Rethinking Job Search

Final Report Appendices

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Prepared for

Willamette Workforce Partnership

Prepared by

Public Policy Associates, Incorporated

Public Policy Associates, Incorporated is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.

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Appendix A: Research Questions and Chapter Where Addressed

The list below shows the research questions that were foundational to the evaluation design and were addressed in the conduct of the study.

Table 1: Formative Study Research Questions

Formative Study Research Questions	Chapter Where Addressed
1. To what extent was fidelity to the model maintained at each of the sites and across the sites? a. What site-specific adaptations were made and why? b. Were facilitators hired according to a consistent screening process? c. Did facilitators across all sites meet established guidelines and qualification requirements? d. Were facilitators trained consistently over time and location?	Implementation Findings
2. Did the program unfold as planned and on the intended timeline? Specifically: a. What were the challenges to meeting project milestones? b. How well did the partnership respond to challenges?	Implementation Findings
3. How did the WSO centers apply lessons learned from the evaluation to decision-making about Rethinking Job Search as it happened?	Implementation Findings
4. What systemic changes occurred: a. Across WSOs? b. Between the WSOs and the OED? c. Within the OED? d. How were any such changes achieved?	Implementation Findings
5. Who did the project serve? What were the participants' characteristics?	Outcomes
6. How satisfied were the participants and other stakeholders with the project? Were the program materials and delivery perceived to be culturally relevant by participants?	Implementation Findings
7. What were the unintended consequences of Rethinking Job Search? How were these addressed during the grant period?	Implementation Findings
8. How did the project build in sustainable strategies for continuing the collaboration and the programming after the grant?	Implementation Findings; Cost Findings
9. What lessons emerged from this program that would be useful to other similar efforts and partners?	Conclusions

Table 2: Cost Study Research Questions

Cost Effective Research Questions	Chapter Where Addressed
10. Is the intervention more cost-effective than traditional workforce services given the outcomes achieved?	Cost Findings
11. What is the per-participant cost of Rethinking Job Search?	Cost Findings
12. Can the program be sustained? a. What are the resource and policy implications to sustaining the program? b. What policy or practices need adjusting to make this a standard for WSO?	Implementation Findings; Cost Findings
13. What are the implications for scaling up the program in Oregon?	Cost Findings; Conclusions

Table 3: Implementation Study Research Questions

Summative Study Research Questions	Chapter Where Addressed
14. How many individuals participated in and completed Rethinking Job Search services?	Implementation Findings; Outcomes
15. Does the project result in improved employment placement and retention? How did outcomes differ between participant and comparison groups?	Outcomes
16. For both the participant and comparison groups, how did job placement and retention, length of UI benefits, motivation, job readiness, and satisfaction differ by characteristics such as: a. Race, age, and gender? b. Educational background? c. Other relevant characteristics?	Outcomes
17. Are UI benefits reduced by an average of two weeks? Are rates of long-term unemployment decreased for participants?	Outcomes
18. Do participants show an increase in motivation and readiness to obtain a job?	Implementation Findings
19. In what other ways did job seekers benefit from Rethinking Job Search?	Implementation Findings
20. Did participants who attended more workshops in the Rethinking Job Search series have increased employment placement and retention, receive fewer weeks of UI benefits, or display increased motivation and readiness to obtain a job than those who participated in fewer?	Outcomes; Conclusions

Appendix B: Rethinking Job Search Logic Model

The components of the logic model for Rethinking Job Search are presented in the following lists and table. A discussion of the logic model is included in the introduction chapter of the final evaluation report. Inputs, Assumptions, and External Factors

Inputs, Assumptions, and External Factors

Inputs

- Strategic Leadership: Oregon Employment Department, Labor and Workforce Policy Advisor to the Governor, Willamette Workforce Partnership, Inc.; top leadership from participating local workforce boards
- Lessons learned and data from local pilot studies
- Funding from the Workforce Innovation Fund
- Evidence base and international research
- A significantly sized pool of Unemployment Insurance recipients
- Existing data systems
- Staff and facilities around the state capable of implementing this intervention following prescribed processes

Assumptions

- An individual who is equipped with the tools to effectively cope with the emotional and social components of a job search will have better job-finding results than an individual who is not resilient to these factors.
- A resilient attitude and positive behaviors can be developed with a brief cognitive-behavioral based approach that is grounded in educational learning objectives with the end goal of employment for job seekers through the publicly funded workforce system.

Challenges and External Factors

- Effective recruitment strategies to engage willing participants

- Maintaining consistency in screening/referrals of participants and consistency in the delivery of the program material
- Concern over cultural sensitivity and linguistic barriers that may affect participation rates of some populations

Table 4: Rethinking Job Search Logic Model – Activities, Outputs, Intermediate Outcomes, and Long-Term Outcomes for Each Program Component

Component	Activities	Outputs	Intermediate Outcomes	Long-Term Outcomes
Partnership Development	• Develop contract with participating workforce boards • Communicate regularly with leadership and partners	• Contracts with workforce boards in place • Newsletter and updates shared with leadership and partners bimonthly	• Partners and leaders are informed, participate in, and are satisfied with program progress	• Partners have built a system of communi-cation and collaboration • Partners want to work together more
Evaluation	• Procure third-party evaluator • Support data collection • Review reports	• Evaluation contract • Evaluation Design Report approval • Data collection occurs	• Evaluation reports provide insights • Utilize evaluation findings to support program improvement and sustainability	• Share findings with others in the field at state and national levels
Planning & Preparation	• Develop participant recruitment strategy that reaches target population and implement; pilot process • Align data-sharing agreements across Oregon • Develop contracts for all Oregon LWBs to implement project • Design facilitator training; plan and provide training; retrain as needed	• Data-sharing agreements and MOUs in place • Facilitators are prepared to successfully deliver the Rethinking Job Search curriculum	• Program delivered with fidelity to the model	• None

Component	Activities	Outputs	Intermediate Outcomes	Long-Term Outcomes

Program Delivery	• Screen participants for minimum eligibility
	• Administer readiness assessment
	• Deliver Rethinking Job Search program to include 12 workshops and homework on:
	  • "Risky" thinking; managing
	  • Awareness of emotions
	  • Emotions management
	  • Self-esteem awareness
	  • Accountability for actions
	  • Goalsetting and prioritizing
	  • Personal responsibility, credibility
	  • Maintaining momentum
	  • Conduct monitoring of site fidelity; problem-solve
		• Target population enrolled in sufficient numbers (1,000)
		• Workshop pre/post assessments scored and entered
		• Participants complete homework assignments, job search log
		• Target population completes program with at least 50% completion rate
			• Increased participant motivation to job search
			• Participant ability to recognize emotions and connection with behavior
			• Consistent, intentional job searches
			• Increased participant confidence in job search
			• Participants report high satisfaction with the program
				• Participants will have higher rates of employment three months after completing Rethinking Job Search than comparison group
				• Participants collect unemployment benefits for less time than comparison group
				• Lower rates of individuals in long-term unemployment than comparison group
				• Participants have higher job retention rates than comparison group
				• Rethinking Job Search is cost effective

Impacts

- Oregon will reallocate funds to sustainably support Rethinking Job Search in WorkSource centers
- Reduced expenditures from the Unemployment Insurance Trust Fund
- Lower rates of individuals and families dependent on public assistance and living in poverty

Appendix C: Methodology

Formative Study

This appendix describes the methods used to gather qualitative and quantitative data pursuant to the evaluation design. Data sources included multi-day site visits with staff interviews, a facilitator focus group, participant focus groups; exit and six-month follow-up surveys with participants; and wage record, unemployment insurance, financial, program, and other administrative data. Throughout this period, the Public Policy Associates, Inc. (PPA) evaluation team communicated regularly with Willamette Workforce Partnership (WWP) via monthly reports, meetings, and informal correspondence.

Units of Analysis

The unit of analysis for the formative study was the collaboration and the changes related to service delivery. In addition, for data sourced directly from participants regarding their own lived experience—regarding satisfaction and impacts—the unit of analysis is the individual. For some qualitative analyses in this vein, the unit is responses instead of respondents.

Methods

Administrative Data

PPA had permission to pull select data directly from I-Trac, Oregon's workforce data management system. This included participant data on demographics and barriers, workshops attended, and knowledge assessment scores. Data were downloaded periodically for reporting.

Wage-record and Unemployment Insurance data were provided by the Oregon Employment Department (OED) for the purpose of calculating final participant outcomes and testing relevant hypotheses. I-Trac data does have employment outcomes, and these data were used for interim analysis during the program implementation. However, those data were limited to only those participants who could be contacted for follow up, and was necessarily incomplete.

Site Visits

A total of five site visits were conducted over the course of the evaluation, the timing and focus of which are described in Table 5 below. The first visit was a kickoff event for information exchange, as well as discussion around data access and design topics, in preparation for the evaluation design report. The other four

site visits ranged from 1.5 to 4 days in length, at approximately annual intervals, and were designed to maximize in-person access to key stakeholders for primary data collection. All site visits were conducted by a two-person team from PPA. Key activities were stakeholder interviews and focus groups, which are described in detail below. Over the course of the evaluation, all participating sites were visited at least once, with the exception of Redmond, which closed early due to problems with recruitment.

Site visit summary reports were developed within a month after each site visit. The Rethinking project manager reviewed each report, and the evaluation team finalized the reports with consideration of the input.

Table 5: Site Visit Schedule

Site Visit Timing	Duration	Subject of Visit
February 2015	1 day	Review logic model and research questions; update implementation plans; discuss data needs; discuss screening and recruitment processes
October 2015	1.5 days	Interviews with WWP, workforce board, WorkSource, OED, and Unemployment Insurance (UI) staff regarding program startup
September 2016	4 days	Interviews with WWP, workforce board, WorkSource, OED, and UI staff, and three participant focus groups, regarding program implementation and outcomes
September 2017	4 days	Interviews with WWP, workforce board, WorkSource, OED, and UI staff, and three participant focus groups, regarding program implementation and outcomes
September 2018	2 days	Interviews with WWP, workforce board, WorkSource, OED, and UI staff; focus group with 6 former facilitators; and phone interviews with stakeholders at all remaining implementation sites, regarding program implementation, outcomes, and sustainability

Interviews

During each site visit, interviews were conducted with the help of typically seven different interview guides, each one customized by stakeholder type. The interview guides were not provided to interviewees in advance. The interviews included questions on program operations, communications, service delivery, sustainability, and overall lessons. Notes were taken in real time, and audio recordings were made to ensure the accuracy of the notes. To prepare for the interviews, PPA reviewed relevant documents and data available, such as reports from WWP's monitoring visits to the sites, cost reports, quarterly reports from WWP to the U.S.

Department of Labor, and recruitment numbers. Nearly all interviews were completed on site; however, some telephone interviews were conducted after the visit in cases where arrangements could not be made during the site visit. Once the interviews were completed, the notes were managed and coded in NVivo, a software program designed for the analysis of qualitative data.

Table 6: Interviewees per Site Visit

Site Visit	Number of Unique Individuals Interviewed
October 2015	13 individuals from the participating workforce areas, WWP staff, and the OED
September 2016	25 individuals from workforce board staff, facilitators, partner staff, and others implementing Rethinking Job Search
September 2017	16 individuals, including staff from WorkSource, WWP, and the OED Employment Services and Unemployment Insurance office, and LWB
September 2018	22 workforce board staff and implementers

Participant Focus Groups

During two of the site visits, a series of three participant focus groups were conducted, for a total of 46 participants in six focus groups. The locations, time frame, and number of participants for each focus group are summarized in Table 7.

Participant recruitment was carried out by the sites (mainly by the facilitators) using recruitment protocols and outreach materials developed by PPA. The focus groups were held in secure locations at WorkSource centers. In return for their participation, each participant was offered a light meal and a cash incentive of $50. To incentivize punctual arrival, an early-bird drawing for an additional $50 in cash was offered to those who arrived at the focus group at least 15 minutes early. During the early arrival window, focus group participants were welcomed to the setting, invited to partake of refreshments, and asked to complete a one-page profile, which asked primarily for demographics.

The focus groups were relatively homogeneous in their composition. Based on their profiles, the characteristics of the 46 focus group participants can be described as follows: 43 were Caucasian, one was Asian, one was American Indian/Alaska Native, and one was of unknown race; two were Hispanic or Latino. Ages ranged from 39 to 74, with an average age of 55.8. The groups contained 16 men and 30 women, and six had children under age 18 living with them. Most had education beyond a high school diploma, with 4 (9%) having an associate's degree, 15 (33%) having some college or technical certification, and 20 (43%) with a college degree (bachelor's or advanced). Of the focus group participants 32 (70%) were unemployed and seeking employment at the time, 6 (13%) were working full time, 5 (11%) were working part time, 2 were unemployed but not seeking employment, and 1 did not respond to the question.

The focus group moderator used a discussion guide with questions about participants' experience with Rethinking, their job-search experience, the extent to which they used or shared what they learned from Rethinking, and their overall impressions of the value of Rethinking. In addition to the discussion guide, data-collection materials at the focus groups included a participant profile form and a set of photographs that participants used to illustrate their state of mind before and after the workshop. PPA selected these images to represent a range of positive and negative emotions in individuals of varied age, race, and gender. As with the interviews, notes were taken at the focus groups, and audio recordings were made to ensure accurate notes. The notes were coded in NVivo and analyzed together with other data sources for reporting purposes.

Table 7: Focus Group Participants by Site

Site	Number of Focus Group Participants in 2016	Number of Focus Group Participants in 2017	Number of Focus Group Participants in Total
Beaverton	-	10	10
Clackamas	7	-	7
Eugene	7	-	7
Medford	-	8	8
Portland	6	-	6
Salem	-	8	8
All Sites	20	26	46

Facilitator Focus Group

In the last site visit, the evaluation team conducted a focus group with six former facilitators. No incentives were offered for participation. The focus group moderator used a discussion guide with questions about the facilitators' experience with Rethinking Job Search (Rethinking) such as types of facilitator support, the cultural relevancy of the curriculum, the knowledge assessments, and the value of Rethinking. As with the interviews, notes were taken at the focus group, and an audio recording was made to ensure accurate notes. The notes were coded in NVivo and analyzed together with other data sources for reporting purposes.

Participant Surveys

Workshop enrollment data and contact information were taken from Rethinking Connect, the online portal for program staff and leadership, to which PPA also had access. This source was used to identify participants for surveys based on their workshop dates. I-Trac was also used to confirm enrollment in workshops and to fill in any relevant missing participant information such as e-mail address or name.

All enrollees who attended at least one workshop session and for whom the evaluation team had a working e-mail address were invited to complete (1) an exit survey and (2) a six-month post-workshop (follow-up) survey. There were intended and unintended exceptions to this protocol. One workshop cohort was not issued an exit survey but did receive invitations to the follow-up survey. Additionally, the last workshop that was to take place in September 2018 was cancelled after two lessons; these attendees were not issued either survey since they did not have the opportunity to experience the full intervention. A workshop that began in January 2018 did not receive the follow-up survey while another workshop in this time period inadvertently received the follow-up survey twice; for the few attendees that responded twice, their second response was disregarded.

Invitations to complete the exit survey were e-mailed via SurveyMonkey one day before the final class in each series. However, there were unintended exceptions to this protocol with seven surveys sent out within four days after the anticipated send date and one survey sent out one day early. Participants were given a week to respond, with two reminders. However, the collector was kept open for at least one month to accommodate late responders. This survey asked various questions about satisfaction with the workshop topics, materials, and facilitator. Participants were asked whether they would recommend the workshop to others, and could comment on important lessons from Rethinking, needs for improvement, and impact on their lives. The survey also asked the participants about their efficacy with some of the major concepts taught. At the conclusion of the program, 897 exit survey responses were received, of which 14 were partial responses. Partial responses were included in the analysis. Six responses were omitted because they were duplicates or were not matched to an eligible Rethinking participant. A total of 891 usable survey responses were retained, for a response rate of 72%. The proportion of eligible Rethinking participants that responded to the survey was 73%. The respondents were from 155 of the 156 workshops series that ran through to completion.

The follow-up survey invitations were e-mailed via SurveyMonkey six months after the last class in the series. Ninety percent of the follow-up survey invitations were sent on or within four days of the anticipated send date. Fifteen cohorts received the survey invitation more than four days late and one survey was scheduled around the winter holidays and sent early. The majority of late surveys occurred at the launch of the follow-up survey; the survey was initially launched after the anticipated send date for 11 cohorts, resulting in these cohorts receiving the survey between 6 and 45 days late. Three other cohorts' survey invites were scheduled to send on time but experienced technical difficulties within the survey platform, resulting in a 17-day delay. Another cohort received their survey invites five days late.

Participants were given a week to complete the survey (with two reminders) although all collectors with the exception of the last full workshop, were kept open for at least a month to accommodate late responders. The last collector was closed more promptly due to the project ending and data needing to be analyzed. The six-month follow-up survey asked participants about their employment status, efficacy on major concepts taught, and overall program satisfaction. Participants could again comment on important lessons from Rethinking and comment about their interest in a refresher course. A total of 589 follow-up survey responses were received of which there were 34 partial responses. Again, partial responses were included in the analysis. Eight responses were disregarded because they were duplicate responses or were not matched to an eligible Rethinking participant. A total of 581 usable follow-up survey responses were retained, for a response rate of 47%. As expected with a survey fielded six months after the last class, there was a lower response rate for the follow-up survey than for the exit survey. The follow-up survey responses represented 147 of the 156 workshops. There were eight workshops where no participants responded to the follow-up survey and, as previously mentioned, one workshop that did not receive the follow-up survey. Across both surveys, the total survey invitations sent was 2,483 with a total of 1,472 usable responses received, for a response rate of 59%. The exit and follow-up survey responses were matched to one another using the Rethinking participants' e-mail address or, secondarily, first and last name. The matched survey responses allowed for an analysis of change in satisfaction and efficacy with major concepts taught. The number of eligible Rethinking participants that provided usable responses to both surveys was 521, resulting in 43% (521/1,215) of eligible Rethinking participants having responded to both surveys. Exit surveys took approximately eight minutes to complete, and the follow-up survey took approximately four minutes to complete. Respondents were not provided with an incentive for completing either survey. Open-ended comments were coded thematically. PPA reported aggregate survey responses for each workshop to project leadership at WWP. Additionally, for workshops that occurred through April 2018, PPA produced aggregated reports for every three workshops in a region to be shared with facilitators. The facilitator reports were issued in batches of three cohorts to protect confidentiality for the respondents.

Table 8: Participant Survey Topics

Data Collection	Point in Program	Topics Addressed
Exit Survey	One day before the final class in each series	Satisfaction; important lessons; needs for improvement; impact on life; efficacy with major concepts taught
Follow-Up Survey	Six months after the last class in the series	Employment status; efficacy on major concepts taught; overall program satisfaction; important lessons; interest in a refresher course

Table 9: Participant Surveys Administration

Data Collection	Number Invited	Number Responses	Usable Responses	Usable Response Rate
Exit Survey	1,243	897	891	72%
Follow-Up Survey	1,240	589	581	47%
Total	2,483	1,486	1,472	59%

Fidelity Assessment

One of the research questions was concerned with the fidelity of the implementation to the model, in particular, site-specific adaptations, screening process for hiring facilitators, qualifications of facilitators, and consistency of facilitator training. The evaluation team assessed fidelity continuously during the grant period, via stakeholder interviews, review of administrative records, and attendance at the quarterly facilitator webinars.

One fidelity data source was WWP monitoring reports. These were summaries of findings from WWP grant manager on-site fidelity monitoring of sub-recipients in November 2017, October 2018, and November 2018. Visits to sub-recipients included reviewing administrative records to determine if compliance with Workforce Innovation Fund requirements (fiscal, program standards) had been demonstrated, and observing the facilitator in the first two years of the program. The visits allowed WWP to formally assess and document the fidelity of implementation to the standards, with a focus on the materials, supplies, training venue, and facilitation—i.e., key components of delivering the curriculum. For example, venues needed to have chairs set up roundtable style, not classroom style, to encourage a team atmosphere. In 2018, the monitoring process was expanded to include review of the accuracy of recordkeeping and data entry of participant pre- and post-workshop knowledge assessments, due to multiple

indications that pre/post-workshop assessments were not consistently or accurately recorded. The evaluation team provided guidance on the use of sampling or census approaches per site and aided in identifying suspect data. A thorough examination, troubleshooting, and editing of the data was conducted. The evaluation team re-downloaded all assessment data from the I-Trac at the conclusion of the process.

Recruitment Pilot Test

The participant recruitment process underwent a pilot test in mid-2015 and was funded by the State of Oregon. This process was managed by WWP and required participation by the UI and PPA teams. The entire process took about three months from start to finish, resulting in 908 responses. Half of the pilot group received one work-readiness assessment tool under consideration (WRA) and half received another tool (PARC). The two validated instruments had been used in Australia and Canada.

The pilot test yielded highly useful information to better prepare the team before a full launch. The pilot was not used for enrollment in the program. The pilot test objectives were to:

- Test data pulls and outreach logistics.
- Estimate the response rate for taking the assessment.
- Identify the proportion of people likely to be eligible.
- Check the operation of the online version of the assessment tool.
- Test the assessment tool language with customers.
- Verify the data-sharing steps.
- Examine the assessment-tool responses.

The pilot results identified that both tools were strong candidates for a baseline work readiness assessment. Among the strengths were that both instruments had acceptable ratings for reading and grammar, and were under 6th grade reading level. Operationally, both instruments worked well, and no unanticipated barriers were discovered. No concerns were identified related to logistics, online hosting, or data-sharing.

The WRA had a 27% response rate, which was six percentage points higher than the PARC. This suggested that individuals were more open to the instrument, thereby potentially yielding higher-quality data. The response rate however, was not a barrier to enlisting a sufficient number of assessment-takers, due to the large volume of individuals with UI claims. Missingness was not an issue, as responses were mandatory for all items.

Although both instruments had been validated in other countries, using these in a new context suggested the need to test the pilot results. The PPA evaluation team subjected each of the pilot data sets to a factor analysis procedure in SPSS. The first step for each data set was open ended, allowing the program to identify the optimal number of factors (components or concepts represented by the items). Next, the procedure was run asking specifically to find three factors. The choice of three factors was based on WRA theoretically consisting of three concepts; prior PARC analysis that showed the instrument having three factors; and the results of the open procedure.

For WRA, the instrument items fit the theoretical concepts as anticipated and reflected three factors: pre-contemplation, contemplation, and action. Results for WRA indicated that 69.8% of the total variance was explained by the factors. In the PARC analysis, three factors were identified that appear to represent pre-contemplation, contemplation, and action. For PARC, 44.6% of the total variance was explained.

Although each instrument had strengths to recommend it, WWP selected the Australian PARC assessment tool. With that, the Esher House vendor was responsible for hosting the online system. Esher House stored the work-readiness survey results and provided these and Esher House scoring to PPA in a series of downloads at four time points.

PPA subjected the final data set to factor analysis and internal consistency reliability testing, prior to using construct scores in final analyses, as described in the summative study section of this appendix.

Readiness Survey

Potential participants were directed to an online survey by a letter from OED or a staff member at WorkSource. The survey, managed by Esher House, assessed job-search readiness data for individuals who would eventually become either participants or members of the comparison pool. The survey tool also requested relationship status and number of dependent children—desired demographic data that were not available in other sources. People who completed this survey could receive credit for a job-search activity. The readiness survey data were not seen or used by the program implementers, but were instead used by the evaluation team in describing the work readiness of potential and actual participants, and in the outcomes analysis. Early in the program, and again at the close, an exploratory factor analysis was conducted on survey results from individuals who took the readiness survey (these were in addition to the analysis of the recruitment pilot test). Scale scores were created for each of three previously identified factors: the action, resistance, and pondering stages of job-seeking. The questions that comprise each of these constructs are listed in Table 10.

Each factor could have a minimum score of 4 and a maximum score of 20. Higher scores indicate greater average "agreement" with the four items in each factor. Assignment to a given stage of job-seeking (i.e., being high in that stage) was based on coding a binary high or low result for each factor based on natural breaks in the distribution of scores within a factor. Stages and their calculation were as follows:

- Action. Average score of 16 points or higher, which means an average of "agree" on all four scale items in this factor.
- Resistance. Average score of 9 points or higher, which means the person did not "disagree" with all of the scale items.
- Pondering. Average score of 14 points or higher, which means an average nearing but not completely "agree" on all scale items in this factor.

Table 10: Stages of Job Search Readiness Factors

Factor	Survey Items
Action	Q3. I am actively looking for a job. Q5. I am following up on job leads. Q7. I am really working hard to find a job. Q10. I am in the process of setting up interviews with employers.
Resistance	Q2. If I were to find a job it would disrupt my family life and I can't let that happen. Q6. If I change from the type of work I was doing, people will think I failed and that is too much for me to take right now. Q9. I believe that I might be worse off financially if I start employment. Q11. I don't understand why I need to look for a job.
Pondering	Q1. I am considering my career interests and vocational goals. Q4. I have started to consider my career and employment options. Q8. Maybe the WorkSource center will be able to assist me. Q12. I am considering enrolling in a training or educational program.

Summative Study

This section of the appendix describes the methods used to access and analyze data relevant to intended program outcomes. Data sources included work-readiness assessments, wage record, Unemployment Insurance, financial, program, and other administrative data.

Units of Analysis

The unit of analysis in regression models is the individual case. All variables are measured at the individual level. Although the workforce area is determined at the aggregate level, a categorical variable is applied for each individual case. Rather

than employing a clustered design, a fixed-effects model using dummy variables for all but one reference category is used. For propensity score matching (PSM) analysis, pairwise treatment effects are estimated by taking the difference in the outcome measure between the matched pair.

Participant and Comparison Populations

Means, Ns, and standard deviations for all of the variables used in the outcomes models are included in Table 11 and Table 12 below. Minority status is reported separately. Minority (1) is the mean of cases codes as minority, with all other cases (including unknowns) coded as zero. Minority (9) is the mean of cases coded as unknown, with all others coded as zero.

Table 11: Descriptive Statistics for Participant Group

Variable	N	Mean	Standard Deviation
Age	1,089	52.89	10.05
Provider	1,089	14.53	7.46
Female	1,089	0.65	0.48
Low Income	1,088	0.24	0.42
Highest Education Received, Category	1,089	4.83	1.43
Receiving SNAP, TANF, or SSI	1,089	0.14	0.35
Veteran	1,089	0.09	0.29
Married	1,089	0.47	0.50
Number of Children	1,087	0.98	1.27
Start Month	1,089	15.80	8.63
Days since last employed	1,089	115.75	97.64
Dosage of Workshops	1,089	9.56	3.25
Work Readiness – Action	1,089	-0.15	1.06
Work Readiness – Resisting	1,089	-0.04	1.00
Work Readiness – Pondering	1,089	0.40	0.91
Prior Weeks UI Benefits	955	11.60	6.28
Weeks UI Benefits	798	11.04	7.16
Employed in Qtr 1 after exit qtr	1,089	0.58	0.49
Employed in Qtr 2 after exit qtr	1,089	0.63	0.48
Employed in Qtr 3 after exit qtr	1,089	0.62	0.49
Employed in Qtr 4 after exit qtr	1,089	0.52	0.50
Employment Retention	636	0.78	0.42
Retained with same employer	636	0.58	0.49
Minority (1)	1,089	0.14	0.35
Minority (9)	1,089	0.03	0.18

Table 12: Descriptive Statistics for Comparison Group

Variable	N	Mean	Standard Deviation
Age	5,234	43.39	6.12
Provider	5,234	14.79	7.85
Female	5,234	0.59	0.49
Low Income	5,234	0.18	0.39
Highest Education Received, Category	5,234	4.86	1.46
Receiving SNAP, TANF, or SSI	5,234	0.13	0.34
Veteran	5,234	0.08	0.27
Married	5,234	0.52	0.50
Number of Children	5,222	0.98	1.36
Start Month	5,234	17.03	8.03
Days since last employed	5,234	97.14	76.83
Work Readiness – Action	5,234	0.03	0.99
Work Readiness – Resisting	5,234	0.00	1.00
Work Readiness – Pondering	5,234	-0.08	1.00
Prior Weeks UI Benefits	4,491	10.34	6.62
Weeks UI Benefits	3,740	11.83	7.87
Employed in Qtr 1 after exit qtr	5,234	0.58	0.49
Employed in Qtr 2 after exit qtr	5,234	0.61	0.49
Employed in Qtr 3 after exit qtr	5,234	0.54	0.50
Employed in Qtr 4 after exit qtr	5,234	0.48	0.50
Employment Retention	3,037	0.73	0.44
Retained with same employer	3,037	0.51	0.50
Minority (1)	5,234	0.13	0.34
Minority (9)	5,234	0.03	0.17

Program Eligibility Criteria

Minimum eligibility requirements for both the participant and comparison groups included:

- Be registered for the Workforce Innovation and Opportunity Act (WIOA).
- Be collecting unemployment benefits.
- Be at least 18 years old.
- Have a high school diploma or GED.
- Have not participated in any part of the workshops before.

Participants

These are people who met the minimum eligibility requirements above, plus: (1) viewed the Rethinking informational video online, (2) took the job-readiness self-assessment, (3) decided to participate in Rethinking and registered for a workshop, and (4) attended at least one class in the workshop series. Individuals were removed from the participant group if data indicated that they did not meet eligibility requirements (N=8). An additional four people were removed from the participant group because they were not offered the full intervention when their workshop was cancelled after two lessons. There were 1,215 people included in the participant group between January 1, 2016, and the end of the program, September 30, 2018. Data pulled from I-Trac included 1,225 individuals, of whom 10 were removed for the following reasons:

- Five were not eligible (reported by client), of which at least four were not UI
- Four were not offered the full workshop
- One did not meet education requirement

The outcomes analysis used a restricted sample. Two cases were excluded because of duplicate ID's. Seventy-nine participants had no Work Readiness data and were excised from the analytic file, as were cases with no information for date last employed (N=58). Additional missing data regarded low-income status (N=1) and number of children (N=2) were left in the dataset as missing data. A total of 126 cases were excluded due to missing data, leaving a total sample of 1,089. Race/ethnicity was missing for 37 cases and coded as unknown (coded as 9), but left in the study.

Comparison Group

These were people who: (1) met the minimum eligibility, (2) viewed the Rethinking informational video online, (3) took the job-readiness self-assessment, and (4) decided not to participate in Rethinking. These people were kept as a pool of potential persons to match to the participant group for statistical analysis. The comparison pool is defined by removing the known Rethinking participants and removing those who did not fit the eligibility criteria. PPA also removed from the comparison pool persons who attended the Rethinking program but were ineligible as participants. Data from multiple waves of the readiness survey were merged together into a single master data file in SPSS for data cleaning (i.e., eliminating duplicate entries) and recoding. There were 6,236 persons included in the unmatched comparison pool for the period between January 1, 2016, and September 30, 2018. This pool was used to create a matched comparison group for the final outcomes analysis. The following comparison pool members were excluded from the outcomes analysis: 426 could not be matched to wage record or UI data, 111 because they lived outside of Oregon, 247 reported by invalid providers (i.e., outside of the study), 1 with missing data on last employed, and 93

duplicate ID's with participant file (likely due to entering the wrong ID's). Twelve cases were missing information on number of children but remained in the data file coded as missing data. The final comparison sample was 5,428.[1]

Hypotheses

Outcomes hypotheses are presented below. Included is a reference to the table in the Methodology section that addresses that hypothesis, focusing on PSM results where appropriate.

Confirmatory hypothesis 1: Participants will have higher rates of employment at 90 days relative to the comparison group. (Table 20)

- Exploratory hypothesis 1a: Participants who attend a greater number of the Rethinking workshops will have better employment outcomes than those who attend fewer. Increments of one session (two hours) will be examined to determine differential impact. (Table 21)
- Exploratory hypothesis 1b: Underrepresented minorities in the program will have better employment outcomes than minorities in the comparison group. (Table 31)

Confirmatory hypothesis 2: Of employed participants, a greater proportion will retain employment at 12 months relative to the comparison group. (Table 20)

- Exploratory hypothesis 2a: Of employed participants, a greater proportion will be employed at the same employer at 12 months relative to the comparison group. (Table 20)

Confirmatory hypothesis 3: Participants will gain employment prior to exhausting UI benefits at a higher rate relative to the comparison group. (Table 20)

Regression Analysis and Propensity Score Matching

Methodology

All of the statistical models included the following variables, used either as control variables in regression models, or as matching variables:

Age: Date of birth subtracted from the date of study entry, measured in years.

[1] Adding up the number of exclusions might appear to give a sample size of 5,358, but 70 cases fell in multiple exclusion categories.

Provider: There were 9 workforce centers involved with the Rethinking project whose participants had complete data. A series of binary (1, 0) variables were employed for each provider location.

Minority: Racial and ethnic data was re-coded into three categories: 0 for Non-Hispanic Whites, 1 for all stated racial or ethnic minorities, and 9 for unknown cases (treated as a separate categorical variable).

Gender: Coded 1 for Female, and 0 for Male.

Low Income: From OED management information system (MIS), coded 1 for affirmative and 0 for not.

Education: A 7-point scale of highest grade completed at program entry – 1=Less than grade 9; 2=Grade 9-11 but no diploma; 3=HS diploma or GED; 4=Some college or secondary training; 5=Associate's degree; 6=College graduate/bachelor's degree; 7=Advanced degree. Those rated 1 or 2 were excluded from the study. Due to eligibility requirements, those reporting Education level as 1 or 2 were excluded.

Receiving Public Assistance: Coded 1 for receiving assistance from SNAP, TANF, or SSI/SSDI in the last 6 months, and 0 when not.

Veteran Status: 1 for Veterans, 0 for Non-Veterans.

Married: 1 for those reported as married, 0 for unmarried for any reason. Collected from Esher Readiness survey.

Number of children: Count of number of self-reported children. Collected from the Esher Readiness survey.

Number of days since employed: Last day of employment provided by OED-UI was subtracted from Study Entry Date.

StartMonth: Month of Study Entry Date, measured by date of first workshop for Rethinking participants, and of completion of the Esher Work Readiness survey for the comparison group (in cases where the person took multiple Esher surveys, the most recent date was used). Months are coded sequentially from the beginning of the project (1-33).

Work Readiness – Action: Factor analysis of Esher Work Readiness Survey results, dimension 1.

Work Readiness – Resist: Factor analysis of Esher Work Readiness Survey results, dimension 2.

Work Readiness – Ponder: Factor analysis of Esher Work Readiness Survey results, dimension 3.

All participant and comparison group members were required to complete the Esher Work Readiness Survey (instrument shown in Table 10), a battery of 12 questions. Recipients were asked to respond on a 5-point Likert scale (with 1 indicating strong disagreement and 5 indicating strong agreement). Earlier analysis with preliminary data grouped Questions 3, 5, 7, and 10 into an "Action" group; questions 2, 6, 9, and 11 into a "Resist" group, and questions 1, 4, 8, and 12 into a "Ponder" group. However, factor analysis (with varimax rotation) with the full dataset suggested that one of the items, Question 4, although assigned to the Ponder group loaded equally well with the Action group. An examination of the question ("I have started to consider my career and employment options") provides face validity for assigning it to either group. Therefore, for producing final estimates of the influence of these dimensions, the standardized rotated factor regression scores for each dimension rather than the sum or mean of responses for pre-assigned items was used. There was a very high correlation between the original indices and the final factor scores (Action & ZAction=.93, Resist & ZResist=.95, Ponder & ZPonder=.95).

For the analysis of number of weeks receiving UI benefits for 52 weeks after the Rethinking training period (or the equivalent 4-week period for the comparison group), an additional variable counting the number of weeks receiving UI benefits in the 52 weeks prior to the start date, UIPrior, was also included. UI benefits were merged and de-duplicated, and all cases where the subject had a "paid" week or a "waiting" week (per OED, indicating eligibility week) were coded as receiving UI benefits for that week. All other weeks were coded as not paid, with missing data coded as zero. In some cases there were duplicate entries for the same week. After consulting with the state, it was decided that the most likely correct final disposition for a given week would be "paid" rather than "not paid," so all cases in which this conflict occurred were coded as 1.

The predictor variable for the main regression and PSM models is Participant status (coded 1 for Participants and 0 for the comparison group). The dosage analysis examined only the subset of program participants, with the predictor variable being number of workshop sessions attended (1-12).

The original model in the Evaluation Design Report (EDR) included a variable of past WIOA services. Although this data could be very helpful in more precisely estimating program impacts, unfortunately difficulties in acquiring data that were comparable between participants and comparison group members made it impossible to include that information. This was related to some services being held in the statewide MIS and some being input into the I-Trac interface by the WorkSource Oregon regions (WSOs). In addition, the Start Month variable was not

included in the original model in the EDR. However, in conducting the analysis it was determined that there was sufficient variation in client characteristics over time to warrant its inclusion. It was also thought that including a measure of date enrolled would give the matches a closer approximation to a randomized controlled trial (RCT) design. The fact that the Start Month variable is a statistically significant predictor of outcomes in a number of models validates its inclusion. Finally, the EDR originally included a survival analysis of probability of employment based on number of days between the end of services and the start of employment, as well as the number of days between start and end of employment. However, it proved impossible to gather reliable information on date of employment, and so the Cox Proportional Hazard regression analysis was abandoned in favor of a standard logistic regression.

Outcome variables:

Employment status. Wage-record data for each subject matched with a valid ID was provided by OED (with all quarters from the first quarter of 2016 through the first quarter of 2019). The total wages reported during each quarter for each employer was summed for each quarter. All quarters in which wages were reported were coded as 1 (for "employed"), and missing data coded as 0. There were only a handful of cases (between 1 and 9 in each quarter, or less than .1%) in which zero wages were reported. The appropriate quarter for each subject was identified by adding 30 days to the start date and converting that date into its appropriate quarter of the year, establishing the quarter of exit. The outcome quarters were then defined as simply the next four quarters following the exit quarter.

Retention in employment: Retention was measured as reporting of wages earned in the first, second, and third quarters after the exit quarter, with the sample restricted to those individuals who were employed in the first quarter. To receive a score of 1 (continuing employment), the subject was required to have received wages in all three quarters. If either the second or third quarters were empty or zero, then they were coded as 0 (not retained in employment).

Retention with specific employer. This variable was constructed in two stages. First, a dyad was constructed measuring continuity of employment with a specific employer across quarters, using the same methods as the previously described Retention in Employment variable. The unit of analysis at this stage was employment with a specific employer, rather than employment simpliciter. Rather than all wages summed for each quarter, a binary variable of receipt of wages for each quarter was coded separately for each employer. A subject was then coded as retaining employment if for the second and third quarters after the exit quarter they also were coded as receiving wages from that employer. In those instances where a subject had multiple employers in the same quarter, they would have to

maintain employment with all their employers to receive a coding of 1 for retention. Any change in employment status with any employer (i.e., missing data for that employer in subsequent quarters) would result in a coding of 0, for not retained.

UI benefits post-exit. This variable is virtually identical to the UIPrior variable described above, except that rather than being a count of the number of weeks receiving UI benefits (as defined previously) in the 52 weeks before the training period, this measure sums the number of weeks receiving benefits in the 52 weeks after the training period. All UI benefits received during the four weeks of the training period (or the equivalent period for the comparison group) were excluded from analysis in order to maintain comparability between the participant and comparison samples.

Regression and PSM analysis was conducted with Stata. Logistic regression was employed for binary outcomes (employment and retention) and linear regression with robust standard errors for number of weeks of UI benefits. Diagnostic tests indicated low multicollinearity. There was limited missing data, for which listwise deletion was employed.

Several different PSM approaches were considered, including multivariate distance matching, kernel matching, single nearest neighbor, and alternative methods such as augmented inverse propensity weights (using Stata's teffects psmatch and the user-generated PSM program kmatch). With the exception of AIPW the results were quite similar. The final model selected was 5-nearest neighbor PSM with replacement and restricted to the area of common support, with post-hoc bias adjustment, following Abadie & Imgens[2] (2011) and Austin[3] (2017). The analysis used the kmatch program developed by Jann[4] (2017) to respond to King & Nielsen's[5] critique of propensity score matching analysis. This double-adjustment procedure can account for bias due to incomplete matching, such as exists in the current study, where roughly half of the treatment group did not have a close

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[2] Alberto Abadie and Guido Imbens, "Bias-Corrected Matching Estimators for Average Treatment Effects," *Journal of Business & Economic Statistics* 29, no. 1 (2011), DOI: 10.1198/jbes.2009.07333.

[3] Peter Austin, "Double propensity-score adjustment: A solution to design bias or bias due to incomplete matching," *Statistical Methods in Medical Research* 26, no. 1 (2017): 201-222.

[4] Ben Jann, "Why Propensity Scores Should Be Used for Matching," (presentation, German Stata Users' Group Meetings, University of Bern, Bern, Germany, June 23, 2017), https://www.stata.com/meeting/germany17/slides/Germany17_Jann.pdf.

[5] "Why Propensity Scores Should Not Be Used for Matching," Gary King and Richard Nielsen, Harvard University, 2019, Political Analysis, copy at http://j.mp/2ovYGsW.

match in the comparison group. It can also further reduce biases due to residual imbalance (typically in the range of .1 standardized difference or above—see Nguyen et al. 2017[6]). Estimates of average treatment effect are reported as logit coefficients in kmatch, and so were converted to odds ratios (ORs). Effect sizes were calculated with the formula below, following Chinn[7] (2000).

$$\text{Effect size} = \frac{log10(Odds\ Ratio)}{1.81}$$

Logistic Regression Model Outcome Variables

For the full sample:

- Employment in the first quarter after the exit quarter—the Common Measure). (Table 13)
- Employment in the second quarter after the exit quarter. (Table 14)
- Employment in the third quarter after the exit quarter. (Table 15)
- Employment in the fourth quarter after the exit quarter. (Table 16)

For those hired in the first quarter after the exit quarter:

- Retention in Employment with any employer in the second and third quarters after the exit quarter—the Common Measure. (Table 19)
- Retention with the same employer in the second and third quarters after the exit quarter. (Table 17)

For Participants (with Dosage replacing Participant status as the main predictor):

- Employment in the first quarter after the exit quarter—the Common Measure. (Table 21)
- Employment in the second quarter after the exit quarter. (Table 22)
- Employment in the third quarter after the exit quarter. (Table 23)
- Employment in the fourth quarter after the exit quarter. (Table 24)

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[6] Tri-Long Nguyen et al., "Double-adjustment in propensity score matching analysis: choosing a threshold for considering residual imbalance," BMC Medical Research Methodology (2017) 17, article no.78, DOI 10.1186/s12874-017-0338-0.

[7] Susan Chinn, "A simple method for converting an odds ratio to effect size for use in meta-analysis," *Statistics in Medicine* 19, no. 22 (2000): 3127-3131, https://doi.org/10.1002/1097-0258(20001130)19:22<3127::AID-SIM784>3.0.CO;2-M.

- Retention with the same employer in the second and third quarters after the exit quarter. (Table 25)

For Minority Status:

- Employment in the first quarter after the exit quarter—the Common Measure. (Table 27)
- Employment in the second quarter after the exit quarter. (Table 28)
- Employment in the third quarter after the exit quarter. (Table 29)
- Employment in the fourth quarter after the exit quarter (Table 30)

Ordinary Least Squares Regression Model Outcome Variables

For the full sample:

- Weeks of UI Benefits Consumed in the 52 weeks after the training period. (Table 18)

For Participants:

- Weeks of UI Benefits Consumed in the 52 weeks after the training period. (Table 26)

Propensity Score Matching

For the full sample (Table 20):

- Employment in the first quarter after the exit quarter—the Common Measure.
- Employment in the second quarter after the exit quarter.
- Employment in the third quarter after the exit quarter.
- Employment in the fourth quarter after the exit quarter.
- Weeks of UI Benefits Consumed in the 52 weeks after the training period.

For those hired in the first quarter after the exit quarter (Table 20)

- Retention in Employment with any employer in the second and third quarters after the exit quarter—the Common Measure.
- Retention with the same employer in the second and third quarters after the exit quarter.

For Minority Status (Table 31):

- Employment in the first quarter after the exit quarter—the Common Measure.
- Employment in the second quarter after the exit quarter.

- Employment in the third quarter after the exit quarter.
- Employment in the fourth quarter after the exit quarter.

Results

Detailed regression and PSM results are presented in the tables below.

Table 13: Logistic Regression Analysis of Employment in First Quarter After Exit Quarter (N=6,308; ROC=.59)

Variable	Odds Ratio	Standard Error
Participant*	1.37	0.11
Age*	0.98	0.00
Provider 5	0.84	0.17
Provider 10	1.18	0.13
Provider 13	1.29	0.40
Provider 14*	1.26	0.11
Provider 15	0.95	0.19
Provider 18	1.19	0.10
Provider 19	1.04	0.10
Provider 24	1.01	0.08
Provider 25	0.98	0.15
Minority	1.14	0.09
Race/Ethnicity Unknown	1.03	0.16
Female*	1.21	0.07
Low Income*	0.85	0.06
Highest Education*	0.94	0.02
Received Public Assistance	1.00	0.09
Veteran	1.03	0.10
Work Readiness – Action*	1.18	0.03
Work Readiness – Resisting	0.97	0.03
Work Readiness – Pondering*	0.88	0.02
Married	0.90	0.05
Number of Children	0.97	0.02
Days Since Employed*	1.00	0.00
Start Month	0.99	0.00
Constant	5.07	1.12

* Statistically significant p<.05

Table 14: Logistic Regression Analysis of Employment in Second Quarter After Exit Quarter (N=6,308; ROC=.61)

Variable	Odds Ratio	Standard Error
Participant*	1.43	0.12
Age*	0.98	0.00
Provider 5	1.28	0.27
Provider 10	1.00	0.11
Provider 13	1.72	0.56
Provider 14*	1.28	0.11
Provider 15	1.21	0.25
Provider 18	1.07	0.10
Provider 19	1.18	0.11
Provider 24	1.21	0.10
Provider 25	1.02	0.16
Minority	1.01	0.08
Race/Ethnicity Unknown	0.95	0.15
Female	1.10	0.06
Low Income*	0.86	0.06
Highest Education*	0.96	0.02
Received Public Assistance	1.06	0.09
Veteran	0.97	0.10
Work Readiness – Action*	1.20	0.03
Work Readiness – Resisting	0.99	0.03
Work Readiness – Pondering*	0.88	0.02
Married*	0.89	0.05
Number of Children	0.97	0.02
Days Since Employed*	1.00	0.00
Start Month*	0.97	0.00
Constant	8.26	1.87

* Statistically significant p<.05

Table 15: Logistic Regression Analysis of Employment in Third Quarter After Exit Quarter (N=6,308; ROC=.68)

Variable	Odds Ratio	Standard Error
Participant*	1.71	0.15
Age	0.98	0.00
Provider 5	1.41	0.30
Provider 10	0.92	0.10
Provider 13	1.30	0.41
Provider 14	1.07	0.10
Provider 15	1.40	0.30
Provider 18	0.94	0.09
Provider 19	1.15	0.11
Provider 24	1.20	0.10
Provider 25	1.09	0.18
Minority	1.00	0.08
Race/Ethnicity Unknown	0.81	0.13
Female	1.02	0.06
Low Income*	0.84	0.06
Highest Education	0.96	0.02
Received Public Assistance*	1.00	0.09
Veteran	0.96	0.10
Work Readiness – Action	1.18	0.03
Work Readiness – Resisting	0.97	0.03
Work Readiness – Pondering*	0.90	0.03
Married	0.94	0.05
Number of Children	0.96	0.02
Days Since Employed	1.00	0.00
Start Month*	0.93	0.00
Constant	15.29	3.54

* Statistically significant p<.05

Table 16: Logistic Regression Analysis of Employment in Fourth Quarter After Exit Quarter (N=6,308; ROC=.75)

Variable	Odds Ratio	Standard Error
Participant*	1.31	0.12
Age*	0.98	0.00
Provider 5	1.46	0.31
Provider 10	0.82	0.10
Provider 13	1.33	0.42
Provider 14	1.20	0.11
Provider 15	1.33	0.29
Provider 18	0.97	0.09
Provider 19*	0.79	0.08
Provider 24	0.99	0.09
Provider 25	1.11	0.19
Minority	1.11	0.09
Race/Ethnicity Unknown	0.98	0.16
Female*	1.15	0.07
Low Income*	0.82	0.07
Highest Education	0.98	0.02
Received Public Assistance	1.15	0.11
Veteran	1.09	0.12
Work Readiness – Action*	1.14	0.03
Work Readiness – Resisting	0.97	0.03
Work Readiness – Pondering*	0.93	0.03
Married	0.98	0.06
Number of Children*	0.94	0.02
Days Since Employed*	1.00	0.00
Start Month*	0.89	0.00
Constant	20.32	4.91

* Statistically significant p<.05

Table 17: Logistic Regression Analysis of Continued Employment With the Same Employer(s) in the Second and Third Quarters After Exit Quarter (N=3,666; ROC=.70)

Variable	Odds Ratio	Standard Error
Participant*	1.25	0.14
Age	1.00	0.01
Provider 5	1.54	0.45
Provider 10	0.82	0.12
Provider 13	2.36	1.02
Provider 14*	1.29	0.15
Provider 15	1.48	0.43
Provider 18	1.04	0.13
Provider 19	1.24	0.16
Provider 24	1.23	0.14
Provider 25	1.15	0.25
Minority	0.90	0.09
Race/Ethnicity Unknown	0.82	0.17
Female	0.95	0.07
Low Income	0.86	0.09
Highest Education	1.01	0.03
Received Public Assistance*	0.78	0.09
Veteran	0.90	0.12
Work Readiness – Action	0.98	0.04
Work Readiness – Resisting	1.00	0.04
Work Readiness – Pondering*	0.90	0.03
Married	1.09	0.08
Number of Children	0.99	0.03
Days Since Employed*	1.00	0.00
Start Month*	0.91	0.00
Constant	4.23	1.23

* Statistically significant p<.05

Table 18: Ordinary Least Squares Regression of Number of Weeks of UI Benefits Paid in the 52 Weeks After the Training Period (N=4,266; Adjusted r-squared: .08)

Variable	Coefficient	Standard Error
Participant*	-1.72	0.34
Age*	0.09	0.02
Provider 5	0.22	0.74
Provider 10	0.20	0.53
Provider 13	1.15	1.55
Provider 14	-0.33	0.39
Provider 15	0.46	0.82
Provider 18	-0.25	0.39
Provider 19*	-0.93	0.37
Provider 24	-0.60	0.34
Provider 25	1.05	0.75
Minority	-0.59	0.35
Race/Ethnicity Unknown*	-1.32	0.62
Female	0.08	0.23
Low Income*	0.95	0.33
Highest Education	0.14	0.08
Received Public Assistance*	0.80	0.39
Veteran	-0.37	0.44
Work Readiness – Action*	-0.35	0.11
Work Readiness – Resisting	-0.05	0.11
Work Readiness – Pondering*	0.52	0.12
Married	0.09	0.24
Number of Children	-0.06	0.08
Days Since Employed	0.00	0.00
Start Month	0.00	0.02
UIPrior*	-0.29	0.03
Constant	10.55	0.95

* Statistically significant p<.05. Robust standard errors.

Table 19: Logistic Regression of Continued Employment With Any Employer in the Second and Third Quarters After the Exit Quarter (N=3,666; ROC=.77)

Variable	Odds Ratio	Standard Error
Participant*	1.35	0.18
Age	0.99	0.01
Provider 5	1.79	0.67
Provider 10	0.74	0.13
Provider 13	1.49	0.83
Provider 14	1.02	0.14
Provider 15	2.14	0.88
Provider 18	0.84	0.12
Provider 19	1.21	0.19
Provider 24*	1.43	0.20
Provider 25	1.54	0.47
Minority	0.81	0.10
Race/Ethnicity Unknown	0.76	0.18
Female	0.91	0.08
Low Income*	0.76	0.09
Highest Education	1.01	0.03
Received Public Assistance	0.91	0.13
Veteran	0.96	0.16
Work Readiness – Action	1.03	0.04
Work Readiness – Resisting	0.95	0.04
Work Readiness – Pondering	0.94	0.04
Married	0.98	0.09
Number of Children*	0.93	0.03
Days Since Employed*	1.00	0.00
Start Month*	0.87	0.01
Constant	69.59	25.43

* Statistically significant p<.05

Table 20: Propensity Score Matching Analysis of Employment, Retention, and Consumption of UI Benefits

Variable	Odds Ratio	Standard Error	Effect Size	Matched Participant	Matched Comparison
Employed Quarter 1	1.05	0.03	0.01	528	1,588
Employed Quarter 2	1.04	0.03	0.01	528	1,588
Employed Quarter 3*	1.12	0.03	0.03	528	1,588
Employed Quarter 4*	1.08	0.03	0.02	528	1,588
UI Benefits*	-1.45	0.45	-0.08	373	1,194
Retained with Employer	1.01	0.03	0.00	370	1,008
Retained any Employment	1.05	0.03	0.01	370	1,008

* Statistically significant p<.05

Table 21: Logistic Regression Analysis of Employment in First Quarter After Exit Quarter, Participants Only (N=1,086; ROC=.67)

Variable	Odds Ratio	Standard Error
Dosage*	0.89	0.02
Age*	0.98	0.01
Provider 5	0.59	0.21
Provider 10	0.78	0.20
Provider 13	0.92	0.71
Provider 14	0.91	0.22
Provider 15	0.57	0.20
Provider 18	1.26	0.27
Provider 19	0.97	0.24
Provider 24	0.72	0.16
Provider 25	0.57	0.22
Minority	1.43	0.28
Race/Ethnicity Unknown	1.56	0.60
Female*	1.46	0.21
Low Income	1.16	0.20
Highest Education	1.00	0.05
Received Public Assistance	1.22	0.27
Veteran	1.44	0.35
Work Readiness – Action	1.07	0.07
Work Readiness – Resisting	1.02	0.07
Work Readiness – Pondering*	0.85	0.06
Married	0.95	0.13
Number of Children	0.91	0.05
Days Since Employed	1.00	0.00
Start Month*	0.98	0.01
Constant	18.78	10.62

* Statistically significant p<.05

Table 22: Logistic Regression Analysis of Employment in Second Quarter After Exit Quarter, Participants Only (N=1,086; ROC=.07)

Variable	Odds Ratio	Standard Error
Dosage	0.96	0.02
Age*	0.99	0.01
Provider 5	0.83	0.30
Provider 10	1.04	0.28
Provider 13	2.83	3.12
Provider 14	0.96	0.23
Provider 15	0.95	0.33
Provider 18	0.91	0.19
Provider 19	1.22	0.31
Provider 24	0.99	0.22
Provider 25	0.66	0.25
Minority	0.90	0.17
Race/Ethnicity Unknown	1.47	0.58
Female	1.27	0.19
Low Income	1.11	0.20
Highest Education	1.03	0.05
Received Public Assistance*	1.61	0.37
Veteran	1.30	0.32
Work Readiness – Action	1.02	0.06
Work Readiness – Resisting	1.03	0.07
Work Readiness – Pondering	0.87	0.06
Married	1.06	0.15
Number of Children	0.96	0.05
Days Since Employed	1.00	0.00
Start Month*	0.96	0.01
Constant	7.29	4.05

* Statistically significant p<.05

Table 23: Logistic Regression Analysis of Employment in Third Quarter After Exit Quarter, Participants Only (N=1,086; ROC=.67)

Variable	Odds Ratio	Standard Error
Dosage	0.98	0.02
Age*	0.98	0.01
Provider 5	1.01	0.38
Provider 10	0.88	0.24
Provider 13	0.60	0.44
Provider 14	0.86	0.21
Provider 15	0.87	0.31
Provider 18	0.65	0.14
Provider 19	1.00	0.25
Provider 24	0.99	0.23
Provider 25	0.63	0.25
Minority	1.19	0.24
Race/Ethnicity Unknown	1.16	0.44
Female	1.18	0.18
Low Income	1.07	0.19
Highest Education	0.98	0.05
Received Public Assistance	1.01	0.22
Veteran	1.29	0.32
Work Readiness – Action	1.10	0.07
Work Readiness – Resisting	1.01	0.07
Work Readiness – Pondering	0.89	0.07
Married	1.10	0.16
Number of Children	0.93	0.05
Days Since Employed	1.00	0.00
Start Month*	0.93	0.01
Constant	22.76	13.10

* Statistically significant p<.05

Table 24: Logistic Regression Analysis of Employment in Fourth Quarter After Exit Quarter, Participants Only (N=1,086; ROC=.75)

Variable	Odds Ratio	Standard Error
Dosage	0.99	0.02
Age*	0.98	0.01
Provider 5	1.01	0.38
Provider 10	0.71	0.20
Provider 13	0.82	0.61
Provider 14	0.75	0.19
Provider 15	0.64	0.23
Provider 18	0.54	0.12
Provider 19	0.68	0.18
Provider 24	0.74	0.18
Provider 25	0.38	0.15
Minority	0.93	0.19
Race/Ethnicity Unknown	0.95	0.37
Female	1.02	0.16
Low Income	1.02	0.19
Highest Education	0.99	0.05
Received Public Assistance	0.96	0.22
Veteran	0.90	0.23
Work Readiness – Action	0.98	0.06
Work Readiness – Resisting	1.00	0.07
Work Readiness – Pondering	0.93	0.07
Married	1.13	0.17
Number of Children	0.94	0.05
Days Since Employed	1.00	0.00
Start Month*	0.89	0.01
Constant	45.53	27.32

* Statistically significant p<.05

Table 25: Logistic Regression of Continued Employment With Any Employer in the Second and Third Quarters After the Exit Quarter, Participants Only (N=635, ROC=.76)

Variable	Odds Ratio	Standard Error
Dosage	1.01	0.03
Age	1.00	0.01
Provider 5	1.88	1.32
Provider 10	1.00	0.43
Provider 13	1.12	1.13
Provider 14	1.49	0.57
Provider 15	3.85	3.12
Provider 18	0.72	0.23
Provider 19	2.38	1.04
Provider 24	1.49	0.58
Provider 25	2.99	3.25
Minority	0.75	0.22
Race/Ethnicity Unknown	1.30	0.77
Female	1.13	0.28
Low Income	0.91	0.26
Highest Education	1.00	0.08
Received Public Assistance	0.64	0.21
Veteran	0.57	0.20
Work Readiness – Action	1.05	0.10
Work Readiness – Resisting	0.97	0.10
Work Readiness – Pondering	1.11	0.13
Married	1.32	0.31
Number of Children	0.91	0.09
Days Since Employed	1.00	0.00
Start Month*	0.89	0.01
Constant	19.96	18.00

* Statistically significant p<.05

Table 26. Ordinary Least Squares Regression of Number of Weeks of UI Benefits Paid in the 52 weeks After the Training Period, Participants Only

Variable	Coefficient	Standard Error
Dosage	0.10	0.10
Age	0.03	0.03
Provider 5	0.98	0.99
Provider 10	2.69	1.38
Provider 13	3.54	3.95
Provider 14	-0.01	0.81
Provider 15	0.14	1.10
Provider 18	0.35	0.77
Provider 19	-0.92	0.82
Provider 24	-0.01	0.81
Provider 25	-0.18	1.44
Minority	0.16	0.72
Race/Ethnicity Unknown	-1.39	1.07
Female	0.53	0.55
Low Income	-0.52	0.67
Highest Education	0.05	0.19
Received Public Assistance	0.29	0.85
Veteran	0.53	0.98
ZAction	-0.19	0.24
ZResisting	-0.27	0.24
ZPonder*	0.76	0.26
Married	-0.94	0.55
Number of Children	0.11	0.19
Days Since Employed	0.00	0.00
Start Month	0.03	0.03
UIPrior*	-0.26	0.06
Constant	10.51	2.46

* Statistically significant p<.05.

Table 27: Logistic Regression Analysis of Employment in First Quarter After Exit Quarter, Minority Status Only (N=846; ROC=.63)

Variable	Odds Ratio	Standard Error
Participant*	1.62	0.35
Age	1.00	0.01
Provider 5	0.63	0.34
Provider 10	0.87	0.30
Provider 13	1.42	1.25
Provider 14	0.76	0.21
Provider 15	1.27	0.82
Provider 18	0.72	0.18
Provider 19	0.73	0.19
Provider 24	0.71	0.17
Provider 25	0.56	0.27
Female	1.23	0.19
Low Income	0.76	0.15
Highest Education	0.93	0.05
Received Public Assistance	0.84	0.18
Veteran	0.75	0.21
Work Readiness – Action*	1.23	0.10
Work Readiness – Resisting*	0.81	0.05
Work Readiness – Pondering*	0.86	0.06
Married	0.78	0.12
Number of Children	1.00	0.05
Days Since Employed	1.00	0.00
Start Month	0.98	0.01
Constant	4.34	2.36

* Statistically significant p<.05

Table 28: Logistic Regression Analysis of Employment in Second Quarter After Exit Quarter, Minority Status Only (N=846; ROC=.63)

Variable	Odds Ratio	Standard Error
Participant	1.15	0.25
Age	1.00	0.01
Provider 5	1.39	0.80
Provider 10	1.15	0.40
Provider 13	1.50	1.31
Provider 14	0.97	0.26
Provider 15	2.25	1.57
Provider 18	0.82	0.20
Provider 19	1.08	0.29
Provider 24	0.98	0.23
Provider 25	1.30	0.65
Female	1.15	0.18
Low Income	0.79	0.15
Highest Education	0.92	0.05
Received Public Assistance	0.67	0.15
Veteran	0.71	0.20
Work Readiness – Action*	1.26	0.10
Work Readiness – Resisting	0.89	0.06
Work Readiness – Pondering	0.92	0.07
Married	0.84	0.13
Number of Children	0.98	0.05
Days Since Employed	1.00	0.00
Start Month*	0.98	0.01
Constant	6.25	3.41

* Statistically significant p<.05

Table 29: Logistic Regression Analysis of Employment in Third Quarter After Exit Quarter, Minority Status Only (N=846; ROC=.73)

Variable	Odds Ratio	Standard Error
Participant*	1.76	0.40
Age	1.01	0.01
Provider 5	0.64	0.36
Provider 10	0.88	0.32
Provider 13	1.47	1.29
Provider 14	0.88	0.25
Provider 15	1.56	1.06
Provider 18	0.66	0.17
Provider 19	1.06	0.29
Provider 24	1.12	0.27
Provider 25	2.07	1.18
Female	1.17	0.19
Low Income	0.79	0.16
Highest Education*	0.88	0.05
Received Public Assistance*	0.62	0.15
Veteran	1.21	0.37
Work Readiness – Action*	1.25	0.10
Work Readiness – Resisting	0.91	0.06
Work Readiness – Pondering	0.98	0.08
Married	0.88	0.14
Number of Children	0.95	0.05
Days Since Employed	1.00	0.00
Start Month*	0.91	0.01
Constant	13.70	7.85

* Statistically significant p<.05

Table 30: Logistic Regression Analysis of Employment in Fourth Quarter After Exit Quarter, Minority Status Only (N=846; ROC=.77)

Variable	Odds Ratio	Standard Error
Participant	0.99	0.23
Age	1.00	0.01
Provider 5	1.34	0.78
Provider 10	0.89	0.34
Provider 13	0.59	0.48
Provider 14	0.70	0.21
Provider 15	0.86	0.57
Provider 18	0.60	0.17
Provider 19	0.62	0.18
Provider 24	0.76	0.19
Provider 25	0.89	0.46
Female	1.25	0.21
Low Income	0.79	0.17
Highest Education	0.92	0.05
Received Public Assistance	0.85	0.21
Veteran	1.26	0.39
Work Readiness – Action	1.13	0.10
Work Readiness – Resisting	0.97	0.07
Work Readiness – Pondering	1.07	0.09
Married	0.97	0.16
Number of Children	0.95	0.05
Days Since Employed	1.00	0.00
Start Month*	0.87	0.01
Constant	26.99	16.09

* Statistically significant p<.05

Table 31: Propensity Score Matching Analysis of Employment, Minority Status Only

Variable	Odds Ratio	Standard Error	Effect Size	Matched Participant	Matched Comparison
Employed Quarter 1	0.97	0.05	-0.01	112	297
Employed Quarter 2	0.90	0.06	-0.03	112	297
Employed Quarter 3	1.01	0.05	0.00	112	297
Employed Quarter 4	0.96	0.05	-0.01	112	297

* Statistically significant p<.05

Threats to Validity

The outcomes analysis has a number of threats to validity. The most important threat to internal validity is selection bias. Although propensity-score matching is designed to mimic as far as possible the features of randomized controlled trials, selection bias remains a key concern. The factors that motivated participants to enroll in the program could easily have an influence on distal outcomes, even with the controls for motivation included in the Work Readiness survey. Further, the models themselves have modest statistical power, and the models carry the risk of unobserved variable bias. There are also outstanding questions about measurement. The outcome analysis relied on state data systems that are characterized by long lags, missing data, and exclusions, all of which inflate the risk of error.

There are also threats to external validity. The treatment population was much older and more female than the general WIOA population. Although PSM can mitigate concerns about internal validity, the removal of a large number of cases due to poor matching may increase the risk of an unrepresentative population (although post-hoc bias correction may mitigate this problem). Further, the Oregon WIOA population tended to be much less racially diverse and much better educated than the general population of unemployed and underemployed workers.

Cost Study

Data Collection

Data sources for the cost study were financial records from the local workforce boards (LWBs) that implemented the program. The first set of records were start-up costs reported by LWBs for efforts to get the Rethinking program up and running through January 31, 2016. LWBs used a data-collection template developed by PPA. The start-up cost data collection occurred between February 2016 and April 2016. The second set of records were program costs as captured by LWBs using a

data-collection template to document for WWP the costs associated with the program by expenditure category for each month.

Cost-Allocation Methods

The cost allocation study for this report includes start-up and program costs reported by local workforce boards (LWBs). The cost data for each workforce board were aggregated over the entire life of the project (November 2015 – September 2018) in order to produce totals in each expenditure category and overall. Costs were analyzed separately for each LWB as well as for all participating LWBs combined.

There was a distinct process for calculating startup costs. Reporting of start-up costs included efforts to get the Rethinking program up and running through January 31, 2016. Data included the start-up activity, approximate time frame of the activity, the cost of the activity, and whether the cost came from the Rethinking funding stream. For the start-up costs, LWBs were instructed to include costs associated with increasing capacity, such as hiring additional staff, renting additional space, purchasing additional equipment, or the administrative time taken to accomplish these tasks. They were asked to not include costs associated with the day-to-day operations of the Rethinking program, such as ongoing facilitator salaries, printing costs, and facilitator training. The start-up cost analysis was reported in the third interim evaluation report.

Cost-Effectiveness Methods

The cost-effectiveness analysis (CEA) relied on main regression and PSM results to establish estimates of program impact relative to the comparison group. The outcomes examined as part of the CEA and cost-benefit analysis were (1) employment in the first quarter after the exit quarter (the Common Measure), (2) retention as measured by wages earned from any employer in the second and third quarters after the exit quarter, and (3) weeks in UI benefits consumed in the 52 weeks after the training period. Separate analyses were conducted to conduct CEA's for mean differences, regression-adjusted, and PSM outcome estimates.

It should be noted that impact estimates were employed whether or not they were statistically significant in the outcome models. If non-significant findings were treated as "zero difference" it would have a minor influence on the cost results (since the non-significant results had very low effect sizes).

The per-unit cost of the program was estimated using the total reported cost of the program divided by the number of participants served. The number of participants was set at 1,215—the figure available in data used in the study.

Employment and retention outcomes were converted to odds ratios to make unadjusted, regression-adjusted, and PSM estimates comparable. The CEA ratio then placed outcome estimates in the numerator and per-unit program costs in the denominator. This equation was then reduced to calculate the expected per-unit cost of a 1% expected change in the likelihood of employment (retention) per participation, or a 1-week change in UI benefits usage.

The cost-benefit analysis included separate analysis of the net financial benefit of estimated increases in employment and reductions in UI usage. Because of a median difference in first quarter wages between the comparison and participant groups, the median earnings for each group were multiplied by their respective odds ratio. For the participant group, this was simply the odds ratio output of the analysis as presented in the main findings. Comparison group odds ratios were calculated as the inverse odds ratio, so that a 1.05 OR for the participant group would be a .95 OR for the comparison group. The expected median wages were then divided by the OR, after which the difference in expected wages was calculated by taking the difference between the comparison and participant groups. The per-unit cost of the program was then subtracted from this figure to calculate net financial benefit.

The financial benefit for UI usage required only that the difference in estimated number of weeks of UI consumption be multiplied by the maximum weekly value of UI benefits (maximum monthly value divided by 4). The per-unit program costs were then subtracted from this figure to calculate net financial benefit.

Appendix D: List of Past Evaluation Reports

Table 32: Evaluation Interim Reports

Report	Date	Topic(s)
Interim Report 1	November 2015	Planning year progress; conclusions and recommendations
Interim Report 2	January 2017	Implementation findings (facilitators, recruitment, readiness, delivery, participant experience); preliminary outcomes (efficacy, employment); conclusions and recommendations
Interim Report 3	January 2018	Implementation findings (collaboration, facilitators, recruitment, participant experience, completion, readiness); preliminary cost findings; preliminary outcomes (efficacy, employment); conclusions and recommendations
Interim Report 4	January 2019	Implementation findings (collaboration, facilitators, recruitment, participant experience); preliminary cost findings; preliminary outcomes (participation, readiness, completion, efficacy, employment); conclusions and implications
Final Report	September 2019	Implementation findings; outcomes; conclusions and recommendations

Appendix E: Additional Data

How Participants Heard About Rethinking Job Search

Data were collected on the Rethinking website during pre-registration on the manner in which individuals heard about the Rethinking program. The table below is partial data from approximately 20 months of data-gathering during the program. Based on non-mandatory responses from those seeking information and aiming to register on the website, the majority had heard about Rethinking Job Search via the local WorkSource center or from the facilitator, and about one in three heard from the Oregon Employment Department, Unemployment Insurance (UI).

Table 33: How UI Recipients Heard About Rethinking

Response	Number of Responses	Percentage
My local WorkSource center	1,839	59%
Unemployment Insurance	1,034	33%
E-mail	189	6%
Other	55	2%