



The Predictive Power of Measures of Self-Regulation Skills Among Adults with Low Incomes

The Predictive Power of Measures of Self-Regulation Skills Among Adults with Low Incomes

OPRE Report #2024-008 • February 2024

Tim Kautz and Julius Anastasio

Submitted to: Office of Planning, Research, and Evaluation Administration for Children and Families U.S. Department of Health and Human Services 330 C Street, SW Washington, DC 20201 Project Officers: Hilary Bruck, Lauren Deutsch Stanton, Sarita Barton, and Elizabeth Karberg

Contract/Task Number: 140D0421F0748

Mathematica Reference Number: 51304

Submitted by: Mathematica 1100 1st Street, NE 12th Floor Washington, DC 20002-4221 Telephone: (202) 484-9220 Facsimile: (202) 863-1763

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Tim Kautz and Julius Anastasio. *The Predictive Power of Measures of Self-Regulation Skills Among Adults with Low Incomes.* OPRE Report #2024-008. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Disclaimer: The views expressed in this publication do not necessarily reflect the views or policies of the Office of Planning, Research, and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.

This report and other reports sponsored by the Office of Planning, Research, and Evaluation are available at <u>www.acf.hhs.gov/opre</u>.

Subscribe to OPRE News and Follow OPRE on Social Media





Acknowledgements

We appreciate the staff at the Office of Planning, Research, and Evaluation (OPRE) who provided support, feedback, and advice for this study, including Hilary Bruck, Lauren Deutsch Stanton, Sarita Barton, and Elizabeth Karberg. We also benefited from helpful comments from Quinn Moore and Ankita Patnaik. Elisabeth Appel provided excellent programming support. Jennifer Brown provided editorial assistance, and Malcolm McGaughy provided production support.

Contents

Acknowledgements	iii
Overview	vii
Primary research questions	vii
Purpose	viii
Key findings and highlights	viii
Methods	viii
Executive Summary	ix
Overview of self-regulation measures	x
The predictive power of self-regulation measures	x
I. Introduction	1
II. Overview of Sample and Measures	3
Data used for the analysis	3
Characteristics of the study participants	4
Definitions of constructs and measures used	5
III. How Do Individual Self-Regulation Measures Predict Future Outcomes?	9
Approach	9
Results	9
Considerations for employment programs and evaluators	12
IV. To What Extent Does Using Multiple Self-Regulation Measures Pre- Future Outcomes?	
Approach	13
Results	14
Considerations for employment programs and evaluators	14
V. When Predicting Future Outcomes, How Do Self-Regulation Measures Perform Relative to Sociodemographic Characteristics?	16
Approach	16
Results	17
Considerations for employment programs and evaluators	19
VI. Conclusions	20
References	24
Appendix A: Supplementary information	26

Tables

Table ES.1.	Summary of results and considerations for employment programs and evaluators	. xi
Table 1.	Baseline characteristics of study participants assigned to the control group across study programs	5
Table 2.	Definitions of self-regulation skills and survey measures	.7
Table 3.	Predictive power of individual self-regulation measures on future outcomes	11
Table 4.	Predictive power of multiple self-regulation predictors on future outcomes	15
Table 5.	Improvement in the predictive power of self-regulation measures on future outcomes relative to sociodemographic variables	18
Table 6.	Summary of results and considerations for employment programs and evaluators	21
Table A.1.	Predictive power of individual self-regulation measures on future outcomes	27
Table A.2.	Predictive power of individual self-regulation measures on future outcomes	28
Table A.3.	Predictive power of individual self-regulation measures on future outcomes (using nonresponse weights)	<u>2</u> 9
Table A.4.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to FaDSS)	30
Table A.5.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to Goal4 It!)	
Table A.6.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to LIFT)	
Table A.7.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to MyGoals)	33
Table A.8.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to Hispanic respondents)	34

Table A.9.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to Black respondents)
Table A.10.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to white respondents)
Table A.11.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to female respondents)
Table A.12.	Predictive power of individual self-regulation measures on future outcomes (sample restricted to male respondents)
Table A.13.	Likelihood ratio tests for the improvement of predictive power of self-regulation measures on future outcomes relative to sociodemographic variables
Table A.14.	Improvement in predictive power of self-regulation measures on future outcomes relative to sociodemographic variables

.....

Overview

Self-regulation skills are the skills needed to finish tasks, stay organized, and control emotions. They are sometimes called soft skills, social and emotional skills, life management skills, executive skills, or executive functioning skills. People's ability to find, keep, and advance in a job depends not just on their education, work experience, and technical skills but also on their self-regulation skills (Almlund et al. 2011). But recent research suggests that the stresses and uncertainty of poverty can make it difficult to develop and use self-regulation skills effectively (Cavadel et al. 2017; Mullainathan and Shafir 2014; Hamoudi et al. 2014).

Research has also demonstrated that interventions can both strengthen self-regulation skills and encourage their use among people with low incomes. For example, the Goal-Oriented Adult Learning in Self-Sufficiency (GOALS) project, which was sponsored by the Office of Planning, Research, and Evaluation (OPRE) in the Administration for Children and Families, U.S. Department of Health and Human Services, explored how emerging insights from psychology, neuroscience, and behavioral science could inform employment programs for adults with low incomes. The GOALS project developed a conceptual framework to map the theoretical, empirical, and applied linkages among goal-setting and attainment processes, economic independence, and self-regulation skills (defined as a broad set of skills including social and emotional, cognitive, executive functioning, and soft skills) (Cavadel et al. 2017). In response to this and related work, some Temporary Assistance for Needy Families (TANF) and other employment programs that serve adults with low incomes began implementing employment coaching as an approach to strengthen and boost participants' use of self-regulation skills (Kautz et al. 2014; Kautz and Moore 2018; Cavadel et al. 2017).

With this growing emphasis on self-regulation skills, employment programs could benefit from a greater understanding of the connections between these skills and longer-term outcomes such as earnings. This report examines the link between measures of self-regulation skills and longer-term outcomes among adults with low incomes. To do so, we draw on the conceptualization of self-regulation skills from the GOALS project and use data from the Evaluation of Employment Coaching for TANF and Related Populations, an OPRE-sponsored impact and implementation study of four employment coaching programs aimed at improving employment and economic outcomes for low-income populations. Using these data, we examine the predictive power of self-regulation measures by examining their link to future outcomes such as earnings and employment one year later.

PRIMARY RESEARCH QUESTIONS

This report addresses the following research questions:

- 1. How do individual self-regulation measures predict future outcomes?
- 2. To what extent does using multiple self-regulation measures predict future outcomes?
- 3. When predicting future outcomes, how do self-regulation measures perform relative to sociodemographic characteristics?

PURPOSE

The purpose of this study is to examine how measures of self-regulation skills relate to future outcomes. The results can inform researchers who work with employment programs on how to promote self-regulation skills or who plan to use measures of selfregulation skills in evaluations of employment programs. The study provides evidence on (1) how individual self-regulation measures relate to longer-term outcomes; (2) how using multiple self-regulation measures predicts longer-term outcomes compared to using individual measures; and (3) the extent to which using self-regulation measures can improve the prediction of longer-term outcomes above and beyond using only sociodemographic characteristics.

KEY FINDINGS AND HIGHLIGHTS

This study found that:

- The self-regulation measures included in this study were positively related to future self-regulation and economic outcomes, with different self-regulation measures serving as the best predictor for different outcomes.
- When predicting future employment and economic outcomes, using multiple selfregulation measures added little predictive power over using a single self-regulation measure among the self-regulation measures we considered.
- When predicting future self-regulation outcomes and some employment and economic outcomes (such as education and training program participation), including self-regulation measures as predictors added predictive power beyond using only sociodemographic characteristics as predictors. For other employment and economic outcomes, self-regulation measures did not improve the ability to predict the outcomes beyond using only sociodemographic characteristics as predictors.

METHODS

The study used measures of selected self-regulation skills (self-esteem; emotional control and self-monitoring; employment self-regulation; goal-setting and attainment; and task monitoring, planning, and initiation) to conduct:

- A correlational analysis that examined the relationship between the measures of self-regulation skills and later outcomes
- A multivariate regression analysis that examined the extent to which using multiple measures of self-regulation skills better predicted outcomes compared to using individual measures of self-regulation skills as predictors
- A multivariate regression analysis that examined the extent to which using selfregulation skills and sociodemographic characteristics better predicted outcomes compared to using only sociodemographic variables

Executive Summary

Self-regulation skills are the skills needed to finish tasks, stay organized, and control emotions. They are sometimes called soft skills, social and emotional skills, life management skills, executive skills, or executive functioning skills. People's ability to find, keep, and advance in a job depends not just on their education, work experience, and technical skills but also on their self-regulation skills (Almlund et al. 2011). But recent research suggests that the stresses and uncertainty of poverty can make it difficult to develop and use self-regulation skills effectively (Cavadel et al. 2017; Mullainathan and Shafir 2014; Hamoudi et al. 2014).

Research has also demonstrated that interventions can both strengthen self-regulation skills and encourage their use among people with low incomes. For example, the Self-Regulation and Toxic Stress Series, sponsored by the Office of Planning, Research, and Evaluation (OPRE) in the Administration for Children and Families, U.S. Department of Health and Human Services, explores interventions that support self-regulation across the life span and across contexts and highlights the potential of a self-regulation framework for strengthening prevention programs and human services broadly. Additionally, the OPRE-sponsored Goal-Oriented Adult Learning in Self-Sufficiency (GOALS) project conceptualized self-regulation skills in the particular context of employment programs, emphasizing the broad set of skills that participants use to identify a goal, develop action steps, and reflect and apply what they learned to future goals (Cavadel et al. 2017). This work indicates that interventions such as coaching can be used to both strengthen self-regulation skills and encourage their use in employment programs (Moore et al. 2023; Kautz et al. 2014). Even without explicitly focusing on self-regulation skills, by guiding participants to set and work toward goals, coaches help participants practice self-regulation skills. They may also help participants use self-regulation skills by reducing some of the stress that inhibits them from using the skills.

In response to this and related work, some Temporary Assistance for Needy Families (TANF) and other employment programs that serve adults with low incomes began implementing employment coaching as an approach to strengthen and boost participants' use of self-regulation skills (Kautz et al. 2014; Kautz and Moore 2018; Cavadel et al. 2017). Recent evidence supports this approach. The Evaluation of Employment Coaching for TANF and Related Populations (Evaluation of Employment Coaching)—an OPRE-sponsored impact and implementation study of four employment coaching programs aimed at improving employment and economic outcomes for low-income populations—provides evidence that such programs can enhance self-regulation skills (Moore et al. 2023).

With this growing emphasis on self-regulation skills, employment programs could benefit from a greater understanding of the connections between these skills and longer-term outcomes such as earnings. Given the potential to enhance self-regulation skills, employment programs may benefit from supporting specific self-regulation skills, especially those tied to the longer-term outcomes that programs seek to enhance. Programs may also be able to use self-regulation measures to identify potential participants who could benefit from program services and tailor services to best support longer-term outcomes. Similarly, evaluations of employment programs can measure multiple dimensions of self-regulation skills to test whether programs improve longer-term outcomes by improving specific self-regulation skills. Therefore, understanding the links between self-regulation skills and longer-term outcomes can help guide employment programs and evaluators when selecting which self-regulation skills to support and measure. For example, if a program seeks to support job search activities, then supporting and measuring self-regulation skills that relate to job search could be beneficial.

To inform employment programs and evaluators of employment programs, this report examines the link between measures of self-regulation skills and longer-term outcomes among adults with low incomes. To do so, we draw on the conceptualization of selfregulation skills from the GOALS project and use data from the Evaluation of Employment Coaching. This report examines how self-regulation measures from this evaluation predict future outcomes such as earnings and employment collected up to one year later.

OVERVIEW OF SELF-REGULATION MEASURES

The employment programs in the Evaluation of Employment Coaching rely on trained coaches to help participants set individualized goals and to provide motivation, support, and feedback as the participants pursue those goals. In this way, the coaches aim to help the participants use and strengthen their self-regulation skills, succeed in the labor market, and move toward economic security. To assess the impacts on self-regulation skills, the evaluation included several measures of self-regulation skills collected through surveys, which we use in this study.

Drawing on the conceptualization and skills highlighted in the GOALS project, the Evaluation of Employment Coaching selected, developed, and pre-tested selfregulation measures that met four criteria: (1) they captured the broad set of skills that could be influenced by the program and could affect employment and other economic outcomes; (2) they accounted for other factors that could affect the self-regulation measures; (3) they were feasible to administer in an impact evaluation; and (4) they were likely to be representative, reliable, and valid for the participants in the study who were generally adults with low incomes.

Using these criteria, the Evaluation of Employment Coaching selected five selfregulation measures: self-esteem; emotional control and self-monitoring; employment self-regulation; goal-setting and attainment; and task monitoring, planning, and initiation. In this study, we explore how these measures relate to future outcomes collected nine to 12 months later.

THE PREDICTIVE POWER OF SELF-REGULATION MEASURES

Our findings indicate three broad conclusions about how the self-regulation measures in this study relate to future outcomes and suggest considerations for employment programs and evaluators (Table ES.1). First, the self-regulation measures were generally positively related to future self-regulation and economic outcomes, with different selfregulation measures serving as the best predictor for different outcomes. Second, when predicting future employment and economic outcomes, using multiple self-regulation measures added little predictive power over using a single self-regulation measure. Third, when predicting future self-regulation outcomes and some employment and economic outcomes (such as education and training program participation), including self-regulation measures as predictors added predictive power beyond using only sociodemographic characteristics as predictors. Together these findings suggest that self-regulation measures can potentially play an important role for use in employment programs and evaluations of employment programs, but that programs and evaluators may wish to focus on a selected set of measures that best meet their needs.

Three limitations of this study suggest directions for future research. First, the correlations presented may not represent causal links between self-regulation skills and outcomes because they do not account for all possible differences in people's contexts. Second, the evaluation this analysis draws from does not include measures of all possible self-regulation skills or employment and economic outcomes. Third, the measures used in this report may be susceptible to biases that can arise in self-reports (Lira et al. 2022; Krumpal 2011). Therefore, it is plausible that incorporating other or multiple self-regulation measures, or using other approaches to measuring self-regulation skills, might be more effective when predicting other outcomes related to employment or economic well-being. Future research could use these methods to explore the predictive validity beyond the ones considered in this report.

Table ES.1. Summary of results and considerations for employment programs and evaluators

		Summary of considerations for	
Research question	Summary of results	employment programs and evaluators	
	Summary of results		
How do individual self-regulation measures predict future outcomes?	The predictive power of individual self-regulation measures varied by outcome, with no one universally predictive measure. The best predictor of each later self-regulation skill measure	Employment programs. Self-regulation measures' relevance to an adult employment program may vary depending on the program's overall goal(s). Because	
	was the earlier measure of the same skill. Higher values of self- regulation measures generally predicted better employment and economic outcomes. The predictive power of self-regulation measures varied by economic outcome. Each self-regulation measure had the most favorable relationship with at least one outcome. In particular:	links between self-regulation skills and future outcomes vary, programs focusir on specific outcomes may want to work with researchers to tailor which self- regulation skills they support.	
	• Emotional control and self-monitoring had the most favorable relationship with (1) whether participants received income from TANF and (2) amount in a savings account.	Evaluators. Evaluators may benefit from prioritizing measures that relate to outcomes programs attempt to influence to better understand how a program	
	• Task monitoring, planning, and initiation had the most favorable relationship with (1) average hours employed per week and (2) employment challenges experienced.	operates.	
	• Goal-setting and attainment had the most favorable relationship with (1) the number of job search activities conducted, (2) participation and completion of education and training programs, and (3) whether participants used a spending plan or budget to track monthly expenses.		
	 Self-esteem had the most favorable relationship with (1) average monthly earnings, (2) paying bills on time, and (3) having a savings or checking account. 		
	• Employment self-regulation had the most favorable relationship with (1) the number of economic hardships experienced and (2) having a savings or checking account.		
	Robustness tests indicated the links between self-regulation skills and future outcomes were generally consistent over different data collection periods that were similar in length or longer, when using nonresponse weights, by employment program, by race and ethnicity, and by gender.		
To what extent does using multiple self- regulation measures	Using multiple self-regulation measures to predict later outcomes added little predictive power over using a single self-regulation measure.	Employment programs. Programs that are interested in identifying potential participants who could benefit most	
predict future outcomes?	Generally, a single self-regulation measure's predictive power for outcomes came close to the predictive power of models that used all predictors. For predictive models using two self- regulation predictors, including goal-setting and attainment	from their services based on their self- regulation skills may focus on one or two of the self-regulation skills most directly tied to the longer-term outcomes the program aims to improve.	
	most often led to the highest predictive power for outcomes, although the effect sizes of those differences remained small to negligible. This finding suggests that goal-setting and attainment measures may capture different underlying constructs than other self-regulation measures, so they may be well-suited to complement other measures in practice.	Evaluators. Given resource constraints and the need to minimize the burden of data collection on study participants, evaluations that aim to understand whether programs improve longer-term outcomes through self-regulation skills may wish to focus on measures of one or two self-regulation skills that are most directly tied to the program's logic model and consider adding goal-setting and attainment as a supplemental measure.	

(continued)

Research question

When predicting future outcomes, how do selfregulation measures perform relative to sociodemographic characteristics?

Summary of results

As a group, self-regulation measures offered additional predictive power when predicting future self-regulation measures and mixed improvements to predicting future employment and economic outcomes compared to using sociodemographic variables alone.

When predicting future self-regulation skills, including selfregulation measures as predictors significantly improved the predictive power over using sociodemographic variables alone. Self-regulation measures had similar overall predictive power to sociodemographic variables in terms of predicting future employment challenges, job search activities, training program participation, and savings. Self-regulation variables did not improve the predictive power for participants' future earnings, employment, or hardship, above and beyond what was already predicted by sociodemographic variables. Sociodemographic variables did not improve the predictive power of future self-regulation outcomes above and beyond models that use initial self-regulation predictor variables.

Summary of considerations for employment programs and evaluators

Employment programs. Programs may benefit from collecting self-regulation measures if their aim is to identify potential participants who could benefit from services to support participation or completion of training and education programs or job search activities. For employment programs that support other outcomes, collecting self-regulation measures may add little value above and beyond sociodemographic variables that they already collect.

Evaluators. Collecting data on baseline self-regulation skills could improve precision for impact analyses in which self-regulation skills are outcomes or for selected economic outcomes, including participation or completion of training and education programs or job search activities. For the other outcomes we considered, sociodemographic data may suffice.

I. Introduction

Self-regulation skills are the skills needed to finish tasks, stay organized, and control emotions. They are sometimes called soft skills, social and emotional skills, life management skills, executive skills, or executive functioning skills. People's ability to find, keep, and advance in a job depends not just on their education, work experience, and technical skills but also on their self-regulation skills (Almlund et al. 2011). But recent research suggests that the stresses and uncertainty of poverty can make it difficult to exercise self-regulation skills effectively (Cavadel et al. 2017; Mullainathan and Shafir 2014; Hamoudi et al. 2014).

Research has also demonstrated that interventions such as coaching can both strengthen self-regulation skills and encourage their use among people with low incomes (Moore et al. 2023; Kautz et al. 2014). Even without explicitly focusing on self-regulation skills, by guiding participants to set and work toward goals, coaches help participants practice self-regulation skills. They may also help participants use self-regulation skills by reducing some of the stress that inhibits them from using the skills. A variety of other interventions have also been found to improve self-regulation skills among children and youth (Murray et al. 2016). The Self-Regulation and Toxic Stress Series, sponsored by the Office of Planning, Research, and Evaluation (OPRE) in the Administration for Children and Families, U.S. Department of Health and Human Services, explores interventions that support self-regulation across the life span and across contexts and highlights the potential of a self-regulation framework for strengthening prevention programs and human services broadly. The Goal-Oriented Adult Learning in Self-Sufficiency (GOALS) project sponsored by OPRE conceptualized self-regulation skills in the particular context of employment programs, emphasizing the broad set of skills that participants use to identify a goal, develop action steps, and reflect and apply what they learned to future goals (Cavadel et al. 2017).

In response to this and related work, some Temporary Assistance for Needy Families (TANF) and other employment programs that serve adults with low incomes began implementing employment coaching as an approach to strengthen and boost participants' use of self-regulation skills (Kautz et al. 2014; Kautz and Moore 2018; Cavadel et al. 2017). Recent evidence supports this approach. The Evaluation of Employment Coaching for TANF and Related Populations (Evaluation of Employment Coaching)—an OPRE-sponsored impact and implementation study of four employment coaching programs aimed at improving employment and economic outcomes for low-income populations—provides evidence that such programs can enhance self-regulation skills (Moore et al. 2023).

With this growing emphasis on self-regulation skills, employment programs could benefit from a greater understanding of the connections between these skills and longer-term outcomes such as earnings. Given the potential to enhance self-regulation skills, employment programs may benefit from supporting specific self-regulation skills, especially those tied to the longer-term outcomes that programs seek to enhance. Programs may also be able to use self-regulation measures to identify potential participants who could benefit from program services and tailor services to best support longer-term outcomes. Similarly, evaluations of employment programs can measure multiple dimensions of self-regulation skills to test whether programs improve longerterm outcomes by improving specific self-regulation skills. Therefore, understanding the links between self-regulation skills and longer-term outcomes can help guide employment programs and evaluators when selecting which self-regulation skills to support and measure. For example, if a program seeks to support job search activities, then supporting and measuring self-regulation skills that relate to job search could be beneficial.

To inform employment programs and evaluators of employment programs, this report examines the link between measures of self-regulation skills and longer-term outcomes among adults with low incomes. To do so, we draw on the conceptualization of self-regulation skills from the GOALS project and use data from the Evaluation of Employment Coaching. Previous reports (Kautz and Moore 2018; Kautz and Moore 2020) discuss considerations for measuring self-regulation skills for evaluations of employment programs and use data from this study to examine the validity and reliability of different self-regulation measures among adults with low incomes, including their links with several contemporaneous employment measures. In this report, we build on this earlier work by focusing on the predictive power of self-regulation measures by examining their link to future outcomes such as earnings and employment one year later. We address the following research questions:

- 1. How do individual self-regulation measures predict future outcomes?
- 2. To what extent does using multiple self-regulation measures predict future outcomes?
- 3. When predicting future outcomes, how do self-regulation measures perform relative to sociodemographic characteristics?

We found that the self-regulation measures selected for this evaluation were related to future self-regulation, employment, and economic outcomes, with different selfregulation measures serving as the best predictor for different outcomes. With some exceptions, using multiple self-regulation measures to predict outcomes added little predictive power over using a single measure. When predicting future self-regulation outcomes, including earlier self-regulation measures improved predictions compared to using only sociodemographic characteristics as predictors. Similarly, when predicting outcomes related to job search activities and education and training, including self-regulation measures improved the predictive power relative to using only sociodemographic characteristics. However, when predicting other employment and economic outcomes, self-regulation measures led to little improvement in predictive power beyond using only sociodemographic characteristics as predictors. The estimates are relatively stable across various populations and the four employment programs that participated in the evaluation, suggesting the findings may also apply to other contexts.

In Section II, we provide background on the sample and self-regulation measures used for the study. In Section III, we provide evidence on how individual self-regulation measures relate to longer-term outcomes. In Section IV, we provide evidence on how using multiple self-regulation measures predicts longer-term outcomes. In Section V, we explore the extent to which using self-regulation measures can improve the prediction of longer-term outcomes above and beyond using only sociodemographic characteristics. We present our conclusions in Section VI.

We found that the self-regulation measures selected for this evaluation were related to future self-regulation, employment, and economic outcomes, with different selfregulation measures serving as the best predictor for different outcomes.

II. Overview of Sample and Measures

Because the predictive power of self-regulation measures may depend on the nature of the sample and measures, we provide an overview of each used for this analysis.

DATA USED FOR THE ANALYSIS

This analysis focuses on self-regulation, employment, and economic well-being measures collected during an impact evaluation of four employment coaching programs that served adults with low incomes (see Box 1 for an overview of the evaluation and the employment programs). These employment programs rely on trained coaches to help participants set individualized goals and to provide motivation, support, and feedback as the participants use self-regulation skills, which will help them pursue those goals. In doing so, the programs aim to help the participants succeed in the labor market and achieve economic security. The evaluation used a random assignment study, wherein participants in each program were randomly assigned to either a program group that was eligible to receive the program's coaching services or a control group that was not eligible for such services. Although the programs ultimately focused on improvements in participants' employment and economic well-being outcomes, the evaluation explicitly tested whether coaching improved self-regulation skills because it hypothesized that strengthening or increasing the use of these skills would improve employment and well-being outcomes.

To estimate differences in outcomes within each employment coaching program, the evaluation collected data at multiple timepoints, including through (1) a baseline survey or form administered to study participants at the time of study enrollment, (2) a first follow-up survey that was administered nine or 12 months after participants enrolled in the study (depending on the program), (3) a second follow-up survey that was administered 21 months after participants enrolled in the study, and (4) a third follow-up survey administered at least 48 months after participants enrolled in the study.¹

Different self-regulation measures were collected at different times during the study. All self-regulation measures—described further below—were collected during the first and second follow-up surveys. The baseline survey included a subset of the selfregulation measures. To provide evidence on the broadest set of measures, this report focuses on how self-regulation measures collected during the first follow-up survey predicted outcomes collected during the second follow-up survey. We also conducted sensitivity analyses that examined how the self-regulation measures collected through the baseline survey predicted outcomes collected through the two follow-up surveys.

The analysis in this report restricts the sample to study participants who were randomly assigned to the control group. Including data from the program group could introduce a risk of conflating changes in outcomes resulting from the programs' impacts with those attributed to self-regulation skills. For example, if a program improved a particular self-regulation skill and, through some other mechanism, improved an employment outcome, then that self-regulation skill and outcome could erroneously appear related because they were both influenced by the program. To mitigate this potential risk, this report focuses on adults who did not receive these employment coaching services that were hypothesized to support self-regulation skills.

¹ The collection of the third follow-up survey data is ongoing and is not included in this analysis.

Box 1. Evaluation of Employment Coaching

To learn more about the potential of coaching to help TANF recipients and other individuals with low incomes reach economic security, OPRE of the Administration for Children and Families sponsored an evaluation of employment coaching models. Using an experimental research design, the evaluation is examining the effectiveness and implementation of coaching programs that aim to help adults with low incomes succeed in the labor market. The evaluation is examining the impact of coaching on self-regulation skills and the role of self-regulation skills in generating any impacts on employment and economic outcomes. Four coaching models were in the evaluation:

- Family Development and Self-Sufficiency program (FaDSS) in Iowa. Under contract to the state, 17 local human services agencies used grants from the Iowa Department of Human Rights to provide TANF recipients with coaching during home visits. Seven of those 17 agencies participated in the evaluation.
- LIFT in Chicago, Los Angeles, New York City, and Washington, DC. LIFT is a nonprofit organization that provides career and financial coaching to parents and caregivers of young children. LIFT sites in Chicago, Los Angeles, and New York City participated in the evaluation.
- Goal4 It!™ in Jefferson County, Colorado. Goal4 It! was an employment coaching program designed by Mathematica and partners that was piloted in a TANF program as an alternative to more traditional case management.
- MyGoals for Employment Success in Baltimore and Houston. MyGoals was a coaching demonstration project designed by MDRC and partners that provided employment coaching and incentives to unemployed adults who received housing assistance. It was operated within the Housing Authority of Baltimore City and the Houston Housing Authority.

For additional information about the evaluation and for snapshots of each program, visit <u>https://</u>www.acf.hhs.gov/opre/research/project/evaluation-of-coaching-focused-interventions-for-hardto-employ-tanf-clients-and-other-low-income-populations.

CHARACTERISTICS OF THE STUDY PARTICIPANTS

Because the predictive power of self-regulation measures can depend on the population, we summarize the characteristics of the study participants, restricting the data to those assigned to the control group to be consistent with the analyses presented in this report.

The results of our analyses are more likely to pertain to programs serving similar types of people as those in this sample. Because the programs served people with low incomes, the sample is expected to experience a greater degree of disadvantage on average than the general population. Across all programs, 95 percent of the sample received income from a public assistance or social insurance program, and most participants were unemployed before the start of the study. Twenty-seven percent of the sample did not have a high school diploma or GED. This sample was predominantly female, with an average age between 30 and 40, and with two children on average.

Even though all the programs serve adults with low incomes, programmatic variation in eligibility criteria, settings, and specific services may have contributed to differences in characteristics of the study participants across the programs (Table 1). For example, compared with the other three programs, LIFT served a higher proportion of Hispanic participants. In addition, 38 percent of participants in the LIFT program did not have a high school diploma or GED, whereas the corresponding figure for the other programs ranged from 22 to 25 percent. Participants in MyGoals were the oldest with an average age of 39, whereas those in FaDSS were the youngest with an average age of 30. This variation in the programs enables us to examine the extent to which the predictive power of self-regulation measures varies across study participants with different characteristics. In particular, we estimated the results separately by program, gender, and race and ethnicity to provide some evidence on the likely generalizability of the estimates.

Table 1. Baseline characteristics of study participants assigned to the control group across study programs

	Mean or percentage				
Characteristic	All	FaDSS	LIFT	Goal4 It!	MyGoals
Demographics					
Female (percentage)	91	93	95	89	88
Average age (in years)	34.6	29.5	32.9	32.7	38.6
Race and ethnicity					
Race and ethnicity (percentage)					
Hispanic	25	11	71	43	3
Black, non-Hispanic	55	36	27	8	94
White, non-Hispanic	19	50	1	46	2
Other	2	3	1	3	1
Currently married (percentage)	19	7	38	14	NA
Number of children respondent lives with	1.9	2.1	2.4	1.9	1.6
Socioeconomic status (percenta	ge)				
Does not have high school diploma or GED certificate	27	25	38	22	25
Receiving any income from public assistance/social insurance program	95	99	83	92	100
Employment status and history					
Worked for pay in 30 days before study enrollment (percentage)	42	36	52	26	NA
Earnings in 30 days before study enrollment among those who worked (\$)	898	508	1,195	540	NA
Currently employed (percentage)	NA	NA	NA	NA	2
Sample size	2,135	433	403	401	898

Source: Evaluation of Employment Coaching baseline survey, MyGoals Baseline Questionnaire data, and public housing agency administrative data.

Note: NA = not available. The sample is restricted to participants assigned to the control group. Because sample sizes vary by characteristic, we report the largest sample size across characteristics.

DEFINITIONS OF CONSTRUCTS AND MEASURES USED

Self-regulation skills cover a broad set of skills that allow people to intentionally control their thoughts, emotions, and behaviors (Blair and Raver, 2012). More generally, self-regulation skills are necessary to be successful in everyday activities, such as maintaining attention amidst distractions or controlling impulses when interacting with others, which can strengthen a family's economic and overall well-being (Mullainathan and Shafir 2014).

The Evaluation of Employment Coaching focused on self-regulation skills as they have been considered in the context of employment programs for adults, drawing on the conceptualization and definitions from the GOALS project (Cavadel et al. 2017).² The GOALS project emphasized a broad set of skills that are necessary for participants in employment programs to identify a goal, develop action steps, and reflect and apply what they learned to future goals. In this conceptualization, self-regulation skills fall into three broad categories: (1) **cognitive**, such as the ability to plan, execute tasks, and set goals, (2) **emotional**, such as the ability to modulate and self-monitor emotions appropriately, and (3) **personality**, such as perseverance and self-esteem. These selfregulation skills complement each other and enable people to set, pursue, and attain goals, including those related to employment. For example, improved planning skills could help people prioritize tasks at work, and improved emotional skills could help people communicate effectively with co-workers. Additionally, all of these skills including personality skills—can be strengthened (Almlund et al. 2011).

Drawing on the conceptualization and skills highlighted in the GOALS project, the Evaluation of Employment Coaching selected, developed, and pre-tested selfregulation measures that met four criteria: (1) they captured skills that could be influenced by the program and could affect employment and economic outcomes; (2) they accounted for other factors that could affect the self-regulation measures; (3) they were feasible to administer in an impact evaluation; and (4) they were likely to be representative, reliable, and valid for the participants in the study who were generally adults with low incomes. For more detail about the criteria, reliability, and validity, see Kautz and Moore (2020).

Using the above criteria, the Evaluation of Employment Coaching selected five selfregulation measures: self-esteem; emotional control and self-monitoring; employment self-regulation; goal-setting and attainment; and task monitoring, planning, and initiation (Table 2). These measures comprise 26 survey items and span the three categories of self-regulation skills supported by the programs in the evaluation: personality skills, emotional skills, and cognitive skills. To minimize the burden on participants and to help to ensure high response rates, the surveys included self-reported measures that respondents could complete quickly. The evaluation used existing, validated instruments when possible to help ensure that the measures would be reliable and valid for our sample. Although three of the five measures were based on existing assessments, the evaluation selected three or four questions from each assessment to reduce the required response time. Each measure has either an empirical or theoretical relationship to employment outcomes and could be influenced by the employment programs in the evaluation, as suggested by the programs' logic models. See Kautz and Moore (2020) for additional details on measure selection.

Table 2.Definitions ofself-regulationskills and surveymeasures

Self- regulation skill	Definition	Measure and survey items
Personality		
Self-esteem	 Favorable attitude toward oneself 	 Rosenberg's (1965) self-esteem measure I am able to do things as well as most people. I certainly feel useless at times (reverse coded). All in all, I tend to feel that I am a failure (reverse coded) Response options: 0 = strongly disagree, 1 = disagree 2 = agree, 3 = strongly agree
Emotional		
Emotional control and self-monitoring	Emotional control: Modulate emotional responses appropriately	Behavior Rating Inventory of Executive Function– Adult Version (Roth et al. 2005) • Eight items (redacted due to copyright)
	 Self-monitoring: Keep track of the effect of own behavior on others; attend to own behavior in the social context 	Response options: 0 = never, 1 = sometimes, 2 = ofte
Employment self-regulation	• Demonstrate self- regulation skills in the context of employment	New study-developed items Lost your temper with someone other than friends or family (reverse coded)
		Said something that you later regretted to someone other than friends or family (reverse coded)
		 Decided not to apply for a job because you didn't think you would get an interview (reverse coded) Overcame a barrier that could have prevented you
		from finding or keeping a job • Been late for a job, interview, program meeting,
		 class, or training session (reverse coded) Missed an appointment related to work, looking for job, a program, school, or training for a reason other than you were sick or ill (reverse coded)
		• Response options: 0 = hardly ever or never, 1 = about once a month, 2 = a few times a month, 3 = a few times a week
Cognitive		
Goal-setting	Set realistic employment	New study-developed items
and attainment	goals and takes steps to attain them	 I set long-term employment goals that I hope to achieve within a year, such as finding a job, finding better job, getting promoted, or enrolling in further education.
		• I set specific short-term goals that will allow me to achieve my long-term employment goals.
		 I know I need to get a job or a better job and really think I should work on finding one. I set employment goals based on what is important
		to me or my family. • Based on everything I know about myself, I believe
		 can achieve my employment goals. When I set employment goals, I think about barriers that might get in my way and make specific plans for overcoming those barriers.
		• Even when I face challenges, I continue to pursue my employment goals.
		I keep track of my overall progress toward my long- term employment goals and adjust my plans if neede
		Response options: 0 = strongly disagree, 1 = disagree 2 = agree, 3 = strongly agree
		(continu

Self- regulation skill	Definition	Measure and survey items
Task monitoring, planning, and initiation	 Task monitoring: Check work; assess performance during or after finishing a task to ensure attainment of a goal Planning: Anticipate future events; set goals; develop appropriate steps to carry out an associated action; carry out tasks in a systematic manner; understand main ideas Initiation: Begin a task or activity; fluidly generate ideas 	Behavior Rating Inventory of Executive Function– Adult Version (Roth et al. 2005) • Twelve items (redacted due to copyright) Response options: 0 = never, 1 = sometimes, 2 = ofte

III. How Do Individual Self-Regulation Measures Predict Future Outcomes?

The potential for programs to enhance later outcomes by supporting self-regulation skills hinges on whether self-regulation skills are related to those outcomes. If self-regulation skills are not related to employment and economic outcomes, then changes in self-regulation skills would not be expected to influence those outcomes. This section examines the extent to which self-regulation measures predict future outcomes (that is, the predictive validity), providing suggestive evidence on which skills employment programs may wish to support and which measures may be suitable for evaluations of such programs.

APPROACH

We validate the self-regulation measures against two types of outcomes: (1) future self-regulation measures and (2) future employment and economic outcomes. To examine predictive validity, we estimated the correlation between self-regulation measures in the first follow-up survey and outcomes measured in the second follow-up survey. A correlation is a measure of association between two variables that ranges from -1 to 1. If the correlation is positive, then, on average, when one variable takes a higher value, the other variable takes a higher value. Sometimes correlations are compared to benchmarks for a "high" correlation. However, the criteria for determining whether measures predict employment and economic outcomes are not firmly established (Heckman and Kautz 2012). We did not find a clear benchmark for a "high" correlation in this context. Instead, we based our conclusions on whether these correlations were statistically significantly different from zero. We also used the absolute magnitude of the correlations to identify which self-regulation measure best predicted an outcome.

RESULTS

The best predictor of each later self-regulation measure was the earlier measure of the same skill.

The correlation between measures of the same skill over time ranged from 0.48 to 0.87, suggesting the measures were stable (Table 3). These findings were consistent with existing literature, which supports self-regulation skills' relative stability absent of external interventions (see, for example, Schmitt et al. 2007). Each measure of self-regulation skills was positively associated with future measures of other self-regulation skills, but the correlations varied substantially, ranging from 0.04 to 0.52.

Higher values of self-regulation measures generally predicted better employment and economic outcomes.

Consistent with previous literature, self-regulation measures were positively correlated with future earnings and average hours of employment per week (Almlund et al. 2011). These self-regulation measures were also correlated with adults' later reports of having fewer economic hardships and employment challenges. Finally, self-regulation measures were positively correlated with adults' future reports of paying bills on time and participation in education and employment training programs.

The predictive power of self-regulation measures varied by employment and economic outcome, with each measure being the best predictor of at least one outcome.

No one self-regulation measure was universally predictive of employment and economic outcomes. Overall, task monitoring, planning, and initiation and self-esteem generally had higher predictive power than employment self-regulation and emotional control and self-monitoring. For example, self-esteem had the highest correlation with future self-reported earnings (r = .15) and hours worked (r = .15). Employment self-regulation had the highest correlation with later reductions in economic hardship (r = -.17). Self-regulation measures were not related to later TANF receipt, potentially due to the length of time between data collection periods or contextual characteristics of the programs.

The goal-setting and attainment measure better predicted certain job search-related outcomes than other self-regulation measures.

Specifically, this measure best predicted an adult's future number of job search activities (r = .35), education or training participation (r = .18), and education or training completion (r = .16). In addition, goal-setting and attainment was predictive of having higher rates of using a budget (r = .12), whereas other self-regulation measures were not related to these outcomes. Goal-setting and attainment was also the only self-regulation measure that was predictive of having less savings (r = ..11), a higher number of economic hardships (r = .06), and more employment challenges (r = .11), links that ran counter to our hypothesis.

We conducted additional analyses to better understand the positive associations of goal-setting and attainment with economic hardships and employment challenges. One possible explanation for these associations is that people who experience more hardships and challenges could have more motivation to set and attain employment goals. Another possibility is that higher levels of goal-setting and attainment led to more economic hardships and employment challenges. For example, taking college or vocational classes may increase economic hardship in the short term but lead to longer-term positive economic outcomes. To distinguish between these possibilities, we conducted regression analyses that additionally controlled for measures of economic hardships or employment challenges collected contemporaneously to the measure of goal-setting and attainment.³ If goal-setting and attainment led to more economic hardships and employment challenges, then we would expect the positive and significant associations between these later outcomes and goal-setting and attainment to persist after controlling for earlier measures of the outcomes. However, goal-setting and attainment no longer had a statistically significant relationship with these outcomes after controlling for the baseline measures. This finding provides suggestive evidence in support of the first possibility, indicating that individuals who faced greater economic hardships and employment challenges may have been more motivated to set and achieve goals.

³ We did not conduct comparable analyses for savings because we did not have contemporaneous measures of savings and goal-setting and attainment.

Individuals who faced greater economic hardships and employment challenges may have been more motivated to set and achieve goals.

Table 3. Predictive power of individual selfregulation measures on future outcomes

	Correlation (r) of self-regulation predictor measure					
Outcome	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation	skills					
Emotional control and self-monitoring	0.64***	0.49***	0.14***	0.39***	0.38***	
Task monitoring, planning, and initiation	0.49***	0.63***	0.16***	0.37***	0.30***	
Goal-setting and attainment	0.19***	0.22***	0.48***	0.28***	0.07**	
Self-esteem	0.39***	0.42***	0.22***	0.51***	0.28***	
Employment self- regulation	0.52***	0.39***	0.04	0.33***	0.87***	
Future outcomes relate	ed to employme	nt and economic w	vell-being			
Average monthly earnings	0.11***	0.12***	0.08***	0.15***	0.07**	
Average hours employed per week	0.09***	0.13***	0.10***	0.15***	0.07**	
Economic hardship scale (number of hardships)ª	-0.14***	-0.14***	0.11***	-0.11***	-0.17***	
Employment challenges: composite (six items) ^b	-0.18***	-0.21***	0.06**	-0.16***	-0.14***	
Number of job search activities ^c	0.12***	0.17***	0.35***	0.18***	0.05	
Participated in an education or training program	0.08***	0.05*	0.18***	0.07**	0.04	
Completed an education or training program	0.08***	0.07**	0.16***	0.09***	0.07**	
Pays bills on time "most of the time" or "very often"	0.05*	0.07**	0.04	0.08***	0.07**	
Receives income from TANF	-0.03	-0.01	0.00	-0.01	-0.01	
Has a checking or savings account	0.01	-0.06*	0.03	0.04	0.04	
Amount in savings account (\$)	0.04	-0.01	-0.11***	-0.01	0.02	
Uses a spending plan or budget to keep track of monthly expenses	0.04	0.03	0.12***	0.02	0.05	
Sample Size	1,244	1,256	1,248	1,250	1,244	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size across outcomes. In each row, the shaded cell with bold font indicates the measure with the most favorable correlation with each outcome.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of child care, or having a criminal record.

^c Based on a combined measure of respondents' answers to how often they are looking for job openings, submitting a job application, or attending an interview.

Robustness tests indicated the links between self-regulation measures and future outcomes were generally similar over other time periods, when using nonresponse weights, by employment program, by race and ethnicity, and by gender.

We conducted several robustness tests to explore the sensitivity of these findings:

- 1. In addition to examining correlations between self-regulation measures collected in the first follow-up survey and outcomes collected in the second follow-up survey, we examined correlations between self-regulation measures collected in the baseline survey and outcomes collected in the first and second follow-up surveys. The baseline survey included a more limited set of self-regulation measures, but the results were generally similar (Appendix Tables A.1 and A.2).
- 2. We also conducted analyses using nonresponse weights that adjusted for the possibility that some types of people may have been less likely to respond to the survey. With this approach, respondents who were less likely to respond received a higher weight in the estimation. Using these weights yielded results that were nearly identical to those in the main analysis (Appendix Table A.3).
- 3. We conducted the analyses separately by employment program, race and ethnicity, and gender. The results were qualitatively similar across these groups (Appendix Tables A.4–A.12).

CONSIDERATIONS FOR EMPLOYMENT PROGRAMS AND EVALUATORS

The relevance of self-regulation measures to an adult employment program may vary depending on the program's overall goals. Because links between self-regulation skills and future outcomes vary, programs focusing on specific outcomes may wish to tailor which self-regulation skills they support. For example, programs that focus on supporting job search activities might wish to focus on improving goal-setting and attainment skills, given the finding that goal-setting and attainment predicted certain job search-related outcomes better than other self-regulation measures. Alternatively, programs with goals of reducing employment challenges may want to support participants' task monitoring, planning, and initiation skills. Similarly, evaluators that seek to better understand how a program operates may benefit from prioritizing measures that relate to other outcomes that programs are attempting to influence. For example, if a program is hypothesized to boost job search outcomes through self-regulation skills, collecting data on goal-setting and attainment skills may shed light on the mechanisms for any improvements.

IV. To What Extent Does Using Multiple Self-Regulation Measures Predict Future Outcomes?

Using multiple self-regulation measures could potentially improve predictive power over using a single measure of self-regulation skills. For example, using both employment self-regulation and self-esteem measures may better predict outcomes compared to using only self-esteem measures. However, there may be diminishing returns if selfregulation measures capture the same skills. In addition, study constraints often require focused measure collection. To explore this possibility, we assessed the extent to which using multiple self-regulation measures better predicted future outcomes compared to using individual measures (that is, we tested the incremental predictive validity of multiple self-regulation measures over a single self-regulation measure). These results shed light on the extent to which employment programs and evaluations of employment programs may benefit from collecting multiple self-regulation measures.

APPROACH

To assess the incremental validity of predicting outcomes using multiple self-regulation measures, we conducted linear regressions of each outcome on combinations of the self-regulation measures. For each combination, we calculated the multivariate correlation (R) by taking the square root of the adjusted R^2 statistic from the regression.⁴ The multivariate correlation ranges from 0 to 1 and is analogous to a standard correlation, so the higher the multivariate correlation, the more related the variable is to the group of other variables. Unlike a standard correlation, the multivariate correlation is always positive and so does not inform the direction of the relationships between the variables.

Comparing the resulting multivariate correlations also suggests how predictions would improve when one self-regulation measure is added to a group of other self-regulation measures. If adding a variable to a group of predictors increases the multivariate correlation, then the variable provides additional predictive power above and beyond the initial group (that is, it has incremental predictive validity). For each outcome, we present the highest multivariate correlation when using the best two predictors and when using the full set of predictors. Similar to the analysis in Section III, no clear benchmarks have been firmly established to assess "high" correlations or meaningful predictive improvements in the context of employment and economic outcomes (Heckman and Kautz 2012). Instead, we base our conclusions on the absolute magnitude of the correlations to identify changes in predictive power and note changes in terms of percent improvement relative to models with a single predictor.

⁴ Due to the adjustment penalty applied to the adjusted *R*² calculation, there were several cases where models using all predictors had lower values of *R* than those using single or two-predictor models.

RESULTS

Using multiple self-regulation measures to predict later outcomes added little predictive power over using a single self-regulation measure.

Generally, a single self-regulation measure's predictive power for outcomes came close to the predictive power of models that used all predictors, with the models with all self-regulation measures indicating improvements in R ranging from 0.01 to 0.06 (Table 4).⁵ Further, models that use the best two predictors had nearly the same predictive power as models using all self-regulation predictors. One exception was the multivariate prediction of reported economic hardship. The predictive power of models using either two or all self-regulation predictors (R = .20 and .23, respectively) were both higher (increases of 18 and 35 percent, respectively) than the predictive power of using the most predictive single measure (R = .17).

For predictive models using two self-regulation predictors, the inclusion of goal-setting and attainment most often led to the highest predictive power for outcomes compared to models using a single predictor, although the differences remained small to negligible. This finding suggests that goal-setting and attainment captures different underlying skills than other self-regulation measures.

CONSIDERATIONS FOR EMPLOYMENT PROGRAMS AND EVALUATORS

These findings suggest that, when predicting future outcomes, using multiple selfregulation measures adds little predictive power compared to using a single measure. Therefore, programs that are interested in identifying potential participants who could benefit most from their services based on their self-regulation skills may wish to focus on one or two of the self-regulation skills most directly tied to the longer-term outcomes the program aims to improve. Similarly, given resource constraints and the need to minimize the burden of data collection on study participants, evaluations that aim to understand whether programs improve longer-term outcomes through self-regulation skills may wish to focus on one or two self-regulation skills that are most directly tied to the program's logic model, and consider adding goal-setting and attainment as a supplemental measure.

One important limitation is that the evaluation this analysis draws from does not include measures of all possible self-regulation skills or employment and economic outcomes. Therefore, it is plausible that incorporating other self-regulation measures could enhance the predictive validity beyond the ones considered in this report. Similarly, using multiple self-regulation measures might be more effective when predicting other outcomes related to employment or economic well-being.

⁵ For all individual self-regulation measures, the adjusted was negative when predicting TANF receipt, resulting in an impossible value of *R* and represented in Table 4 with an *R* value of zero. For that reason, the table does not list any individual measures. One possible reason for these low values is that self-regulation skills can potentially affect TANF receipt in competing ways that offset each other. On the one hand, better self-regulation skills may allow people to complete TANF applications and comply with TANF requirements, resulting in higher TANF receipt. On the other hand, better self-regulation skills may allow people to earn more income and, therefore, be less likely to receive TANF benefits.

Table 4. Predictivepower of multipleself-regulationpredictors onfuture outcomes

	Self-regulation predictor measure correlation (R)				elation (R)
Outcome	Single self- regulation predictor		Two self- regulation predictors		All self- regulation predictors
Future self-regulation skills	R	Best predictor	R	Best two predictors	R
Emotional control and self- monitoring	0.64	EC	0.65	EC SE	0.65
Task monitoring, planning, and initiation	0.63	ТМ	0.64	TM EC	0.64
Goal-setting and attainment	0.48	GS	0.50	GS SE	0.51
Self-esteem	0.51	SE	0.55	SE TM	0.55
Employment self-regulation	0.87	SR	0.88	SR EC	0.87
Future outcomes related to emp	loyment a	and economic	well-beiı	ng	
Average monthly earnings	0.14	SE	0.15	SE GS	0.15
Average hours employed per week	0.15	SE	0.17	SE GS	0.17
Economic hardship scale (number of hardships) ^a	0.17	SR	0.20	SR GS	0.23
Employment challenges: composite (six items) ^b	0.20	ТМ	0.23	TM GS	0.24
Number of job search activities ^c	0.35	GS	0.36	GS TM	0.36
Participated in an education or training program	0.18	GS	0.18	GS EC	0.17
Completed an education or training program	0.15	GS	0.17	GS EC	0.16
Pays bills on time "most of the time" or "very often"	0.07	SE	0.07	SE TM	0.07
Receives income from TANF	0.00		0.00		0.00
Has a checking or savings account	0.05	ТМ	0.08	TM SR	0.09
Amount in savings account (\$)	0.11	GS	0.12	GS EC	0.12
Uses a spending plan or budget to keep track of monthly expenses	0.11	GS	0.12	GS SR	0.12
Sample size	1	,256	:	1,227	1,206

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: R represents the square root of the adjusted R^2 statistic for a given regression model. Because sample sizes vary by outcome, we report the largest sample size across outcomes.

^a Number of economic hardships ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of child care, or having a criminal record.

^c Based on a combined measure of respondents' answers to how often they are looking for job openings, submitting a job application, or attending an interview.

^d Includes five self-regulation predictors: (1) emotional control and self-monitoring; (2) task monitoring, planning, and initiation; (3) goal-setting and attainment; (4) self-esteem; and (5) employment self-regulation.

EC = emotional control and self-monitoring; TM = task monitoring, planning, and initiation; GS = goal-setting and attainment; SE = self-esteem; SR = employment self-regulation.

V. When Predicting Future Outcomes, How Do Self-Regulation Measures Perform Relative to Sociodemographic Characteristics?

Employment programs could potentially better target service delivery by identifying participants with lower likelihoods of achieving specified outcomes, such as longerterm goals of finding and retaining better jobs. For example, employment programs that also address basic needs may be more impactful for people with fewer resources, because addressing those basic needs would also support their ability to find better future employment. On the other hand, people with more resources may fare better on their own because they require less support for those basic needs. In that case, employment programs could use a measure of economic hardship to identify potential participants. Baseline self-regulation measures could be used in a similar way. However, a central question is whether self-regulation measures would add predictive power beyond other sociodemographic data that employment programs may already collect, such as recent employment history, gender, and race and ethnicity. To explore this possibility, we examined whether self-regulation measures collectively add predictive power of future outcomes after accounting for standard sociodemographic variables.

This analysis could also inform which variables evaluators of employment programs collect at baseline to improve the precision of impact estimates. To estimate impacts using regression analysis, including baseline covariates can improve precision if the baseline covariates are correlated with the outcome variables of interest. For this reason, many impact analyses include covariates similar to the sociodemographic variables we examine in these analyses. If self-regulation measures explain additional variance in outcomes above and beyond the sociodemographic variables, then including them in impact analyses could further increase the precision of the impact estimates.

APPROACH

To assess the incremental validity of predicting outcomes using self-regulation measures over other sociodemographic variables, we regressed each outcome on three sets of variables: (1) the full set of self-regulation predictors, (2) a set of sociodemographic predictors, and (3) a combined set of self-regulation and sociodemographic predictors. Although there were similarities in predictive power across one, two, and all self-regulation predictor models, the full set of predictors provided increased predictive power for several outcomes (such as economic hardship). Therefore, to avoid understating predictive power and to ensure consistency of estimation across models, we conducted all analyses using the full set of self-regulation predictors (emotional control and self-monitoring; task monitoring, planning, and initiation; goal-setting and attainment; self-esteem; and employment self-regulation). The set of sociodemographic predictors include participants' race and ethnicity, gender, number of children and adults in the household, and educational status, as well as their average monthly earnings, hours employed per week, and economic hardships reported in the first follow-up survey. For each combination, we calculated the multivariate correlation (R) by taking the square root of the adjusted R^2 statistic from the regression. We assessed improvement in model predictive power by taking the difference in R between models. We also used likelihood ratio tests to estimate whether adding the self-regulation predictors to the sociodemographic predictors led to significant improvements in the models (see Appendix Table A.13).

RESULTS

As a group, self-regulation measures added predictive power when predicting future self-regulation measures compared to using sociodemographic variables.

The extent to which self-regulation measures added predictive power beyond sociodemographic variables varied by outcome (Table 5). In most cases, the likelihood ratio tests indicated that adding predictors led to statistically significant improvements in the overall model fit, but the extent of that improvement varied (Appendix Table A.13). When predicting future self-regulation measures, including initial self-regulation measures as predictors increased the predictive power by 100 to 240 percent over using sociodemographic variables alone. As a robustness test, we also conducted analysis using only the best single self-regulation predictor that was identified for each outcome in Section III; predictive results were consistent with using the full group of self-regulation measures (Appendix Table A.14).

Compared to using only sociodemographic variables, additionally using selfregulation measures improved the prediction of future employment challenges, job search activities, education and training program participation, and savings but offered limited improvement for predicting other employment and economic outcomes.

The conclusions were mixed when predicting employment and economic outcomes. Self-regulation measures had similar predictive power to sociodemographic variables in terms of predicting future employment challenges, job search activities, education and training program participation, and savings. In addition, after accounting for sociodemographic variables, self-regulation measures increased the multivariate predictive power of these outcomes by 27 to 36 percent. In contrast, self-regulation variables did not predict participants' future earnings, employment, or economic hardship better than what was already predicted by sociodemographic variables. Sociodemographic variables also did not predict future self-regulation outcomes better than models that use self-regulation predictor variables.

When predicting future self-regulation measures, including initial self-regulation measures as predictors increased the predictive power by 100-240% over using sociodemographic variables alone.

Table 5. Improvement in the predictive power of selfregulation measures on future outcomes relative to sociodemographic variables

	Multivariate correlations (R)					
			Model improvement:			
	Socio- demographic predictors	Self- regulation predictors	Add self- regulation to socio- demographic predictors	Add socio- demographic to self- regulation predictors		
Future self-regulation sl	kills					
Emotional control and self-monitoring	0.29	0.65	0.36	0.00		
Task monitoring, planning, and initiation	0.24	0.64	0.40	0.00		
Goal-setting and attainment	0.20	0.52	0.32	0.00		
Self-esteem	0.27	0.55	0.29	0.01		
Employment self- regulation	0.26	0.88	0.63	0.00		
Future outcomes related	to employment a	and economic w	vell-being			
Average monthly earnings	0.69	0.16	0.00	0.52		
Average hours employed per week	0.57	0.19	0.01	0.39		
Economic hardship scale (number of hardships) ^a	0.85	0.24	0.00	0.61		
Employment challenges: composite (six items) ^b	0.27	0.23	0.05	0.09		
Number of job search activities ^c	0.36	0.38	0.13	0.11		
Participated in an education or training program	0.10	0.18	0.11	0.02		
Completed an education or training program	0.13	0.17	0.07	0.03		
Pays bills on time "most of the time" or "very often"	0.14	0.08	0.02	0.08		
Receives income from TANF	0.12	0.00	-0.01	0.11		
Has a checking or savings account	0.38	0.10	0.01	0.28		
Amount in savings account (\$)	0.15	0.13	0.04	0.06		
Uses a spending plan or budget to keep track of monthly expenses	0.14	0.10	0.02	0.07		
Sample size ^d	1,068	1,068				

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: R represents the square root of the adjusted R^2 statistic for a given regression model. Sociodemographic predictors include participants' baseline-reported race and ethnicity, gender, number of children and adults in the household, and educational status, as well as their average monthly earnings, hours employed per week, and economic hardship score reported in the first follow-up survey. Because sample sizes vary by outcome, we report the largest sample size in each research group.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of child care, or having a criminal record.

^c Based on a combined measure of respondents' answers to how often they are looking for job openings, submitting a job application, or attending an interview.

^d Sample reflects adults who had both sociodemographic and self-regulation predictors available.

CONSIDERATIONS FOR EMPLOYMENT PROGRAMS AND EVALUATORS

The findings have implications for the relative value of collecting baseline selfregulation measures, especially when resources for data collection are scarce and evaluators wish to minimize the burden of data collection on study participants. Because including self-regulation measures improved the ability to predict future selfregulation measures and selected employment and economic outcomes, employment programs may benefit from collecting self-regulation measures if their aim is to identify potential participants who could benefit from services to support these outcomes. For employment programs that ultimately focus on other outcomes, such as earnings, collecting self-regulation measures may add little value above and beyond sociodemographic variables they may already collect.

For evaluators of employment programs, these findings suggest that collecting data on baseline self-regulation skills could improve precision for impact analyses in which self-regulation skills are outcomes or for selected employment and economic outcomes. For the other employment and economic outcomes that we considered, sociodemographic data may suffice.

This analysis also informs whether differences in people's context affect the relationship between self-regulation measures and later outcomes. One possibility is that a person's contexts could affect both their self-regulation skills and outcomes in a way that confounds the estimated relationship between self-regulation measures and other outcomes. In other words, differences in context could create an apparent link between self-regulation skills and future outcomes, even if self-regulation skills did not directly affect the outcomes. Our findings suggest that differences in context may partially account for the link between self-regulation skills and future outcomes.

A LIFT participant meets with a coach.



Photo Rich Clement, Mathematica.

VI. Conclusions

This report examined the extent to which five self-regulation measures predicted later outcomes using data from the Evaluation of Employment Coaching. Drawing on the GOALS project that conceptualized self-regulation skills in the context of employment programs, the Evaluation of Employment Coaching selected these measures because they (1) captured the broad set of skills that could have been improved by the participating programs, (2) were either theoretically or empirically linked to employment outcomes, (3) met reliability and validity criteria, and (4) were feasible to administer to study participants, given time and burden limitations.

Our findings suggest several conclusions about how the self-regulation measures used in this study relate to future outcomes (Table 6). The self-regulation measures selected for this evaluation were positively related to future self-regulation and economic outcomes, with different self-regulation measures serving as the best predictor for different outcomes. These findings have several potential implications for employment programs. Because links between self-regulation skills and future outcomes vary, programs focusing on specific outcomes may wish to tailor which self-regulation skills they support and potentially refine their logic model. For example, programs that focus on improving job search outcomes may wish to focus on supporting goal-setting and attainment. Similarly, to better understand how a program operates, evaluators may benefit from consulting the programs' logic models and prioritizing measures that relate to the longer-term outcomes that programs attempt to influence.

When predicting future employment and economic outcomes, using multiple selfregulation measures added little predictive power over using a single self-regulation measure among the self-regulation measures we considered. Programs that are interested in identifying potential participants who could benefit most from their services based on self-regulation outcomes might focus on collecting one or two self-regulation measures most directly tied to the longer-term outcomes the program aims to improve. Similarly, given resource constraints and the need to minimize the burden of data collection on study participants, evaluations that aim to understand whether programs improve longer-term outcomes through self-regulation skills may wish to focus on one or two self-regulation skills that are most directly tied to the program's logic model.

When predicting future self-regulation outcomes and some employment and economic outcomes (such as education and training program participation), including selfregulation measures as predictors added predictive power beyond using only sociodemographic characteristics as predictors. Collecting self-regulation measures may help employment programs identify potential participants who could benefit from services to support these outcomes. On the other hand, self-regulation measures did not improve the ability to predict a number of other employment and economic outcomes. For employment programs focused on supporting these outcomes, self-regulation measures may not help them identify participants who could benefit from their services beyond any sociodemographic measures they already collect.

The empirical results presented here demonstrate that measures of self-regulation skills are linked to future employment and economic outcomes, suggesting the promise of including such self-regulation measures in impact evaluations of employment

Because links between self-regulation skills and future outcomes vary, programs focusing on specific outcomes may wish to tailor which selfregulation skills they support and potentially refine their logic models. programs for populations with low incomes. As part of the Evaluation of Employment Coaching, Moore et al. (2023) found evidence in the short term that employment coaching programs can improve goal-setting and attainment, one of the self-regulation skills examined in this report. Although the coaching programs had more limited impacts on most employment and economic outcomes, the first follow-up period (nine to 12 months after program enrollment) may have been too short to find longer-term impacts on the other outcomes that may change as a result of improved self-regulation skills. Future reports will present estimates of longer-term impacts (21 and 48 months after program enrollment) on both self-regulation skills and other outcomes.

Table 6. Summary Summary of of results and considerations for considerations Research employment programs question **Summary of results** and evaluators for employment How do individual The predictive power of individual selfprograms and Employment programs, Selfregulation measures varied by outcome, self-regulation regulation measures' relevance evaluators measures predict with no one universally predictive to an adult employment future outcomes? measure. program may vary depending on the program's overall goal(s). The best predictor of each later self-Because links between selfregulation skill measure was the earlier regulation skills and future measure of the same skill. Higher values outcomes vary, programs of self-regulation measures generally focusing on specific outcomes predicted better employment and economic may want to work with outcomes. The predictive power of selfresearchers to tailor which selfregulation measures varied by economic regulation skills they support. outcome. Each self-regulation measure had the most favorable relationship with at least **Evaluators**, Evaluators may one outcome. In particular: benefit from prioritizing Emotional control and self-monitoring measures that relate to had the most favorable relationship outcomes programs attempt to with (1) whether participants received influence to better understand income from TANF and (2) amount in how a program operates. a savings account. Task monitoring, planning, and initiation had the most favorable relationship with (1) average hours employed per week and (2) employment challenges experienced. Goal-setting and attainment had the most favorable relationship with (1) the number of job search activities conducted, (2) participation and completion of education and training programs, and (3) whether participants used a spending plan or budget to track monthly expenses. Self-esteem had the most favorable relationship with (1) average monthly earnings, (2) paying bills on time, and (3) having a savings or checking account. Employment self-regulation had the most favorable relationship with (1) the number of economic hardships experienced and (2) having a savings or checking account. Robustness tests indicated the links between self-regulation skills and future outcomes were generally consistent over different data collection periods that were similar in length or longer, when using nonresponse weights, by employment program, by race and ethnicity, and by gender.

(continued)

Research question

To what extent does using multiple self-regulation measures predict future outcomes?

Summary of results

Using multiple self-regulation measures to predict later outcomes added little predictive power over using a single selfregulation measure.

Generally, a single self-regulation measure's predictive power for outcomes came close to the predictive power of models that used all predictors. For predictive models using two self-regulation predictors, including goal-setting and attainment most often led to the highest predictive power for outcomes, although the effect sizes of those differences remained small to negligible. This finding suggests that goal-setting and attainment measures may capture different underlying constructs than other self-regulation measures, so they may be well-suited to complement other measures in practice.

When predicting future outcomes, how do selfregulation measures perform relative to sociodemographic characteristics? As a group, self-regulation measures offered additional predictive power when predicting future self-regulation measures and mixed improvements to predicting future employment and economic outcomes compared to using sociodemographic variables alone.

When predicting future self-regulation skills, including self-regulation measures as predictors significantly improved the predictive power over using sociodemographic variables alone. Selfregulation measures had similar overall predictive power to sociodemographic variables in terms of predicting future employment challenges, job search activities, training program participation, and savings. Self-regulation variables did not improve the predictive power for participants' future earnings, employment, or hardship, above and beyond what was already predicted by sociodemographic variables. Sociodemographic variables did not improve the predictive power of future self-regulation outcomes above and beyond models that use initial selfregulation predictor variables.

Summary of considerations for employment programs and evaluators

Employment programs. Programs that are interested in identifying potential participants who could benefit most from their services based on their selfregulation skills may focus on one or two of the self-regulation skills most directly tied to the longer-term outcomes the program aims to improve.

Evaluators. Given resource constraints and the need to minimize the burden of data collection on study participants, evaluations that aim to understand whether programs improve longer-term outcomes through self-regulation skills may wish to focus on measures of one or two self-regulation skills that are most directly tied to the program's logic model and consider including goal-setting and attainment as supplemental measures.

Employment programs. Programs may benefit from

collecting self-regulation measures if their aim is to identify potential participants who could benefit from services to support participation or completion of training and education programs or job search activities. For employment programs that support other outcomes, collecting self-regulation measures may add little value above and beyond sociodemographic variables that they already collect.

Evaluators. Collecting data on baseline self-regulation skills could improve precision for impact analyses in which self-regulation skills are outcomes or for selected economic outcomes, including participation or completion of training and education programs or job search activities. For the other outcomes we considered, sociodemographic data may suffice. Three limitations of this study suggest directions for future research:

- 1. Although the self-regulation measures we examined cover three broad categories of self-regulation skills, they do not include all possible self-regulation skills that could be relevant to employment programs. Including measures of other self-regulation skills may change the conclusions. Future work could examine the predictive power of other self-regulation measures.
- 2. Our analysis focused on self-reported self-regulation measures. Self-reported measures may suffer from reference bias, which can arise if people rate their own skills relative to people they know rather than the population as a whole (Lira et al. 2022). These measures may also be susceptible to social desirability bias, which could have arisen if respondents under- or overreported certain attitudes or behaviors that they believe related to the employment coaching program (Krumpal 2011). Although self-reports are the most common way to collect information on self-regulation skills, other approaches—such as using a third party to rate self-regulation skills—may address reference or social desirability biases and affect the predictive power of the measures (Feng et al. 2022; Duckworth and Yeager 2015). Future work could explore the predictive power of other approaches to measuring self-regulation skills.
- 3. The correlations that we present may not represent causal links between self-regulation skills and outcomes (Heckman and Kautz 2012) because another factor could affect both the self-regulation measures and future outcomes. For example, people living under conditions of poverty might experience stress that reduces their cognitive bandwidth to effectively use self-regulation skills (Mullainathan and Shafir 2014; Hamoudi et al. 2014). This population might also experience differences in employment and economic outcomes for other reasons, such as having fewer resources to search for jobs. Our analyses address this possibility to some degree by accounting for sociodemographic characteristics and estimating the predictive power separately by program and for different subgroups. However, these analyses do not account for all possible differences in people's context. Future research could build on these analyses by further examining the extent to which contextual factors may affect the observed relationship between self-regulation skills and future outcomes.

References

Almlund, M., A. Duckworth, J.J. Heckman, and T. Kautz. "Personality Psychology and Economics." In *Handbook of the Economics of Education, edited by E.A. Hanushek, S. Machin, and L. Woessmann (Vol. 4, pp. 1–181). Amsterdam: Elsevier, 2011.*

Cavadel, E.W., J.F. Kauff, M.A. Anderson, S. McConnell, and M. Derr. "Self-Regulation and Goal Attainment: A New Perspective for Employment Programs." OPRE Report #2017-12. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2017.

Duckworth, A.L., and D.S. Yeager. "Measurement Matters: Assessing Personal Qualities Other Than Cognitive Ability for Educational Purposes." Educational Researcher, vol. 44, no. 4, 2015, pp. 237–251. https://doi.org/10.3102/0013189X15584327.

Feng, S., Y. Han, J.J. Heckman, and T. Kautz. "Comparing the Reliability and Predictive Power of Child, Teacher, and Guardian Reports of Noncognitive Skills." *Proceedings of the National Academy of Sciences, vol. 119, no. 6, 2022, article e2113992119.* <u>https://doi.org/10.1073/pnas.2113992119</u>.

Hamoudi, A., D.W. Murray, L. Sorensen, and A. Fontaine. "Self-Regulation and Toxic Stress Report 2: A Review of Ecological, Biological, and Developmental Studies of Self-Regulation and Stress." OPRE Report #2015-30. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2014.

Heckman, J.J., and T. Kautz. "Hard Evidence on Soft Skills." *Labour Economics*, vol. 19, no. 4, 2012, pp. 451–464.

Kautz, T., R. Diris, B. ter Weel, and L. Borghans. "Fostering and Measuring Skills: Improving Cognitive and Non-Cognitive Skills to Promote Lifetime Success." Paris: OECD, 2014.

Kautz, T., and Q. Moore. "Measuring Self-Regulation Skills in Evaluations of Employment Programs for Low-Income Populations: Challenges and Recommendations." OPRE Report #2018-83. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2018.

Kautz, T., and Q. Moore. "Measuring Self-Regulation Skills in Evaluations of Employment Programs for Low-Income Populations: Challenges and Recommendations." OPRE Report # 2018-83. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2018.

Kautz, T., and Q. Moore. "Selecting and Testing Measures of Self-Regulation Skills Among Low-Income Populations." OPRE Report # 2020-138. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2020. Krumpal, Ivar (2011). Determinants of Social Desirability Bias in Sensitive Surveys: *A Literature Review*. Quality and quantity, 47(4), pp. 2025-2047. Dordrecht: Springer http://dx.doi.org/10.1007/s11135-011-9640-9

Lira, B., J.M. O'Brien, P.A. Peña, B.M. Galla, S. D'Mello, D.S. Yeager, A. Defnet, et al. "Large Studies Reveal How Reference Bias Limits Policy Applications of Self-Report Measures." *Scientific Reports, vol. 12, no. 1, 2022, article 19189.* <u>https://doi.org/10.1038/</u> s41598-022-23373-9.

Mullainathan, S., and E. Shafir. "Freeing Up Intelligence." Scientific American Mind, vol. 21, no. 1, 2014, pp. 58–63.

Murray, D.W., K. Rosanbalm, and C. Christopoulos. "Self-Regulation and Toxic Stress Report 3: A Comprehensive Review of Self-Regulation Interventions." OPRE Report #2016-34. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2016.

Rosenberg, M. *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press, 1965.

Roth, R.M., P.K Isquith, and G.A. Gioia. *Behavior Rating Inventory of Executive Function—Adult Version: Professional Manual*. Lutz, FL: Psychological Assessment Resources, 2005.

Schmitt, D.P., J. Allik, R.R. McCrae, V. Benet-Martínez, L. Alcalay, and L. Ault. "The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description Across 56 Nations." *Journal of Cross-Cultural Psychology*, vol. 38, no. 2, 2007, pp. 173–212. **Appendix A: Supplementary information**

Table A.1.Predictive powerof individualself-regulationmeasures onfuture outcomes

	Correlation (r) of self-regulation predictor measure (baseline)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal setting	Self- esteem		
Future self-regulation skills	(first follow-up)					
Emotional control and self- monitoring	0.53***	0.35***	0.03	0.30***		
Task monitoring, planning, and initiation	0.37***	0.51***	0.08**	0.29***		
Goal-setting and attainment	0.17***	0.20***	0.25***	0.18***		
Self-esteem	0.29***	0.32***	0.11***	0.43***		
Future outcomes related to e	mployment and e	conomic-wellbeing (first follow-u	р)		
Average monthly earnings	0.07*	0.08**	-0.01	0.11***		
Average hours employed per week	0.04	0.07**	0.01	0.11***		
Economic hardship scale (number of hardships) ^a	-0.17***	-0.12***	0.05	-0.15***		
Employment challenges: composite (six items) ^b	-0.15***	-0.18***	0.05	-0.14***		
Number of job search activities ^c	0.00	0.08**	0.06	0.06*		
Participated in an education or training program	-0.01	0.02	0.08**	0.06*		
Completed an education or training program	0.06*	0.09**	0.07*	0.06		
Receives income from TANF	-0.05	0.03	0.02	-0.09***		
Sample size	913	926	929	932		

Source: Evaluation of Employment Coaching baseline and first follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.2. Predictive power of individual self-regulation measures on future outcomes

	Correlation (r) of self-regulation predictor measure (baseline)					
·	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal setting	Self- esteem		
Future self-regulation skills (seco	nd follow-up)					
Emotional control and self- monitoring	0.56***	0.36***	0.06*	0.32***		
Task monitoring, planning, and initiation	0.34***	0.50***	0.07**	0.29***		
Goal-setting and attainment	0.16***	0.19***	0.19***	0.21***		
Self-esteem	0.33***	0.31***	0.08**	0.44***		
Future outcomes related to emplo	oyment and ecor	nomic-wellbeing (se	cond follow	-up)		
Average monthly earnings	0.08**	0.05	-0.04	0.04		
Average hours employed per week	0.06*	0.07**	-0.02	0.04		
Economic hardship scale (number of hardships)ª	-0.14***	-0.12***	0.02	-0.14***		
Employment challenges: composite (six items) ^b	-0.14***	-0.15***	0.05	-0.10***		
Number of job search activitiesc	0.04	0.08**	0.05	0.11***		
Participated in an education or training program	0.03	0.04	0.05	0.10***		
Completed an education or training program	0.07**	0.08**	0.04	0.10***		
Pays bills on time "most of the time" or "very often"	0.03	0.07**	0.03	0.05		
Receives income from TANF	0.01	0.02	0.04	-0.02		
Has a checking or savings account	0.01	0.00	-0.02	0.03		
Amount in savings account (\$)	0.04	-0.05	-0.08**	-0.04		
Uses a spending plan or budget to keep track of monthly expenses	0.06*	0.00	-0.01	0.01		
Sample size	913	926	929	932		

Source: Evaluation of Employment Coaching baseline and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.3. Predictive power of individual self-regulation measures on future outcomes (using nonresponse weights)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation s	kills (second fo	ollow-up)				
Emotional control and self-monitoring	0.65***	0.48***	0.14***	0.39***	0.39***	
Task monitoring, planning, and initiation	0.49***	0.64***	0.16***	0.37***	0.31***	
Goal-setting and attainment	0.19***	0.22***	0.48***	0.27***	0.06**	
Self-esteem	0.40***	0.42***	0.22***	0.52***	0.29***	
Employment self- regulation	0.53***	0.40***	0.05	0.35***	0.87***	
Future outcomes related	d to employme	nt and economic-	wellbeing (sec	ond follow	-up)	
Average monthly earnings	0.10***	0.11***	0.07**	0.14***	0.07**	
Average hours employed per week	0.10***	0.12***	0.10***	0.15***	0.07**	
Economic hardship scale (number of hardships) ^a	-0.14***	-0.15***	0.10***	-0.12***	-0.17***	
Employment challenges: composite (six items) ^b	-0.20***	-0.21***	0.07**	-0.16***	-0.14***	
Number of job search activitiesc	0.12***	0.16***	0.34***	0.17***	0.05*	
Participated in an education or training program	0.07**	0.05*	0.17***	0.06**	0.04	
Completed an education or training program	0.09***	0.07**	0.14***	0.08***	0.07**	
Pays bills on time "most of the time" or "very often"	0.06**	0.07**	0.04	0.07**	0.06**	
Receives income from TANF	-0.02	0.00	0.00	-0.02	0.00	
Has a checking or savings account	0.02	-0.05*	0.03	0.04	0.05*	
Amount in savings account (\$)	0.04	-0.01	-0.11***	-0.01	0.02	
Uses a spending plan or budget to keep track of monthly expenses	0.04	0.02	0.12***	0.02	0.04	
Sample size	1,244	1,256	1,248	1,250	1,244	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group. Results calculated using follow-up non-response weights.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.4. Predictive power of individual self-regulation measures on future outcomes (sample restricted to FaDSS)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
-	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation s	kills (second f	ollow-up)				
Emotional control and self-monitoring	0.67***	0.43***	0.09	0.38***	0.38***	
Task monitoring, planning, and initiation	0.53***	0.63***	0.05	0.44***	0.37***	
Goal-setting and attainment	0.15**	0.16**	0.45***	0.24***	0.01	
Self-esteem	0.44***	0.47***	0.18***	0.58***	0.26***	
Employment self- regulation	0.59***	0.40***	0.07	0.38***	0.85***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (see	cond follow	/-up)	
Average monthly earnings	0.13*	0.12*	0.06	0.21***	0.05	
Average hours employed per week	0.19***	0.16**	0.01	0.19***	0.10	
Economic hardship scale (number of hardships) ^a	-0.26***	-0.23***	0.09	-0.20***	-0.25***	
Employment challenges: composite (six items) ^b	-0.24***	-0.24***	0.03	-0.22***	-0.20***	
Number of job search activities ^c	0.03	0.13*	0.28***	0.17**	-0.04	
Participated in an education or training program	0.03	-0.04	0.06	0.02	0.10	
Completed an education or training program	0.05	0.06	0.14*	0.08	0.12*	
Pays bills on time "most of the time" or "very often"	0.04	-0.03	0.03	0.03	0.08	
Receives income from TANF	-0.05	0.00	-0.05	-0.15**	-0.02	
Has a checking or savings account	0.03	-0.09	-0.01	-0.08	0.00	
Amount in savings account (\$)	0.12*	0.10	0.06	0.03	0.07	
Uses a spending plan or budget to keep track of monthly expenses	0.07	0.07	0.15**	-0.01	0.12*	
Sample size	226	231	228	226	226	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.5. Predictive power of individual selfregulation measures on future outcomes (sample restricted to Goal4 It!)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation s	kills (second fo	ollow-up)				
Emotional control and self-monitoring	0.64***	0.39***	0.16**	0.36***	0.40***	
Task monitoring, planning, and initiation	0.48***	0.64***	0.21***	0.34***	0.33***	
Goal-setting and attainment	0.17**	0.25***	0.54***	0.31***	0.09	
Self-esteem	0.42***	0.34***	0.25***	0.49***	0.33***	
Employment self- regulation	0.42***	0.26***	0.08	0.32***	0.75***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (see	cond follow	/-up)	
Average monthly earnings	0.04	0.04	0.00	0.07	-0.01	
Average hours employed per week	0.02	0.05	0.08	0.07	-0.01	
Economic hardship scale (number of hardships) ^a	-0.08	-0.08	0.09	-0.08	-0.15**	
Employment challenges: composite (six items) ^b	-0.19***	-0.15**	0.23***	-0.07	-0.09	
Number of job search activities ^c	0.09	0.12*	0.37***	0.15**	0.06	
Participated in an education or training program	-0.03	0.09	0.21***	0.05	-0.02	
Completed an education or training program	0.10	0.09	0.14*	0.05	0.01	
Pays bills on time "most of the time" or "very often"	0.21***	0.23***	0.06	0.09	0.20***	
Receives income from TANF	0.02	0.05	0.03	-0.02	0.01	
Has a checking or savings account	-0.08	-0.13*	0.09	-0.02	-0.04	
Amount in savings account (\$)	0.00	-0.22***	-0.22***	0.02	0.06	
Uses a spending plan or budget to keep track of monthly expenses	0.06	0.03	0.26***	0.08	0.11	
Sample size	195	196	198	194	195	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.6. Predictive power of individual self-regulation measures on future outcomes (sample restricted to LIFT)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
-	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation s	kills (second fo	ollow-up)				
Emotional control and self-monitoring	0.60***	0.44***	0.21***	0.21***	0.35***	
Task monitoring, planning, and initiation	0.45***	0.61***	0.19***	0.25***	0.27***	
Goal-setting and attainment	0.11*	0.18***	0.38***	0.24***	0.13**	
Self-esteem	0.27***	0.34***	0.30***	0.37***	0.30***	
Employment self- regulation	0.36***	0.39***	0.06	0.17***	0.86***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sec	ond follow	-up)	
Average monthly earnings	0.09	0.10	0.07	0.09	0.04	
Average hours employed per week	0.06	0.08	0.09	0.05	-0.02	
Economic hardship scale (number of hardships) ^a	-0.11*	-0.15**	0.09	-0.09	-0.23***	
Employment challenges: composite (six items) ^b	-0.11*	-0.14**	-0.08	-0.04	-0.01	
Number of job search activities ^c	0.07	0.08	0.35***	0.10	0.00	
Participated in an education or training program	0.07	0.05	0.22***	0.08	0.00	
Completed an education or training program	0.13**	0.07	0.20***	0.07	0.08	
Pays bills on time "most of the time" or "very often"	0.00	0.08	0.13**	0.09	0.08	
Receives income from TANF	-0.01	-0.07	0.07	0.05	0.02	
Has a checking or savings account	0.04	0.04	0.20***	0.16***	0.09	
Amount in savings account (\$)	0.08	0.07	-0.19***	-0.08	0.00	
Uses a spending plan or budget to keep track of monthly expenses	0.00	0.08	0.10	0.00	-0.02	
Sample size	267	267	265	270	265	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.7. Predictive power of individual self-regulation measures on future outcomes (sample restricted to MyGoals)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Future self-regulation s	kills (second fo	ollow-up)				
Emotional control and self-monitoring	0.62***	0.55***	0.13***	0.41***	0.37***	
Task monitoring, planning, and initiation	0.48***	0.64***	0.17***	0.38***	0.27***	
Goal-setting and attainment	0.23***	0.24***	0.51***	0.29***	0.05	
Self-esteem	0.37***	0.45***	0.20***	0.51***	0.25***	
Employment self- regulation	0.55***	0.42***	0.01	0.36***	0.91***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sec	cond follow	-up)	
Average monthly earnings	0.15***	0.20***	0.16***	0.23***	0.11**	
Average hours employed per week	0.12***	0.18***	0.16***	0.24***	0.10**	
Economic hardship scale (number of hardships) ^a	-0.06	-0.11**	0.14***	-0.05	-0.10**	
Employment challenges: composite (six items) ^b	-0.17***	-0.23***	0.06	-0.20***	-0.16***	
Number of job search activities ^c	0.25***	0.28***	0.40***	0.28***	0.11**	
Participated in an education or training program	0.09**	0.05	0.20***	0.07*	0.03	
Completed an education or training program	0.05	0.05	0.15***	0.10**	0.05	
Pays bills on time "most of the time" or "very often"	0.04	0.05	-0.01	0.10**	0.03	
Receives income from TANF	-0.03	-0.01	-0.02	0.05	-0.03	
Has a checking or savings account	0.03	-0.05	-0.03	0.09**	0.05	
Amount in savings account (\$)	0.05	-0.02	-0.01	0.04	0.03	
Uses a spending plan or budget to keep track of monthly expenses	0.04	-0.02	0.07	0.02	0.02	
Sample size	556	562	557	560	558	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.8. Predictive power of individual self-regulation measures on future outcomes (sample restricted to Hispanic respondents)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Self-regulation skills (se	econd follow-ı	(qı				
Emotional control and self-monitoring	0.59***	0.42***	0.10*	0.24***	0.39***	
Task monitoring, planning, and initiation	0.48***	0.63***	0.14**	0.27***	0.32***	
Goal-setting and attainment	0.10*	0.16***	0.43***	0.19***	0.14**	
Self-esteem	0.33***	0.32***	0.22***	0.38***	0.33***	
Employment self- regulation	0.37***	0.33***	0.04	0.19***	0.85***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sea	ond follow	-up)	
Average monthly earnings	0.14**	0.15**	0.03	0.00	0.06	
Average hours employed per week	0.10*	0.12**	0.05	-0.02	0.01	
Economic hardship scale (number of hardships) ^a	-0.10*	-0.12**	0.15**	-0.06	-0.20***	
Employment challenges: composite (six items) ^b	-0.13**	-0.16***	0.05	-0.09	-0.04	
Number of job search activities ^c	0.08	0.13**	0.35***	0.08	0.00	
Participated in an education or training program	-0.03	0.10*	0.18***	0.05	-0.01	
Completed an education or training program	0.02	0.09	0.13**	0.03	0.05	
Pays bills on time "most of the time" or "very often"	0.05	0.11*	0.15**	0.06	0.06	
Receives income from TANF	-0.03	-0.02	-0.01	-0.02	-0.03	
Has a checking or savings account	0.03	0.04	0.11*	0.09	0.07	
Amount in savings account (\$)	0.07	0.07	-0.21***	-0.09	0.00	
Uses a spending plan or budget to keep track of monthly expenses	-0.01	0.06	0.11*	0.02	0.00	
Sample size	296	297	296	298	293	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.9. Predictive power of individual self-regulation measures on future outcomes (sample restricted to Black respondents)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Self-regulation skills (se	econd follow-u	ıp)				
Emotional control and self-monitoring	0.61***	0.52***	0.17***	0.40***	0.38***	
Task monitoring, planning, and initiation	0.45***	0.63***	0.20***	0.40***	0.28***	
Goal-setting and attainment	0.23***	0.24***	0.47***	0.28***	0.05	
Self-esteem	0.37***	0.45***	0.22***	0.51***	0.26***	
Employment self- regulation	0.57***	0.43***	0.03	0.36***	0.90***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sec	ond follow	-up)	
Average monthly earnings	0.16***	0.15***	0.11***	0.21***	0.11***	
Average hours employed per week	0.13***	0.17***	0.14***	0.23***	0.11***	
Economic hardship scale (number of hardships) ^a	-0.09**	-0.12***	0.14***	-0.09**	-0.13***	
Employment challenges: composite (six items) ^b	-0.15***	-0.21***	0.05	-0.17***	-0.13***	
Number of job search activities ^c	0.25***	0.27***	0.39***	0.26***	0.10***	
Participated in an education or training program	0.09**	0.02	0.21***	0.09**	0.03	
Completed an education or training program	0.09**	0.03	0.17***	0.12***	0.07*	
Pays bills on time "most of the time" or "very often"	0.04	0.06	0.01	0.12***	0.04	
Receives income from TANF	0.00	-0.01	0.00	0.02	-0.01	
Has a checking or savings account	0.07*	-0.04	0.00	0.08**	0.07*	
Amount in savings account (\$)	0.04	0.00	0.04	0.06	0.03	
Uses a spending plan or budget to keep track of monthly expenses	0.04	-0.02	0.06*	0.00	0.01	
Sample size	657	665	660	663	662	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.10. Predictive power of individual self-regulation measures on future outcomes (sample restricted to white respondents)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Self-regulation skills (se	econd follow-u	ıp)				
Emotional control and self-monitoring	0.69***	0.41***	0.12*	0.38***	0.37***	
Task monitoring, planning, and initiation	0.52***	0.62***	0.08	0.35***	0.33***	
Goal-setting and attainment	0.19***	0.21***	0.53***	0.34***	0.01	
Self-esteem	0.47***	0.42***	0.20***	0.60***	0.26***	
Employment self- regulation	0.55***	0.38***	0.06	0.36***	0.81***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sea	cond follow	-up)	
Average monthly earnings	0.06	0.10	0.14*	0.23***	0.04	
Average hours employed per week	0.11	0.13**	0.11*	0.24***	0.07	
Economic hardship scale (number of hardships) ^a	-0.28***	-0.22***	0.05	-0.19***	-0.28***	
Employment challenges: composite (six items) ^b	-0.28***	-0.22***	0.05	-0.17**	-0.21***	
Number of job search activities ^c	-0.02	0.06	0.31***	0.12*	-0.08	
Participated in an education or training program	0.07	0.04	0.10	-0.02	0.09	
Completed an education or training program	0.17**	0.13*	0.17**	0.06	0.06	
Pays bills on time "most of the time" or "very often"	0.13*	0.07	-0.02	0.02	0.17**	
Receives income from TANF	-0.09	-0.03	0.01	-0.09	0.01	
Has a checking or savings account	-0.01	-0.11	0.15**	0.04	-0.07	
Amount in savings account (\$)	0.06	-0.15**	-0.14**	0.05	0.08	
Uses a spending plan or budget to keep track of monthly expenses	0.10	0.12*	0.24***	0.02	0.15**	
Sample size	220	222	221	219	219	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.11. Predictive power of individual self-regulation measures on future outcomes (sample restricted to female respondents)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Self-regulation skills (se	econd follow-ı	(dr				
Emotional control and self-monitoring	0.65***	0.49***	0.15***	0.38***	0.37***	
Task monitoring, planning, and initiation	0.49***	0.64***	0.16***	0.38***	0.30***	
Goal-setting and attainment	0.19***	0.21***	0.46***	0.27***	0.05	
Self-esteem	0.40***	0.44***	0.23***	0.52***	0.27***	
Employment self- regulation	0.53***	0.40***	0.03	0.34***	0.87***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (see	ond follow	-up)	
Average monthly earnings	0.10***	0.11***	0.07**	0.15***	0.06**	
Average hours employed per week	0.08***	0.11***	0.10***	0.15***	0.05*	
Economic hardship scale (number of hardships) ^a	-0.15***	-0.16***	0.11***	-0.14***	-0.18***	
Employment challenges: composite (six items) ^b	-0.18***	-0.20***	0.06**	-0.15***	-0.14***	
Number of job search activities ^c	0.12***	0.17***	0.34***	0.17***	0.04	
Participated in an education or training program	0.08**	0.05	0.19***	0.08**	0.03	
Completed an education or training program	0.09***	0.06**	0.15***	0.09***	0.06*	
Pays bills on time "most of the time" or "very often"	0.03	0.06**	0.04	0.07**	0.06**	
Receives income from TANF	-0.03	-0.01	0.00	-0.03	0.00	
Has a checking or savings account	0.02	-0.06*	0.04	0.05*	0.04	
Amount in savings account (\$)	0.05	-0.01	-0.12***	-0.01	0.02	
Uses a spending plan or budget to keep track of monthly expenses	0.03	0.02	0.10***	0.00	0.03	
Sample size	1,114	1,126	1,119	1,122	1,116	

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.12. Predictive power of individual self-regulation measures on future outcomes (sample restricted to male respondents)

	Correlation (r) of self-regulation predictor measure (first follow-up)					
	Emotional control and self- monitoring	Task monitoring, planning, and initiation	Goal- setting and attainment	Self- esteem	Employment self- regulation	
Self-regulation skills (se	econd follow-u	ıp)				
Emotional control and self-monitoring	0.59***	0.48***	0.08	0.40***	0.43***	
Task monitoring, planning, and initiation	0.49***	0.57***	0.20**	0.38***	0.26***	
Goal-setting and attainment	0.27***	0.32***	0.61***	0.36***	0.20**	
Self-esteem	0.37***	0.28***	0.20**	0.47***	0.30***	
Employment self- regulation	0.36***	0.31***	0.07	0.28***	0.90***	
Future outcomes relate	d to employme	ent and economic	-wellbeing (sea	ond follow	-up)	
Average monthly earnings	0.14	0.17*	0.13	0.14	0.11	
Average hours employed per week	0.20**	0.23**	0.14	0.15	0.17*	
Economic hardship scale (number of hardships) ^a	-0.10	0.00	0.13	0.05	-0.12	
Employment challenges: composite (six items) ^b	-0.16*	-0.18*	0.02	-0.18*	-0.07	
Number of job search activities ^c	0.12	0.21**	0.45***	0.24**	0.12	
Participated in an education or training program	0.01	0.00	0.06	0.03	0.05	
Completed an education or training program	0.01	0.07	0.17*	0.12	0.10	
Pays bills on time "most of the time" or "very often"	0.17*	0.10	0.06	0.20**	0.09	
Receives income from TANF	0.00	0.00	-0.04	0.10	-0.08	
Has a checking or savings account	-0.04	-0.06	-0.01	-0.03	0.10	
Amount in savings account (\$)	0.03	0.03	-0.01	-0.02	0.01	
Uses a spending plan or budget to keep track of monthly expenses	0.06	0.04	0.16*	0.16*	0.08	
Sample size	113	113	113	112	112	

and a state second state

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: Because sample sizes vary by outcome, we report the largest sample size in each research group.

***/**/* Estimates are statistically significant at the .01/.05/.10 levels, respectively, using a two-tailed t-test.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.13. Likelihood ratio tests for the improvement of predictive power of self-regulation measures on future outcomes relative to sociodemographic variables

	Model improvement:					
	Add self- regulation to socio- demographic predictors (first follow- up)	p-value	Add socio- demographic to self-regulation predictors (first follow-up)	<i>p</i> -value		
Future self-regulation skills (second follow-up)		-	· ·			
Emotional control and self- monitoring	0.36	0.00	0.00	0.07		
Task monitoring, planning, and initiation	0.40	0.00	0.00	0.02		
Goal-setting and attainment	0.32	0.00	0.00	0.12		
Self-esteem	0.29	0.00	0.01	0.01		
Employment self-regulation	0.63	0.00	0.00	0.11		
Future outcomes related to emp	ployment and econ	omic-wellbe	ing (second follow-u	ıp)		
Average monthly earnings	0.00	0.06	0.52	0.00		
Average hours employed per week	0.01	0.00	0.39	0.00		
Economic hardship scale (number of hardships)ª	0.00	0.77	0.61	0.00		
Employment challenges: composite (six items) ^b	0.05	0.00	0.09	0.00		
Number of job search activities ^c	0.13	0.00	0.11	0.00		
Participated in an education or training program	0.11	0.00	0.02	0.05		
Completed an education or training program	0.07	0.00	0.03	0.03		
Pays bills on time "most of the time" or "very often"	0.02	0.07	0.08	0.00		
Receives income from TANF	-0.01	0.85	0.11	0.01		
Has a checking or savings account	0.01	0.06	0.28	0.00		
Amount in savings account (\$)	0.04	0.00	0.06	0.00		
Uses a spending plan or budget to keep track of monthly expenses	0.02	0.03	0.07	0.00		
Sample size	1,068		1,068			

Source: Evaluation of Employment Coaching first and second follow-up surveys.

Note: *p*-values of model improvement estimated using likelihood ratio tests. Sociodemographic predictors include participant's baseline-reported race/ethnicity, gender, number of children and adults in the household, and educational status, as well as their average monthly earnings, hours employed per week, and economic hardship score reported in the first follow-up survey. Because sample sizes vary by outcome, we report the largest sample size in each research group.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of childcare, or having a criminal record.

Table A.14. Improvement in predictive power of self-regulation measures on future outcomes relative to sociodemographic variables

		Best single self- regulation predictor		Model improvement:			
Outcome	Demographic predictors			Add self- regulation to demographic predictor	Add demographic to self- regulation predictor		
Self-regulation skills							
Emotional control and self- monitoring	0.29	EC	0.64	0.36	0.01		
Task monitoring, planning, and initiation	0.24	ТМ	0.63	0.40	0.01		
Goal-setting and attainment	0.20	GS	0.48	0.30	0.00		
Self-esteem	0.27	SE	0.51	0.26	0.02		
Employment self-regulation	0.26	SR	0.87	0.62	0.00		
Employment outcomes							
Average monthly earnings	0.69	SE	0.14	0.00	0.53		
Average hours employed per week	0.57	SE	0.15	0.01	0.40		
Economic hardship scale (number of hardships) ^a	0.85	SR	0.17	0.00	0.68		
Employment challenges: composite (six items) ^b	0.27	ТМ	0.20	0.04	0.11		
Number of job search activities ^c	0.36	GS	0.35	0.12	0.11		
Participated in an education or training program	0.10	GS	0.18	0.11	0.02		
Completed an education or training program	0.13	GS	0.15	0.07	0.04		
Pays bills on time "most of the time" or "very often"	0.14	SE	0.07	0.02	0.08		
Receives income from TANF	0.12						
Has a checking or savings account	0.38	ТМ	0.05	0.00	0.35		
Amount in savings account (\$)	0.15	GS	0.11	0.04	0.07		
Uses a spending plan or budget to keep track of monthly expenses	0.14	GS	0.11	0.03	0.06		
Sample size ^d	1,095	1,0)95				

Multivariate correlations (R)

Source: First and second follow-up Evaluation of Employment Coaching surveys.

Note: Sociodemographic predictors include participant's baseline-reported race/ethnicity, gender, number of children and adults in the household, and educational status, as well as their average monthly earnings, hours employed per week, and economic hardship score reported in the first follow-up survey. Because sample sizes vary by outcome, we report the largest sample size in each research group.

^a Number of economic hardships reported ranging from 0 to 6 that assessed the extent to which scarce economic resources affected key aspects of material well-being, such as food, housing, and medical care.

^b Six-item composite of challenges that made it very or extremely hard to find or keep a good job, such as lack of transportation, lack of child care, or having a criminal record.

^c Based on a combined measure of respondents' answers to how often they are looking for job openings, submitting a job application, or attending an interview.

EC = emotional control and self-monitoring; TM = task monitoring, planning, and initiation; GS = goal-setting and attainment; SE = self-esteem; SR = employment self-regulation.



