Classes on how to succeed at work)		x	x
Additional schooling expected		x	x
High school grades	x	x	x

A.2.   Treatment of Missing Data

This section describes our approach to missing data, as follows:

- For missing baseline covariates, we use dummy variable imputation (see section A.2.1).

- To address survey nonresponse, we use a reweighting procedure (see section A.2.2).

We do not impute outcomes. Survey respondents who skipped particular questions and are missing data for related outcomes are excluded from the analyses of those outcomes. Individuals with missing NDNH employment and earnings records or DHA administrative data are not included in those analyses.

A.2.1. Missing Baseline Covariates

Although all study participants completed the BIF and provide some basic variables (i.e., name, Social Security number, date of birth, contact information), there are some who did not answer every question on the form. To impute values for missing or invalid responses in impact regressions (in which BIF variables serve as covariates), we use the dummy-variable imputation method. That is, we replace the missing value with the grand mean and also create a dummy variable equal to "1" if the original value was missing and "0" otherwise. Both the imputed value and the dummy value are included in the analysis as covariates.

A.2.2. Survey Non-response

The study's overall response rate to the follow-up survey was 49 percent. Although response rates did not statistically differ for the Standard and Fast Track Job Clubs, it remains possible that the sample of survey respondents could differ from the overall study sample.

To address this concern, the analysis team employed a reweighting procedure to handle *unit nonresponse* where the survey responses are missing entirely for a study sample member.[1] The primary concern with unit nonresponse is sample selection resulting in the risk of bias. The nonrandom selection of nonresponses results in a sample that may not be representative of study sample members. Furthermore, if the selection process differs between the Standard and Fast Track Job Clubs, then nonresponse can generate differences between the two groups among the subset of study sample members who completed the survey, and these differences that can bias the impact estimates.

Formally, missing data can be classified as being missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR) (Rubin, 1987). The differences among these categories of missing data lie in the assumptions about the relationship between the probability that the data are missing and covariates, either observed or unobserved. More specifically, data are MCAR if the process that leads to missing data is completely random: the probability of data being missing is constant and does not depend on either observed or unobserved data. Data are MAR if the probability of missing data depends on observed covariates but not on unobserved variables. Finally, data are MNAR if the probability of missing data depends on both observed covariates and unobserved variables.

The classification of the missing data has implications for the potential bias in impact estimates that stems from ignoring the missing data. When data are MCAR, no bias results from dropping observations with missing data. When data are MAR, no bias arises due to dropping missing data *as long as the*

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[1] We only use this technique to address missing survey data. Unit nonresponse is not a concern for baseline measures from the BIF as completion of this form was required prior to random assignment. Similarly, unit nonresponse is negligible for administrative outcomes.

covariates are used appropriately. But when data are MNAR, covariates cannot be used to completely eliminate bias in impact estimates.

The goal of our procedure is to reweight the sample of respondents to represent the original study sample. This is accomplished by determining the probability of response to the survey and assigning a larger weight to the responses from individuals who were least likely to respond. Our approach models the probability of responding to the survey as a function of observable characteristics, which removes the bias due to these characteristics. If the data are truly MAR (which is unknowable) then there remains no bias due to unobservable characteristics.

As recommended by Puma et al. (2009), we estimate the models for the Standard and Fast Track Job Club observations separately. To properly implement this model we need data for both respondents and nonrespondents, so we use the baseline characteristics from the BIF as well as administrative data sources listed in Exhibit A-2 as the covariates in our model of response, which we estimate by probit regression. One complication with the baseline data is item-level nonresponse in some of the variables. Because nearly all of the covariates in our model are either binary or discrete, we address this problem by treating missing values as their own category of response when we transform the covariates into binary variables.[2]

Exhibit A-2. Covariates Used in Nonresponse Weighting

Domain	Source	List of Covariates
Baseline demographics and measure of education	BIF	Sex, Ethnicity and race, Marital status, Number of adults in the household, Number of children in the household, Age of youngest child, Expected level of education, Grades in school
Baseline employment and earnings	BIF	Currently employed, Earnings over past 12 months
Benefit measures at baseline	DHA administrative data	Ever received Family Assistance/Safety Net prior to RA, Cumulative Family Assistance/Safety Net 3 months prior to RA, Cumulative Family Assistance/Safety Net 12 months prior to RA, Ever received SNAP prior to RA, Cumulative SNAP 3 months prior to RA, Cumulative SNAP 12 months prior to RA
Benefit measures at follow-up	DHA administrative data	Monthly SNAP benefits for 6 months after RA, Cumulative SNAP benefits 6 months after RA, Monthly Family Assistance/Safety Net benefits for 6 months after RA, Cumulative Family Assistance/Safety Net benefits 6 months after RA

We weight survey respondents' contribution to the impact analysis by the inverse of their probability of response. This places more emphasis on respondents who were less likely to have completed the survey based on observable characteristics such as age and education, increasing the likelihood that the

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[2]   To make our treatment consistent with the other covariates, we discretize continuous variables and include an additional category for missing as follows: number of adults in the household: zero, one, two, more than two, missing; number of children in the household: zero, one, two, more than two, missing; age of youngest child: zero to two, three to five, six to nine, 10 to 18, greater than 18, missing.

weighted sample is representative of the original sample. However, using predicted probabilities can create individuals with very large weights. To create more stable weights, we follow common practice and stratify survey respondents into five bins based on their probability of response to the survey (Cochran 1968; Baker et al. 2006). We generate the weight for each stratum as the inverse of the average predicted probability of response for that stratum. This implies that those who are least likely to respond will have the largest weights.

B.   Expanded Results for Chapter 5

This appendix presents more detailed versions of the tables in Chapter 5, which describe impacts on receipt of job search assistance services.

The first four columns of the detailed impact tables are the structured in the same way as the impact tables in the main body of the report.

The Standard Job Club column presents the mean outcome for that group of individuals. For survey outcomes, this is the mean outcome reweighted to correct for survey non-response. For NDNH and DHA administrative outcomes, this is the unweighted mean outcome.

The Fast Track Job Club column presents the regression adjusted mean outcome for that group, calculated from the Standard Job Club mean and the estimated impact.

- The Difference (Impact) column gives the estimated impact (e.g., in percentage points) of the Standard Job Club relative to the Fast Track Job Club, which by construction, equals the difference between the previous two columns. In the Difference (Impact) column, statistical significance is denoted by asterisks that reflect the strength of the evidence that the difference between the Standard and Fast Track Job Club is not the result of chance but is a real difference in the effectiveness of the two programs. The smaller the p-value, the stronger the evidence of a real effect. Statistical significance levels for two-sided tests are indicated as follows: * = 10 percent, ** = 5 percent, *** = 1 percent.

The next column is the Percent Impact, which expresses the impact as a percentage of the Fast Track Job Club mean in the second column.

The next four columns provide technical details not available in the main body of the report:

The standard error quantifies the precision of the impact estimate. The standard error reflects the size of the sample and the variability of the outcome after controlling for baseline covariates. A smaller standard error indicates a more precise estimate.

The 90 percent confidence interval summarizes the precision of the impact estimate in a different way. Values within this interval are possible alternative values of the impact. Values outside this interval are statistically different from the estimated impact and are not consistent with observed data. This column is particularly useful for findings that are not statistically significant because it places bounds on possible impacts.

Finally, the two right most columns report the sample sizes for the two program groups.

Exhibit B-1. Impacts on Participation in Job Search Assistance Services and Other Employment-Focused Activities in the Early Weeks after Random Assignment

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Participation type								
Participated in any activity (%)	74.7	71.4	3.3	4.7	5.6	(-5.9, 12.6)	113	113
Participated in job search assistance services (%)	71.1	69.2	1.9	2.8	5.6	(-7.3, 11.1)	118	118
Participated in classes to prepare for specific occupation (%)	5.5	9.1	-3.6	-39.7	3.6	(-9.5, 2.3)	120	120
Participated in unpaid work experience (%)	10.9	8.7	2.2	25.8	4.0	(-4.3, 8.8)	119	120
Participation frequency								
Hours per week of job search assistance services	19.3	21.2	-1.8	-8.7	2.5	(-5.9, 2.2)	118	113
Among those who participated in job search assistance services	*27.1*	*29.5*	*-2.4*	*-8.1*	*2.8*	*(-7.0, 2.3)*	*78*	*78*
Hours per week looking for work as part of the program	13.5	13.6	-0.1	-0.7	1.9	(-3.2, 3.0)	120	120
Among those who participated in job search assistance services	*19.0*	*22.1*	*-3.1*	*-14.1*	*2.0*	*(-6.4, 0.2)*	*78*	*80*
Met one-on-one with staff person to find a job (%)	50.8	64.0	-13.3**	-20.7	6.5	(-23.9, -2.6)	119	120
Every day	12.6	3.5	9.1**	> 100	4.0	(2.5, 15.7)	119	120
2-3 times per week	10.5	16.3	-5.8	-35.7	4.3	(-12.8, 1.2)	119	120
Once a week	21.0	32.8	-11.8**	-36.0	5.1	(-20.2, -3.4)	119	120
2-3 times total	4.3	9.2	-4.9	-53.5	3.5	(-10.6, 0.8)	119	120
Once	2.5	2.3	0.2	6.6	2.4	(-3.9, 4.2)	119	120
Participated in group job search services (%)	57.4	57.7	-0.3	-0.5	6.1	(-10.2, 9.6)	119	119
Every day	34.9	13.7	21.2***	> 100	5.9	(11.6, 30.9)	119	119
2-3 times per week	12.9	22.1	-9.2*	-41.6	4.9	(-17.2, -1.1)	119	119
Once a week	3.5	13.3	-9.8**	-73.5	4.8	(-17.6, -2.0)	119	119
2-3 classes total	3.5	8.5	-5.0	-58.4	3.2	(-10.2, 0.3)	119	119
Once	2.5	0.1	2.4	> 100	1.8	(-0.5, 5.4)	119	119
Participation duration								
Weeks of job search assistance services	3.3	3.9	-0.5	-13.9	0.4	(-1.3, 0.2)	114	113
Among those who participated in job search assistance services	*4.7*	*5.9*	*-1.1***	*-19.0*	*0.5*	*(-1.9, -0.3)*	*78*	*83*

Source: Six Month Follow-up Survey.

Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Non-experimental contrasts (italicized) include 161 (78 Standard Job Club; 83 Fast Track Job Club) survey respondents. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Test of null hypothesis that all *duration* and *frequency* impacts are zero: $F_{(16,224)} = 2.98$; *p*-value < .01.

Exhibit B-2. Impacts on Receipt of Job Search Assistance Skills in the Early Weeks after Random Assignment

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Skill for which help was received (%)								
Practicing for job interviews	61.2	58.6	2.6	4.4	6.2	(-7.6, 12.7)	120	120
Filling out job applications	51.2	49.1	2.1	4.3	6.4	(-8.4, 12.5)	120	119
Finding specific job leads	58.8	56.9	1.9	3.4	5.9	(-7.8, 11.6)	120	120
Looking for a job	55.9	61.9	-6.0	-9.6	5.9	(-15.6, 3.7)	120	120
Using web-based job search engines such as Monster	54.1	60.4	-6.2	-10.3	6.1	(-16.3, 3.8)	119	117
Figuring out right job or career goal	57.0	63.6	-6.6	-10.4	6.0	(-16.4, 3.2)	120	120
Learning about messages sent with dress, speech	55.0	62.1	-7.1	-11.4	6.1	(-17.0, 2.9)	120	118
Creating or editing resume	54.0	61.3	-7.2	-11.8	6.1	(-17.2, 2.7)	120	119

Source: Six Month Follow-up Survey.

Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Exhibit B-3. Impacts on Receipt of Assistance on Workplace Behaviors and Soft Skills in the Early Weeks after Random Assignment

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Skill for which help was received (%)								
Managing money and finances	50.4	38.1	12.3*	32.2	6.7	(1.3, 23.3)	119	120
Balancing work and family	50.1	39.4	10.7	27.1	6.7	(-0.2, 21.6)	120	119
Managing anger and frustrations	50.2	44.0	6.2	14.1	6.9	(-5.1, 17.5)	120	120
Handling stress or anxiety	52.1	47.9	4.2	8.7	6.3	(-6.2, 14.5)	120	120
Setting and managing goals	56.6	54.9	1.7	3.1	6.2	(-8.5, 11.9)	120	120
Problem solving in work or personal life	55.7	54.6	1.1	2.1	6.8	(-10.0, 12.2)	120	119
Dealing with rejection	49.7	49.9	-0.2	-0.4	6.4	(-10.6, 10.2)	119	119
Proper workplace behaviors	57.0	60.0	-2.9	-4.9	6.2	(-13.0, 7.2)	120	120
Communication at the workplace	52.6	55.7	-3.1	-5.6	6.2	(-13.4, 7.1)	120	120
Having a good work ethic	56.2	61.1	-4.9	-8.0	6.3	(-15.2, 5.5)	120	120

Source: Six Month Follow-up Survey
Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Sample sizes vary for outcomes due to item nonresponse.
Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Test of null hypothesis that all impacts are zero: $F_{(10,230)} = 1.74$; p-value = .07.

Exhibit B-4. Impacts on Use of Job Search Tools and Contacts with Employers in the Early Weeks after Random Assignment

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Used job search tools "a lot" or "some of the time" (%)								
Online mobile tools for creating and posting resumes	81.5	79.9	1.6	2.0	5.4	(-7.2, 10.4)	120	120
Craigslist	58.6	57.9	0.7	1.2	6.3	(-9.7, 11.0)	120	120
Commercial job search services such as Monster	73.0	74.1	-1.2	-1.6	6.1	(-11.2, 8.9)	118	120
Web-based tools to find jobs based on skills and interest	65.0	67.1	-2.1	-3.1	5.7	(-11.5, 7.3)	120	120
Social media sites such as LinkedIn, Facebook	38.8	42.4	-3.6	-8.4	6.7	(-14.5, 7.4)	120	120
Online job searches such as Google or Bing	73.0	77.0	-4.0	-5.2	5.8	(-13.5, 5.4)	120	120
State or government job bank	54.4	66.1	-11.7*	-17.7	6.3	(-22.0, -1.4)	119	120
Number of employers contacted during program	12.6	13.3	-0.7	-5.1	2.0	(-4.0, 2.6)	114	112
Among those who looked for employment	*14.4*	*15.0*	*-0.5*	*-3.5*	*2.3*	*(-4.2, 3.2)*	*97*	*99*

Source: Six Month Follow-up Survey.

Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Non-experimental contrasts (italicized) include 161 (78 Standard Job Club; 83 Fast Track Job Club) survey respondents who looked for employment. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Test of null hypothesis that all *employer contacts* and *use of job search tools* impacts are zero: $F_{(9,231)} = .75$; *p*-value = .67.

Exhibit B-5. Impacts on Factors that Affect Decision to Apply for a Job and Tools that "Helped" in Job Search

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Factors affected decision to apply for a job (%)								
Knew they were looking for someone with my skills and experience	82.1	66.8	15.3**	22.9	7.3	(3.2, 27.3)	77	75
Had a good reference	66.3	54.8	11.4	20.9	8.5	(-2.6, 25.5)	77	75
A friend or family member helped me apply	18.6	15.9	2.7	17.2	6.3	(-7.6, 13.0)	77	75
Did not have anything to lose	54.5	53.4	1.2	2.2	9.0	(-13.6, 15.9)	76	75
Had a good night's sleep	43.1	42.3	0.7	1.7	7.9	(-12.2, 13.6)	77	75
Person at employer looked friendly	30.2	31.3	-1.1	-3.6	8.0	(-14.2, 12.0)	77	75
Someone at job club helped me apply	23.7	26.1	-2.3	-9.0	6.1	(-12.4, 7.7)	77	75
I was dressed well	43.5	50.1	-6.6	-13.2	8.2	(-20.0, 6.8)	77	75
Someone at the employer was a friend or relative	20.4	27.7	-7.3	-26.4	7.7	(-20.0, 5.4)	77	75
Felt strong and healthy	67.7	77.0	-9.3	-12.0	7.9	(-22.1, 3.6)	77	75
Felt like I needed to take anything I could get	63.3	80.5	-17.3**	-21.4	7.4	(-29.3, -5.2)	77	75
Following tools "helped" or were "big part of success" in last successful job search (for those who found work) (%)								
Place ad about my availability	22.5	11.7	10.9**	93.0	5.2	(2.4, 19.3)	77	75
Follow up leads by private employment agency	25.5	15.9	9.6	60.3	6.8	(-1.6, 20.8)	76	75
Check for jobs on state or government job bank	23.3	16.3	7.0	42.9	6.7	(-4.0, 17.9)	76	75
Check ads in newspaper	11.6	6.9	4.7	68.6	4.5	(-2.7, 12.2)	77	75
Online searches using Google, Bing, Yahoo	38.6	35.2	3.4	9.6	7.3	(-8.5, 15.3)	77	75
Asked for jobs at establishments without help-wanted signs	19.0	16.8	2.2	13.1	5.7	(-7.1, 11.5)	77	75
Check for jobs on commercial job search services such as Monster	37.4	36.7	0.6	1.7	7.5	(-11.6, 12.9)	77	75
Find jobs on Facebook	12.7	12.3	0.4	2.8	4.9	(-7.8, 8.5)	77	75
Find jobs on Craigslist	22.6	24.6	-2.0	-8.2	6.8	(-13.2, 9.2)	77	75
Find jobs on LinkedIn	10.7	14.8	-4.1	-27.6	4.7	(-11.8, 3.6)	76	75
Looked for help-wanted signs at stores or other establishments	17.5	27.8	-10.3	-37.0	6.3	(-20.7, 0.1)	77	75
Follow up leads by friend or family member	35.4	46.0	-10.6	-23.0	8.4	(-24.4, 3.2)	77	75
Follow up lead from job club program	32.4	46.5	-14.1	-30.3	8.9	(-28.7, 0.5)	77	75
Call employers on the phone	43.5	60.2	-16.7*	-27.7	8.7	(-30.9, -2.4)	77	75

Source: Six Month Follow-up Survey.

Sample: Non-experimental contrasts (italicized) include 152 (77 Standard Job Club; 75 Fast Track Job Club) survey respondents who found employment. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Test of null hypothesis that all *factors affecting decisions to apply* and *tools identified as helpful* impacts are zero: $F_{(25,127)} = 2.41$; *p*-value < .01.

C. Expanded Results for Chapter 6

This appendix presents additional detail for the analyses in Chapter 6, which describe impacts on employment and earnings, public assistance receipt, and job characteristics. The appendix includes more detailed versions of the tables in Chapter 6 (section C.1) and technical details on the analysis of time to hire (section C.2).

C.1.   Expanded Impact Estimates

Exhibit C-1. Impacts on Employment and Earnings

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Confirmatory Outcome								
Employed in Q2 (%)	56.3	56.3	-0.1	-0.1	4.6	(-7.6, 7.5)	240	239
Employment (%)								
Any Employment in Q1-Q2	65.0	65.6	−0.6	−1.0	4.4	(-7.8, 6.5)	240	239
Any Employment in Q1-Q3	70.6	71.6	-1.0	-1.4	4.3	(-8.0, 6.0)	238	239
Employed in Q1	52.9	51.2	1.7	3.4	4.6	(-5.7, 9.2)	240	239
Employed in Q3	58.0	55.2	2.8	5.1	4.6	(-4.8, 10.4)	238	239
Earnings ($)								
Cumulative Earnings in Q1-Q2	4,487	4,355	132	3.0	548	(-769, 1,034)	240	239
Cumulative Earnings in Q1-Q3	7,467	7,003	464	6.6	820	(-881, 1,809)	238	239
Earnings in Q1	1,901	1,868	33	1.8	294	(-449, 515)	240	239
Earnings in Q2	2,586	2,487	99	4.0	308	(-406, 605)	240	239
Earnings in Q3	2,943	2,638	304	11.5	330	(-236, 845)	238	239

Source: National Directory of New Hires.

Sample: Sample includes 477 (238 Standard Job Club; 239 Fast Track Job Club) individuals with three quarters of outcome data. We treat two individuals who are not observed in the third quarter as item-level nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Exhibit C-2. Impacts on Family Assistance and Safety Net Cash Assistance and SNAP Benefit Receipt

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
CalWORKs								
Received benefits (%)								
Quarters 1-2	96.7	95.5	1.2	1.2	1.6	(-1.5, 3.9)	239	240
Quarter 1	95.8	95.2	0.7	0.7	1.8	(-2.3, 3.6)	239	240
Quarter 2	77.4	80.2	-2.8	-3.4	3.8	(-9.0, 3.5)	239	240
Benefit amount ($)								
Quarters 1-2	2,797	2,827	-30	-1.1	114	(-217, 156)	239	240
Quarter 1	1,565	1,599	-34	-2.1	55	(-125, 56)	239	240
Quarter 2	1,232	1,229	4	0.3	72	(-115, 122)	239	240
Ever sanctioned (%)	33.5	26.4	7.0	26.6	4.5	(-0.3, 14.4)	239	240
SNAP								
Received benefits (%)								
Quarters 1-2	96.2	98.5	-2.2	-2.3	1.6	(-4.8, 0.3)	239	240
Quarter 1	96.2	98.0	-1.8	-1.8	1.6	(-4.4, 0.8)	239	240
Quarter 2	92.1	92.5	-0.5	-0.5	2.6	(-4.7, 3.7)	239	240
Benefit amount ($)								
Quarters 1-2	2,517	2,534	-17	-0.7	75	(-140, 107)	239	240
Quarter 1	1,299	1,312	-12	-0.9	34	(-68, 44)	239	240
Quarter 2	1,218	1,222	-4	-0.3	46	(-79, 71)	239	240

Source: Sacramento County Department of Human Assistance records.

Sample: Sample includes 431 (220 Standard Job Club; 211 Fast Track Job Club) individuals with administrative records.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

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Exhibit C-3. Impacts on Job Characteristics

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Worked for pay during follow-up period (%)	63.1	60.7	2.4	4.0	5.9	(-7.3, 12.1)	120	120
Currently working for pay (%)	48.5	33.9	14.5**	42.8	6.1	(4.5, 24.5)	120	120
Expected time to employment (weeks)	17.4	13.3	4.1	30.5	4.1	(-2.7, 10.8)	113	116
Pay and Hours Worked								
Weekly earnings ($)	311	292	19	6.5	42	(-51, 88)	113	117
$150–$300/week (%)	16.1	16.9	−0.8	−4.6	5.3	(-9.5, 7.9)	113	117
$300–$450/week (%)	11.1	22.4	−11.3**	−50.5	4.6	(-18.9, -3.7)	113	117
$450–$600/week (%)	14.7	13.4	1.4	10.3	4.1	(-5.4, 8.1)	113	117
$600–$750/week (%)	6.4	6.8	−0.4	−5.5	3.3	(-5.8, 5.0)	113	117
Greater than $750/week (%)	10.3	2.7	7.7**	>100.0	3.6	(1.7, 13.7)	113	117
Weekly earnings for those who worked for pay ($)	*516*	*511*	*5*	*0.9*	*42*	*(-65, 74)*	*70*	*72*
Hours worked per week	21.3	20.8	0.5	2.2	2.4	(-3.5, 4.4)	118	118
Among those who worked for pay	*34.0*	*35.4*	*−1.4*	*−3.8*	*1.6*	*(-4.1, 1.3)*	*75*	*73*
Job benefits (%)								
Paid sick days	41.4	26.8	14.7**	54.8	6.6	(3.8, 25.5)	118	118
Paid holidays	39.0	26.3	12.7*	48.3	6.7	(1.8, 23.6)	116	118
Paid vacation	31.0	24.3	6.7	27.7	6.7	(-4.3, 17.7)	115	118
Health insurance	33.4	29.3	4.0	13.8	6.1	(-5.9, 14.0)	117	118
Retirement or pension benefits	26.3	22.3	4.0	17.9	6.1	(-6.0, 14.0)	113	113
Job Schedule (%)								
Regular daytime schedule	49.8	46.4	3.4	7.4	6.4	(-7.1, 13.9)	119	119
Regular evening shift	2.9	8.0	-5.2	-64.3	3.1	(-10.3, -0.0)	119	119
Regular night shift	2.9	0.2	2.7	> 100	1.9	(-0.4, 5.8)	119	119
Rotating shift	1.7	3.1	-1.4	-43.9	2.0	(-4.6, 1.9)	119	119
Other schedule	4.5	0.9	3.6**	> 100	1.8	(0.6, 6.5)	119	119

Source: Six Month Follow-up Survey.

Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Non-experimental contrasts (italicized) include 152 (77 Standard Job Club; 75 Fast Track Job Club) survey respondents who worked for pay since random assignment. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Non-experimental comparisons appear in italics. Experimental comparisons: the 37 percent of the sample who never worked for pay are included in analyses with 0 values. Time-to-employment estimates come from a survival analysis described in detail in section C.2. Test of null hypothesis that all impacts (other than time to employment) are zero: $F_{(26,213)} = 2.52$; p-value < .01.

Exhibit C-4. Impacts on Perceptions of Job Search Skills, Motivation, and Barriers to Work

Outcome	Standard Job Club	Fast Track Job Club	Difference (Impact)	Percent Impact (%)	Standard Error	90% Confidence Interval	Sample Size: Standard Job Club	Sample Size: Fast Track Job Club
Agree or strongly agree with following statements (%)								
I know how to make a plan that will help me achieve my	92.9	72.6	20.3***	28.0	5.0	(-12.2, 6.6)	119	119
I know the occupation I want to be in	87.9	79.2	8.7**	10.9	4.1	(1.9, 15.4)	119	119
I know the type of employer I want to work for	85.1	83.9	1.2	1.4	4.2	(-5.7, 8.2)	119	119
I am not sure what type of education and training program	26.9	34.1	−7.2	−21.2	6.3	(-17.6, 3.2)	119	119
I am not sure how to accurately assess my abilities and challenges	26.8	29.6	−2.8	−9.4	5.7	(-12.2, 6.6)	120	119
I am not sure what type of job is best for me	26.2	35.8	−9.6*	−26.8	5.2	(-18.2, -1.0)	119	119
Importance of having a job (%)								
Very important to have a job	93.1	98.5	-5.4*	-5.5	2.9	(-10.2, -0.6)	120	120
Somewhat important to have a job	6.9	1.5	5.4*	> 100	2.9	(0.6, 10.2)	120	120
Situations that "very often" or "fairly often" interferred with work, job search or ability to take a job (%)								
Child-care arrangements	34.2	35.5	-1.3	-3.8	5.9	(-11.1, 8.4)	120	120
Transportation	23.5	24.1	-0.6	-2.6	5.7	(-9.9, 8.7)	120	120
Illness or health condition	8.6	8.5	0.1	1.0	3.5	(-5.7, 5.9)	120	120

Source: Six month Follow-up Survey.

Sample: Sample includes 240 (120 Standard Job Club; 120 Fast Track Job Club) survey respondents. Sample sizes vary for outcomes due to item nonresponse.

Notes: Statistical significance levels for two-sided tests are indicated with asterisks, as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Test of null hypothesis that all impacts are zero: $F_{(11,229)} = 2.73$; *p*-value < .01.

C.2.   Time to Hire Analysis

When analyzing time-to-hire, it is important to consider the individuals who were not hired prior to data collection. Standard regression techniques, like the ones described in section A.1 above, do not incorporate information about these individuals. To address this shortcoming, we instead use survival analysis, a standard technique developed to analyze time-dependent outcomes. Survival analysis draws on the information available about people who do not find work prior to data collection.

To implement survival analyses, we model the *likelihood* of time-to-hire. For each individual, the likelihood function calculates the probability of the observed time-to-hire given a set of parameter values and individual characteristics. This is either the probability of being hired d_i days after application, for people who were hired, or the probability of not being hired as of the date of survey completion, for people who were not hired. The overall likelihood function, constructed by multiplying the individual likelihoods together, captures the probability of all the time-to-hire data given a set of parameters. Maximum likelihood techniques identify the parameter values that make the observed data most probable. We use these techniques to estimate and predict the entire distribution of time-to-hire based on observed characteristics.

We model time-to-hire using the lognormal distribution. The likelihood function is based on the probability that individual i will be hired d_i days after application:

$$\Pr\{d_i | \mu, \sigma\} = \frac{1}{d_i} \varphi_{\mu,\sigma}(\ln d_i),$$

where $\varphi_{\mu,\sigma}$ is the density function of the normal distribution

$$\varphi_{\mu,\sigma}(d) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(d-\mu)^2}{2\sigma^2}}.$$

The parameter μ is a function of the random assignment group (Standard or Fast Track Job Club).

References

Puma, Michael J., Robert B. Olsen, Stephen H. Bell, and Cris Price. 2009. *What to Do When Data Are Missing in Group Randomized Controlled Trials*. NCEE 2009-0049. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Rubin, Donald B. 1987. *Multiple Imputation for Nonresponse in Surveys*. New York, NY: Wiley.