



Improving Outcomes Among Employment Program Participants Through Goal Attainment: A Conceptual Framework



OPRE Report No. 2017-90
June 2017

This page has been left blank for double-sided copying.

Improving Outcomes Among Employment Program Participants Through Goal Attainment: A Conceptual Framework

June 2017

Mary Anne Anderson
Jacqueline F. Kauff
Elizabeth W. Cavadel

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, D.C. 20201
Project Officer: Tiffany McCormack and Girley Wright
Contract Number: HHSP23320095642WC

Submitted by:

Mathematica Policy Research
1100 1st Street, NE
12th Floor
Washington, DC 20002-4221
Telephone: (202) 484-9220
Facsimile: (202) 863-1763
Project Director: Jacqueline F. Kauff
Reference Number: 50020.02.300.478.001

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Anderson, Mary Anne, Jacqueline F. Kauff, and Elizabeth W. Cavadel. (2017). Improving Outcomes Among Employment Program Participants Through Goal Attainment: A Conceptual Framework, OPRE Report #2017-90, 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 <https://www.acf.hhs.gov/opre>

This page has been left blank for double-sided copying.

TABLE OF CONTENTS

OVERVIEW	vii
MEMBERS OF THE TECHNICAL WORKING GROUP	ix
I. INTRODUCTION.....	1
II. FOUNDATIONAL RESEARCH SUPPORTING THE FRAMEWORK.....	3
A. Self-regulation skills.....	4
B. Goal achievement process	4
C. The environment.....	6
III. ELEMENTS OF THE CONCEPTUAL FRAMEWORK.....	9
A. An introduction to the conceptual framework	9
1. Cognitive skills	11
2. Emotional skills	12
3. Personality-related factors	12
C. Goal achievement process	13
1. Readiness for change	14
2. Goal setting	14
3. Goal pursuit.....	14
4. Evaluation	15
D. Personal goal attainment and increased self-sufficiency	15
E. The environment and the program context within it	16
F. Interventions	16
1. Interventions to strengthen self-regulation skills.....	17
2. Strategies intended to facilitate the goal achievement process.....	18
3. Strategies that address program context.....	20
IV. CONCLUSION AND IMPLICATIONS	23
REFERENCES.....	25

This page has been left blank for double-sided copying.

TABLES

III.1 Potential interventions 17

FIGURES

III.1 Conceptual framework 10

This page has been left blank for double-sided copying.

OVERVIEW

Introduction. Researchers, policymakers, and practitioners are increasingly interested in the role that self-regulation and goal attainment may play in the ability of low-income adults to get and keep a job. Findings from three broad areas of research fuel this interest. The first suggests that setting and pursuing goals, which can foster positive outcomes in a variety of contexts, requires the ability to self-regulate emotions, thoughts, and behavior (Deci and Ryan 2000). Second, there is growing evidence that conditions associated with poverty can hinder the development and/or use of self-regulation skills (Mullainathan and Shafir 2013). Third, there is evidence that self-regulation skills continue to develop and improve in adulthood (Blair and Raver 2015).

This document presents a conceptual framework suggesting new approaches to improving economic self-sufficiency and well-being outcomes for low-income adults participating in employment programs. Grounded in research on the importance of goals and the factors that contribute to attaining them, the framework suggests interventions that seek to improve participants' self-regulation skills and behaviors that can help them to achieve their goals. It also suggests ways that programs can change their practices to make it easier for participants to use their skills and increase the likelihood that they will reach their goals. Practitioners, policymakers, and researchers interested in exploring innovative strategies to promote self-sufficiency can use this framework to test new approaches. Creating new programs or incorporating these approaches into existing ones has the potential to address barriers to employment and improve the success of traditional education and occupational skills training.

Primary research questions. Three key questions drive this work: (1) How does existing research describe the psychological processes associated with goal achievement and differentiate between related constructs; (2) What does existing research say about improving goal achievement behavior in adults; and (3) What can we learn from existing programs that apply this research?

Purpose. Despite progress over more than 20 years to improve employment outcomes for low-income adults, self-sufficiency remains elusive for many families. The conceptual framework presented in this document presents a new approach that draws on psychology, neuroscience, and behavioral science to suggest ways to help adults with limited incomes find jobs and stay employed. The framework includes three interconnected components that can influence employment-related outcomes: self-regulation skills, the goal achievement process, and the environment in which people live and work and programs operate. It also provides concrete programming options for researchers, policymakers, and practitioners interested in designing new interventions in the context of employment programs.

Key findings and highlights. Self-regulation and goal attainment are promising areas of focus for employment programs. In our conceptual framework, self-regulation skills enable people to prepare for behavior change and to set, pursue, and evaluate goals (together, these actions are referred to as the goal achievement process). Engaging in a goal achievement process enables people to attain their personal employment-related goals, which eventually can lead to increased well-being and self-sufficiency. Aspects of the environment, including the program environment, can support or hinder the use of self-regulation skills and a person's engagement in

a goal achievement process. Evidence-informed interventions for strengthening self-regulation skills and goal achievement do exist, though none have been rigorously tested in the context of employment programs for low-income individuals. Employment and other programs funded by public or private agencies may be candidates for incorporating and testing these interventions, not only to build knowledge of whether and how they work, but also to provide an evidence base for the theoretical relationships presented in the framework.

Methods. This report is based on the following sources: (1) a synthesis of literature on the relationship between self-regulation, goal attainment, and the environment and on how programs have been or could be adapted to promote goal attainment; (2) consultations with experts, practitioners, and other stakeholders; and (3) telephone interviews and site visits to programs currently implementing interventions focused on improving self-regulation skills or goal attainment.

Citation. Anderson, Mary Anne, Jacqueline F. Kauff, and Elizabeth W. Cavadel. (2017). *Improving Outcomes Among Employment Program Participants Through Goal Attainment: A Conceptual Framework*, OPRE Report #2017-90, Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

MEMBERS OF THE TECHNICAL WORKING GROUP

We would like to thank the following members of the Goal Oriented Learning for Adult Self-Sufficiency's technical working group. The views expressed in this publication do not necessarily reflect the views of these members.

Elizabeth Babcock
President and Chief Executive Officer
Economic Mobility Pathways (EMPath)

Clancy Blair
Professor of Cognitive Psychology
New York University

Marilyn Fox
Professor of Management
University of Nebraska Cooperative Extension

Dick Guare
Psychologist
Seacoast Mental Health Center for Learning & Attention Disorders

Crystal Hall
Assistant Professor of Public Affairs
University of Washington

Philip Hong
Professor, School of Social Work
Loyola University Chicago

LaDonna Pavetti
Vice President, Family Income Support Policy
Center on Budget and Policy Priorities

Megan Smith
Director
New Haven MOMS Partnership

Corey Zimmerman
Senior Project Manager, Frontiers of Innovation
Center for the Developing Child, Harvard University

This page has been left blank for double-sided copying.

I. INTRODUCTION

Helping adults and their families attain self-sufficiency in the face of poverty is an important goal for policymakers. Temporary Assistance for Needy Families (TANF) and employment programs designed to help move low-income adults toward self-sufficiency have tried a variety of approaches to meet this objective. Increasingly, programs are focusing on helping participants set goals to enhance their ability to find jobs that will improve their economic well-being. This has sparked interest in the science behind goal setting and goal pursuit—and the skills required to succeed in these endeavors—to understand the best way to help people meet their goals. Evidence suggests that self-regulation—the ability to control thoughts, actions, and emotions (Blair and Raver 2012; Murray et al. 2015)—is necessary for both setting and pursuing goals. Research also suggests that self-regulation skills develop most rapidly in early childhood, but that they continue to develop and improve in adulthood and can be stymied by the experience of living in poverty (Blair and Raver 2015; Mullainathan and Shafir 2013). This, in turn, has led to interest in helping program participants meet their goals by designing new interventions informed by the self-regulation literature.

This document, developed as part of the Goal-Oriented Adult Learning in Self-Sufficiency (GOALS) project (see box), presents a conceptual framework for understanding the relationship between self-regulation, goal attainment, and employment outcomes. It offers policymakers, practitioners, and researchers innovative approaches to promoting self-sufficiency among low-income adults. Traditional employment programs have focused on providing education or vocational training to develop “hard skills” or alleviating other barriers to employment, such as problems related to transportation or child care. The framework provides new targets for interventions by illustrating the role that self-regulation, goal setting, and goal pursuit play in employment outcomes. It also factors in how context—where people live and work—influences their ability to self-regulate and to set and pursue goals. In doing so, the framework suggests how programs can foster an environment that maximizes participants’ potential to achieve their goals and increase their self-sufficiency. By developing new programs or incorporating these approaches into existing ones, policymakers, practitioners, and researchers have a unique opportunity to test the theoretical relationships in the framework and expand the knowledge base on which interventions work and who they work for.

The remainder of this document presents the conceptual framework’s background, key elements, and potential beneficiaries. In Chapter II, we summarize the foundational materials used to design the framework. In Chapter III we describe each component of the framework, the theorized relationships between the components, and the interventions intended to affect skills, goal-related behaviors, and ultimately, employment outcomes. We conclude in Chapter IV with a discussion of implications for policy and programming.

About the Goal-Oriented Adult Learning in Self-Sufficiency (GOALS) project

The Office of Planning, Research, and Evaluation (OPRE) at the U.S. Department of Health and Human Services, Administration for Children and Families (ACF) is investing in learning more about ways to enhance skills associated with setting and pursuing goals, particularly strategies that may help low-income adults achieve their employment goals and become self-sufficient. In 2014, OPRE awarded a contract to Mathematica Policy Research to conduct the GOALS project to explore how emerging insights from psychology, neuroscience, behavioral science, and goal achievement can inform employment programs for adults. Several project activities contributed to the development of the conceptual framework presented in this report, including (1) a literature synthesis that identifies self-regulation skills that may be most relevant for attaining employment-related goals and the environmental influences that can support or inhibit optimal use of these skills (Cavadel et al. 2017), (2) a forum during which practitioners, policymakers, and researchers shared insights about components included in the framework, and (3) telephone calls and exploratory site visits to observe and document how programs for low-income populations are trying to improve and support use of self-regulation skills and goal attainment and the successes and challenges they have faced.

II. FOUNDATIONAL RESEARCH SUPPORTING THE FRAMEWORK

The conceptual framework provides an evidence-informed model for interventions focused on self-regulation and goal attainment as a means to improve employment outcomes for low-income adults. It suggests that both a person's characteristics (for example, skills and personality-related factors) and factors within the person's environment (for example, other people or the economy) influence that person's behaviors and, ultimately, his or her employment outcomes. Our presentation of the relationships between these internal and external factors draws on two theoretical perspectives—(1) the bioecological model of development and (2) social cognitive theory. Neither focuses directly on self-regulation, goal attainment, or employment, but both account for how the environment can influence or shape people's actions and use of skills.

- **Bioecological model of development.** This model proposes that the interactions between individuals and their environment shape individuals' development over time, as well as their behavior as an adult, and that there are multiple layers of environmental influences on people's behavior (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). The layers can be depicted as concentric circles around a core that reflects a person's characteristics. The innermost circles consist of a person's most intimate social networks, such as family, school, or work. Intermediate layers contain broader circles of influence, such as economic trends, mass media, local politics and policies, and social services. The outermost layer includes influences such as the prevailing attitudes and beliefs in the country, societal norms, or racial and ethnic stereotypes (Bronfenbrenner 1994). In the context of our framework, the theory implies that people living in poverty may be exposed to multiple levels of environmental hardships, all of which interact with each other and have implications for the development and effective use of self-regulation skills.
- **Social cognitive theory.** According to this theory, people learn not only through their own experiences, but also by observing the actions of others, seeing the results of those actions, and replicating those actions (Bandura 2002). Successful replication of the actions of others depends on (1) self-efficacy—whether a person believes he or she can perform the observed behavior or action; (2) external responses to behavior—the nature of the responses the person receives as a consequence of his or her behavior; and (3) environment—whether or not the environment helps the person exhibit the behavior. This theory, which explains how people's behavior is influenced by those around them, links to another area of research that demonstrates the importance of caregivers and social networks (discussed in Section C below). People who have supportive relationships may learn and replicate the positive actions of others.

While the bioecological model and social cognitive theory provide context for the interaction between person and environment illustrated in the framework, the remainder of this chapter presents the underlying research that supports each discrete component of the framework and its role in fostering self-sufficiency—(1) self-regulation skills, (2) the goal achievement process, and (3) the environment.

A. Self-regulation skills

Setting and pursuing goals requires self-regulation (Bandura 1988, 1991; Latham and Locke 1991; Deci and Ryan 2000). Self-regulation has been defined in many ways (Zimmerman 2008). Psychologists and neuroscientists tend to view it as a set of cognitive and emotional skills that allow people to intentionally control their thoughts, emotions, and behavior (Blair and Raver 2012; Murray et al. 2015). In our conceptual framework, discrete cognitive and emotional skills, along with aspects related to personality, come under the umbrella of self-regulation because recent studies have revealed that certain factors related to personality play an important role in whether people attain their goals (Duckworth et al. 2007).¹ We focus on the cognitive and emotional skills that may be most relevant to employment outcomes as suggested by research (see Blair and Raver 2015; Murray et al. 2015). While these skills develop most rapidly in early childhood, they can continue to develop in adulthood (Blair and Raver 2015) and different people have different self-regulation strengths and weaknesses (Guare 2014; Dawson and Guare 2016). In Chapter III, we discuss the specific self-regulation skills and personality-related factors included in our framework, including evidence about how they may affect goal setting and pursuit. The GOALS synthesis report, “Self-Regulation and Goal Attainment: A New Perspective for Employment Programs” (Cavadel et al. 2017), summarizes the underlying research on each component of self-regulation presented in the framework.

B. Goal achievement process

Researchers typically define goal achievement as a two-step process consisting of first setting and then pursuing goals. These activities have long been studied as important ingredients for success across a variety of contexts (Burnette et al. 2013). Setting a goal essentially involves identifying a desired outcome, whereas pursuing it involves taking the steps to reach that outcome. Studies have proven that practice in goal setting, especially when goals broken into smaller steps or milestones, can enhance self-regulation skills (Oettingen et al. 2001; Schunk 2001). Research suggests, however, that people will neither set nor pursue goals if they are not cognitively and emotionally ready to do so. In designing the conceptual framework, we drew on two theoretical perspectives—(1) the transtheoretical model, and (2) the concept of a growth mind-set—to distinguish the mindset needed to successfully set and pursue goals.

- **Transtheoretical model.** This model of behavior change, which assesses a person’s readiness to practice positive behavior, proposes five theoretical stages of change that people experience over the course of modifying their behavior (Velicer et al. 1998):²
 1. **Pre-contemplation.** People are not ready to take action or change their behavior, and are unaware that their behavior is problematic.

¹ Personality has been characterized in many different ways. Psychologists debate how much of personality is fixed over the life course. There is emerging evidence that some factors related to personality continue to develop throughout adulthood (Roberts et al. 2006; Roberts and Mroczek 2008). We focus on three factors that research has shown vary, both across the life span and across contexts, and that are particularly related to the other aspects of self-regulation. We explicitly use the term “factors” instead of “traits” to suggest that these skills may be malleable.

² An individual’s stage is typically assessed through a small number of yes/no questions about current behavior, future intentions, and past attempts to change (Prochaska et al. 1994).

2. **Contemplation.** People start to realize their behavior is problematic and consider taking action to change it.
3. **Preparation.** People intend to take action in the immediate future and start making small behavior changes, including possibly setting goals.
4. **Action.** People actively modify their behavior to pursue their goals.
5. **Maintenance.** People have changed their behavior for at least six months and are working to prevent relapse into former behaviors.

According to the theory, the time spent in a particular stage varies from one person to the next, although everyone tends to go through a similar decision-making process when moving onto the next stage (Prochaska and Velicer 1997). The process involves comparing the potential gains (pros) and losses (cons) that will result from behavior change. When people believe the losses of changing outweigh the gains, they are characterized as being in the pre-contemplation stage. As the potential gains from changed behavior begin to hold greater value than the potential losses, people progress to the next stage. When people perceive the potential gains outweigh the potential losses, they take action to set and pursue goals (Velicer et al. 1998).

- **Growth mind-set.** According to this theory, there are two types of mind-sets people may have based on their reaction to failure—(1) a fixed mind-set or (2) a growth mind-set; people with a fixed mind-set believe they fail because they do not have the basic abilities required for success, whereas people with a growth mind-set believe that by exerting effort they can acquire a given ability (Dweck 2006). People with a fixed mind-set tend not to exert effort when presented with a challenge, assuming that their effort will be useless. On the other hand, people with a growth mind-set perceive a challenge as an opportunity to learn, grow, and effect change. Research suggests that people can move from a fixed mind-set to a growth mind-set. Achieving a growth mind-set can create motivation, enabling people to set and pursue goals, which can lead to positive outcomes in work, education, and other domains, as theorized by our conceptual framework.

Other research suggests that the goal achievement process is not linear but cyclical; feedback and self-reflection about both the process and outcomes can prompt people to change both their mind-set and behaviors until they meet their goals. To represent this idea in the conceptual framework, we drew on research by Phil Zelazo (a developmental psychologist and neuroscientist) and colleagues, explaining how children use executive function skills. Executive function is an umbrella term encompassing skills required for cognitive control. Zelazo and colleagues conceptualize executive function in the context of problem-solving, arguing that it “refers to the business of making decisions and carrying them out, as when one is deliberately trying to solve a problem” (Zelazo et al. 1997). In this conceptualization, executive function breaks down into the following four sub-functions: (1) representing, or identifying, a problem; (2) coming up with a plan to solve the problem; (3) carrying out that plan; and (4) evaluating what worked and did not work, and perhaps going back and tweaking the previous steps. Other researchers have used this model to explain how adults set, pursue, and achieve goals (Pavetti 2015), proposing that goal attainment in adulthood also involves an iterative four-step process: (1) representing, or identifying, the goal; (2) planning, or identifying the steps required to achieve the goal; (3) executing, or initiating and following through on the steps necessary to

achieve the goal; and (4) evaluating, or identifying and reflecting on successes and repeating earlier stages in the process if the goal has not yet been achieved.

C. The environment

People's interactions with their environment can shape self-regulation skill development in early childhood. Interactions with aspects of the daily environment also can affect adults' ability to use their skills and to set and pursue goals, even among those who have optimal developmental experiences in childhood. The impact of different experiences with the environment may vary considerably based upon an individual's biology, genetics, and temperament, as well as the context in which the experiences takes place. Three areas of research helped shape our presentation of environmental influences on self-regulation and goal attainment: (1) adverse experiences in childhood, (2) the stresses of living in poverty in adulthood, and (3) social relationships throughout life.

Adverse experiences in childhood. The literature documents extensively that environmental factors can impede the development of self-regulation, particularly during early childhood when self-regulation develops most rapidly (Zelazo et al. 2008; Best et al. 2009; Center on the Developing Child 2011; Wendelken et al. 2012). Research has demonstrated links between early exposure to a range of adverse experiences and disruption in the development of cognitive and emotional skills (Cicchetti and Toth 2005; Bick and Nelson 2016). These experiences may influence brain chemistry through stress, which has powerful effects on brain development, including prenatal development (Bosch et al. 2012; Shonkoff et al. 2012). Specifically, research indicates that stressful circumstances such as family instability, food insecurity, or exposure to violence, abuse, or neglect can disrupt the development of self-regulation skills (Belsky and de Haan 2011; Blair and Raver 2012; McLaughlin et al. 2014; Sanchez and Pollack 2009). In addition, orphanage rearing (Colvert et al. 2008; Bos et al. 2009), premature birth or complications during pregnancy (Luciana et al. 1999; Curtis et al. 2002; Feldman 2009), and prenatal alcohol exposure (Jacobson and Jacobson 2000) have all been linked to weakened self-regulation skills. These experiences may cause toxic stress, which is the effect of experiencing strong, frequent, or prolonged stress responses in the face of adversity without adequate adult support (Shonkoff et al. 2012; National Scientific Council on the Developing Child 2005, 2014). Prolonged and/or chronic exposure to stressors can create wear and tear on the body that can burden and damage multiple physical and cognitive processes, including brain functioning (McEwen 1998; Korte et al. 2005) and self-regulation in particular.

Stresses of living in poverty in adulthood. Adverse experiences in adulthood may also influence self-regulation skills (Mullainathan and Shafir 2013). The stressors associated with poverty, and the effect of those stressors on the body, may hinder optimal use of self-regulation skills (Kim et al. 2013; Blair and Raver 2016). Psychologists have long argued that people have limited capacity or "bandwidth" for using cognitive skills (Muraven and Baumeister 2000). By placing high demands on self-regulation, poverty uses or taxes some of that bandwidth, potentially rendering self-regulation skills less effective. Juggling public transportation, childcare, changing job shifts, caring for family on a limited budget, and navigating public assistance requirements, for instance, requires a high degree of organization, multi-tasking, inhibition, and emotional control. Using so many self-regulation resources to attend to the daily tasks of living leaves fewer resources for other purposes. In addition, poverty may also lead to

“tunneling,” or the tendency of people to focus intensively on their most pressing sources of financial stress and short-term needs at the expense of future needs. Tunneling can lead a person to make short-term decisions that alleviate urgent needs but cause greater financial challenges in the long run (Mullainathan and Shafir 2013).

Social relationships throughout life. In childhood, parents and other caregivers can influence self-regulation skill development. Caregivers who are warm and responsive in their interactions with children can directly support the development of self-regulation skills. As children learn to use their skills, caregivers act as “co-regulators,” who provide support, coaching, and modeling to help children understand, express, and regulate their thoughts, feelings, and behavior (Murray et al. 2015). The interactions and relationships that people have influence the use and development of self-regulation skills throughout their life span. “Co-regulation” in adulthood can be valuable in supporting the regulation of emotions in particular (Butler and Randall 2012). Positive relationships that convey mutual respect can lessen stress, thereby supporting, or at least not negatively affecting, the ability to use self-regulation skills. On the other hand, hostile or otherwise negative social interactions may increase stress and depress the ability to use self-regulation skills (Center on the Developing Child 2016).

This page has been left blank for double-sided copying.

III. ELEMENTS OF THE CONCEPTUAL FRAMEWORK

Our framework is based on three premises supported by the research described in Chapter II. First, everyone has some strong and some weak self-regulation skills. Second, because self-regulation skills can change throughout the life span, interventions in adulthood can support or improve those skills. Third, stronger self-regulation skills and goal-related behaviors can lead to achievement of short-term, employment-related goals. We theorize that achievement of employment-related goals will promote well-being and economic self-sufficiency in the longer term. These premises imply that, because all adults have skills that can improve, interventions to support self-regulation and goal attainment could be valuable not just in employment programs for low-income populations, but in programs targeted to other populations.

In this chapter, we first provide an introduction to the framework and then describe its core elements (Figure III.1): (1) self-regulation skills, (2) the goal achievement process, (3) outcomes of the goal achievement process (that is, personal employment-related goal attainment and increased well-being and self-sufficiency, and (4) the environment (including both the program context and the broader environment in which people live and work). We conclude the chapter by presenting examples of interventions that target each of these elements in order to facilitate personal goal attainment and ultimately increase levels of employment and self-sufficiency.

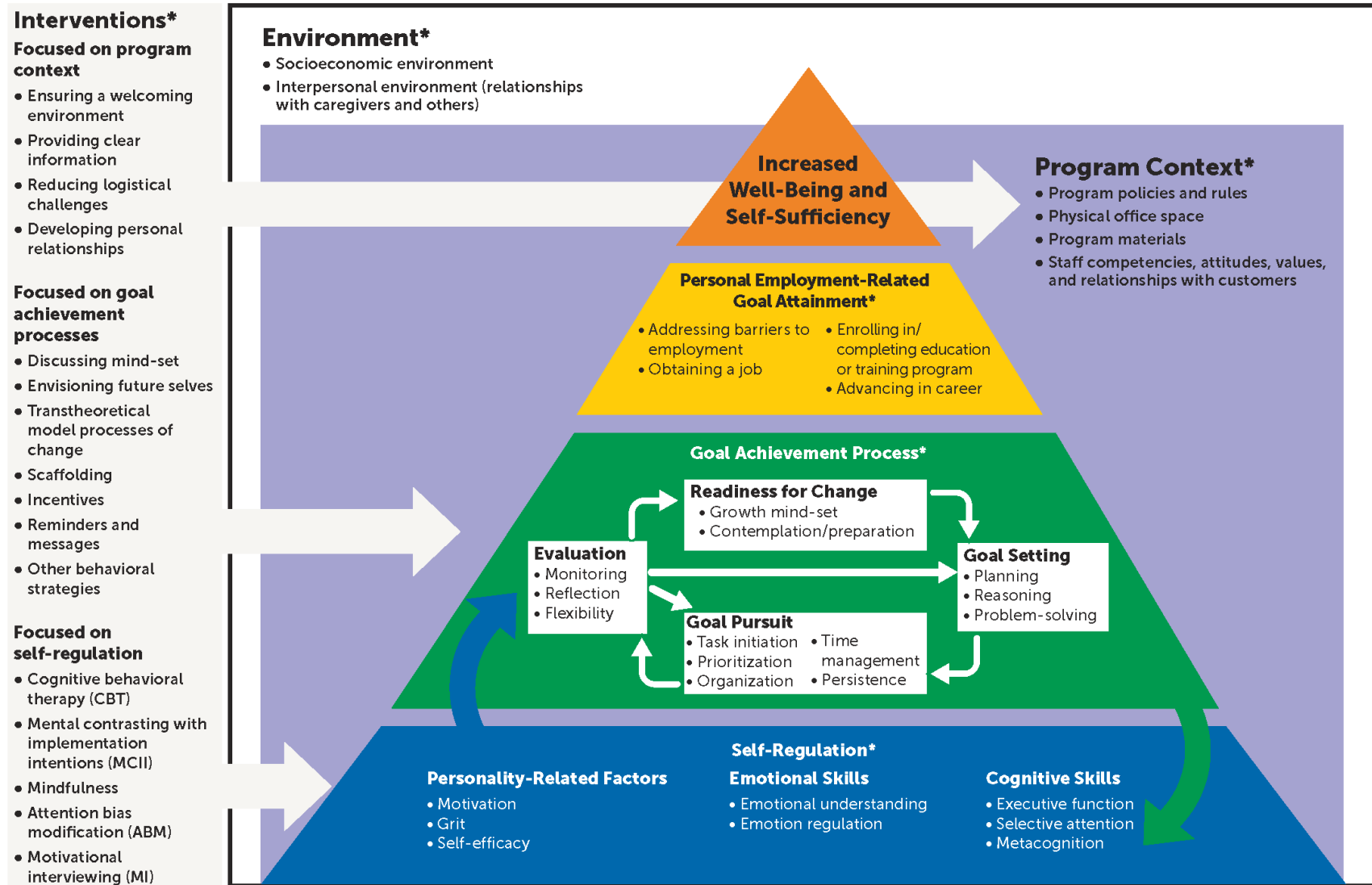
A. An introduction to the conceptual framework

Figure III.1 shows the core elements of the conceptual framework. In the framework, self-regulation enables people to engage in a goal achievement process, which in turn enables people to attain their personal employment-related goals, eventually leading to increased well-being and self-sufficiency. These components appear in a pyramid formation because exercising each element can help a person advance to the next element. Self-regulation, the first step on the pathway to the ultimate outcome of interest, provides the foundation for the framework. The relationship between this element and the goal achievement process is bidirectional; although self-regulation affects the goal achievement process, the practice of setting, pursuing, and evaluating goals can also enhance self-regulation skills. The two arrows that lead to and from the self-regulation and goal achievement components of the pyramid reflect this cycle.

The framework recognizes that people operate within and are influenced by the environments they live and work in. In the case of the populations TANF and employment programs target, the environment includes the place where people receive employment services. To show this, the pyramid is surrounded by a box representing the program context, which in turn is surrounded by a box representing the broader environment that people exist in and where programs operate.

Finally, the framework has an intervention box to the left of the pyramid to illustrate that approaches to improving short- and long-term employment and self-sufficiency outcomes through goal attainment can target (1) self-regulation skills, (2) the goal achievement process, or (3) the program context, as indicated by the three arrows originating from the interventions box and leading to each component. Programs approaches may target one or any combination of these three components. Although approaches could also target aspects of people's broader

Figure III.1. Conceptual framework



*Bullets illustrate key examples of these constructs.

socioeconomic or interpersonal environment, identifying and discussing these interventions is outside the scope of the GOALS project.³

B. Self-regulation skills

Within the framework, self-regulation skills include cognitive and emotional skills as well as personality-related factors that support the goal achievement process. In selecting the specific skills and factors to include, we focused on those that are most consistently included in various conceptualizations of self-regulation in the literature and most relevant to success in employment. We define and discuss each of the skills and factors in this section.

1. Cognitive skills

In our framework, cognitive skills include executive function, selective attention, and metacognition. Executive function skills are those necessary for cognitive control. Researchers conceptualize executive function in adulthood in different ways; some focus solely on skills or capacities (Diamond 2013, 2014; Zelazo and Muller 2002) whereas others concentrate on observable skills and behaviors that adults must use to effectively manage their lives, including their work (Bunge and Wallis 2007; Dawson and Guare 2009). We consider inhibitory control, working memory, and cognitive flexibility (not shown in figure) as the three key components of executive function that support people's ability to regulate their actions.

- **Inhibitory control** is the ability to stop automatic—but inadvisable—actions in favor of more appropriate ones (Rothbart and Rueda 2005). Pursuing a goal may require choosing between several paths and delaying immediate desires for longer term benefits. For example, someone may be tempted to skip or show up late for a job interview in order to take advantage of nice weather. However, when exercising inhibitory control that person would decide to arrive at the interview on time to avoid repercussions.
- **Working memory** is the ability to hold information in the mind while performing complex tasks (Moriya and Sugiura 2013). In the workplace, working memory allows people to follow multi-step directions or remember a phone number while dialing the phone.
- **Cognitive flexibility** is the ability to hold more than one idea at a time and to switch between tasks or thoughts as needed. This skill helps people evaluate new information and challenges, plan ahead, and respond flexibly when things do not go according to plan (Deák et al. 2004). It can also help people alter their approach to a goal without losing sight of the

³ Examples of such interventions that direct service programs can implement (and that one organization, called Economic Mobility Pathways—or EMPATH—that provides employment and other services to low-income families in Boston, Massachusetts implements) include (1) advocacy for affordable housing, affordable child care, and accessible postsecondary education and employment training for well-paying jobs, and (2) facilitation of supportive social networks among participants that include friends, family members, neighbors, and classmates or fellow program participants. Examples of interventions that are beyond the capability of a single direct service program include the implementation of social or economic development policies to alleviate poverty and address the shortage of livable wage jobs; actions to redress discriminatory practices in employment, housing, and other domains; neighborhood revitalization; expansion of health care; and tax policies that strengthen the Earned Income Tax Credit and Child Tax Credit for low-income workers and families.

goal itself (Pekrun et al. 2002). At a job, when people try to solve a problem and their solution fails, they use cognitive flexibility to come up with new solutions.

In addition to executive functioning, selective attention and metacognition are critical cognitive skills included in our framework. **Selective attention** enables people to attend to one particular aspect of a task in the face of other thoughts, information, and actions (Zelazo et al. 1997). In the context of a goal, this skill allows people to take the steps required to achieve their desired goal while filtering out extraneous or distracting information or activity. **Metacognition** allows people to reflect on their own thinking and actions (Flavell 1979; Achtziger et al. 2012). It allows them to be strategic—to plan future actions based on how they perceive their past actions, strengths and weaknesses—and to reflect on and imagine the consequences of potential choices and actions (Dawson and Guare 2016).

2. Emotional skills

The second core component of self-regulation is emotional skills. Research indicates that there is a reciprocal relationship between cognitive skills and emotions; emotions guide and are guided by thoughts, knowledge, and perceptions (Baumeister et al. 2010; Richards and Gross 2000; Gross 2002). Being able to manage emotions is important because it helps people interact with the world around them in a positive way (Izard 2010), make sense of or appraise situations, and get ready to act (Izard and Ackerman 2000; Cole et al. 2004). Emotion is also theorized to help people with goal-related actions—such as organizing, controlling impulses, and solving problems (Murray et al. 2015)—and affects people’s ability to pay attention to or stay focused on a task (Gross 2002). Emotion may also be linked to motivation (Izard 2013) because emotions generate energy that can be directed toward action in goal planning (Oettingen and Gollwitzer 2001). In the context of employment, greater emotional control may be directly related to the intensity people bring to activities such as a job search (Creed et al. 2009).

The two emotional skills we include in our framework are emotional understanding and emotion regulation. **Emotional understanding** allows people to recognize emotions in themselves and others, helping them generate strategies to make emotions manageable or useful and guiding their actions and energy toward goal planning (Oettingen and Gollwitzer 2001). **Emotion regulation** also helps people make emotions manageable or useful. Emotion regulation could involve lowering the level of emotional expression (“cooling off” when angry, for example) or raising this level (“up-regulating”). Being able to regulate emotions allows people to have the energy and motivation needed to persist in pursuing a goal (Gross and Thompson 2007; Giuliani et al. 2008). Both of these skills may be important in the workplace—emotional understanding helps people be conscious of other people’s feelings so they can decide how best to react to them, whereas emotion regulation allows people to react appropriately even in the face of stressful situations.

3. Personality-related factors

To complete the self-regulation component of our framework, we include three personality-related factors—(1) motivation, (2) grit, and (3) self-efficacy—that may be important in achieving goals. Evidence in this area is still growing, but these factors may be integral components of self-regulation, or they may moderate the interaction of other aspects of self-regulation and goal achievement. For example, research suggests that emotion and cognition

influence motivation, grit (or persistence), and self-efficacy, and that these characteristics in turn influence emotion and cognition (Crocker et al. 2013; Tamir et al. 2015). Moreover, evidence suggests that these characteristics are not fixed, but can develop or change throughout adulthood (Roberts et al. 2007; Roberts and Mroczek 2008) and are responsive to environmental influences (Bouchard and Loehlin 2001).

Given the potential relationship between these personality-related factors and self-regulation, all three factors may influence goal setting and pursuit. **Motivation** allows people to pursue, persevere, and accomplish tasks (Sansone and Harackiewicz 2000; Ryan and Deci 2000a). Research also indicates that goal setting is itself motivating (Locke and Latham 1990). In an employment context, motivation can drive people to participate in training programs to secure a desired job or to pursue raises, promotions, or other opportunities.

Grit refers to perseverance and passion for long-term goals that enables people to persist despite challenges (Duckworth et al. 2007). In goal pursuit, grit allows people to stay focused on both the goal and the tasks required to reach it (Duckworth et al. 2007). Also, grit may be linked to inhibitory control because it helps people persist in challenging tasks while also delaying gratification (Duckworth and Eskreis-Winkler 2013). Research suggests effort, not ability, governs grit and that people's tendency to be "gritty" increases throughout their lives (Duckworth and Yeager 2015). In a job, people may call upon grit to help them complete a particularly tedious or grueling task.

Lastly, **self-efficacy** is the belief people have in their ability to perform at a high level (Bandura 2012). Self-efficacy may help people persist toward achieving a goal (Deci and Ryan 2000; Chiaburu and Marinova 2005; Poulsen et al. 2014). Success in achieving goals also helps increase self-efficacy (Bandura and Locke 2003). In employment, self-efficacy may manifest in people's belief that they can accomplish a goal such as completing a challenging training course or work assignment. Self-efficacy can be threatened by a phenomenon called stereotype threat, in which culturally shared stereotypes suggesting poor performance by members of certain groups can, when made salient, disrupt the performance of an individual who identifies with that group (Steele and Aronson 1995).

C. Goal achievement process

Goal setting and goal pursuit have long been studied as two important components of success across a variety of contexts (Burnette et al. 2013). Evidence links meaningful goal setting and pursuit to healthy psychological functioning and positive life outcomes, including how satisfied people feel with their own lives (Diener et al. 1999; Koestner et al. 2002) and successful academic and work performance (Eccles and Wigfield 2002; Locke and Latham 2002). Our framework suggests that a certain mind-set is a necessary precursor to goal setting and goal pursuit, based on evidence that people must be willing to change before they take steps toward change. It also proposes that after pursuing a goal, people assess the extent to which they were successful, learn lessons from their experience, and, if they did not fully achieve their goal, revisit earlier steps in the process where they may have faltered and try them again. Thus, in our framework, the goal achievement process includes four, instead of two, components—(1) readiness for change, (2) goal setting, (3) goal pursuit, and (4) evaluation—which occur in

succession until evaluation potentially leads back to a previous step (as illustrated in the figure by arrows).

1. Readiness for change

As suggested by both the transtheoretical model and the concept of mind-set discussed in Chapter II (Velicer et al. 1998; Dweck 2006), people's readiness to change is malleable. Self-regulation skills may play a role in readiness to change. If a person's self-efficacy has been negatively impacted through stereotype threat, for instance, then that person's mind-set may not be conducive to setting and pursuing goals. Under the transtheoretical model, if a person's self-efficacy has been negatively impacted, that person may be in the pre-contemplative stage, and not necessarily perceive that the gains from changing behavior outweigh the losses. Skills such as motivation (for instance, motivation to provide a comfortable and secure environment for one's children) can support movement from pre-contemplation or contemplation to preparation for change.

2. Goal setting

Goal setting is the process of identifying a goal and establishing intermediate milestones (or measurable activities) toward achieving that goal. The latter is a critical component of goal setting because research suggests that imagining a desired outcome is not enough to make a goal achievable (Gollwitzer and Oettingen 2012; Gollwitzer and Moskowitz 1996). Rather, a person must also focus on what steps are needed to achieve the goal, including identifying barriers that stand in the way (Oettingen 2012). Therefore, how goals are set can affect the likelihood of their attainment (Mann et al. 2013). Goal setting, if done well, can be an important impetus for behavior change across many different contexts, including academic settings and job performance (Brown and Latham 2000; Latham and Locke 2007; Oettingen et al. 2001).

In our framework, goal setting, and in particular identifying action steps necessary to achieve a goal, involves planning (forward-thinking), reasoning (thinking in a logical manner), and problem-solving (thinking in an orderly manner to derive a solution to a problem). These three activities call upon self-regulation skills in various ways. For example, people use executive function and metacognition to plan and organize their approach to solving a problem, use emotion regulation to harness their cognitive skills to solve the problem, and rely on self-efficacy to believe they can achieve a desired outcome.

3. Goal pursuit

Goal pursuit is the process by which people strive toward achieving previously formed wishes and desires (in other words, the goals that they set) (Gollwitzer and Brandstätter 1997). Empirical research indicates that goal pursuit is more likely to be sustained if people are motivated to pursue their goals, and people are likely to be motivated if conditions are structured to meet three basic psychological needs: (1) competence—having control or mastery over an outcome; (2) autonomy—being able to act as they so desire; and (3) relatedness—being able to interact with and connect with others (Deci and Ryan 2000). Therefore, motivation and goal

pursuit are closely linked, representing both the willingness to pursue the goal as well as the path to achieving it. In our framework, goal pursuit involves at least five key behaviors:⁴

1. **Task initiation**—starting on a task
2. **Prioritization**—ranking tasks in order of importance
3. **Organization**—taking an efficient, systematic, and orderly approach to handling a task
4. **Time management**—scheduling tasks efficiently
5. **Persistence**—continuing on a task despite challenges or setbacks

In addition to motivation, other aspects of self-regulation may influence the ability to successfully engage in these behaviors. To illustrate, cognitive skills such as executive function and metacognition may help people initiate a task and prioritize, organize, and manage their time most efficiently; emotional skills and grit may help people persist in tasks.

4. Evaluation

Our conceptualization of evaluation draws on the work of Zelazo and colleagues (1997) and Pavetti (2015) described in Chapter II. Evaluation is the process of assessing whether a goal was achieved—that is, contemplating what went right, what went wrong and why, and what could be done differently next time. A person who achieves a goal can reflect on the lessons learned from the goal achievement process and use them to set and pursue new goals. A person who does not achieve a goal could use the lessons to change his or her approach to earlier steps of the process, including how he or she behaved at various stages, or whether to adjust the goal itself. Although people typically evaluate at the end of the process, they can also evaluate after one or more steps along the way.

In our framework, evaluation requires three distinct actions. First, monitoring enables people to continually review their progress toward achieving their goals by completing specific tasks. Second, reflection enables people to consider past actions and use what they learned from those actions to inform future ones. Finally, flexibility enables people to use new information about their achievements or challenges to adjust their behaviors in pursuit of better outcomes. In the framework, reviewing progress, reflecting on what has happened, and then responding flexibly are all critical to reaching a goal.

D. Personal goal attainment and increased self-sufficiency

In the conceptual framework, reliance on self-regulation skills to engage in a goal achievement process leads to fulfillment of personal goals. In the context of employment programs, people may choose to set and pursue many types of goals that may increase their earning capacity. Such goals could be short- or mid-term—such as planning a career, overcoming barriers to employment (such as physical or mental health problems, child care, or transportation challenges), enrolling in or completing an education or training program, getting a job, or advancing in a career. This portion of the framework draws on research findings

⁴ We have constructed this list based on the varying ways in which other researchers conceptualize behavioral skills that help adults execute plans (Bunge and Wallis 2007; Dawson and Guare 2009; Diamond 2013; Diamond 2014).

presented earlier by Brown and Latham 2000, Latham and Locke 2007, and Oettingen et al. 2001. Eventually, we expect that achieving these short- or mid-term goals will lead to better long-term outcomes, including employment stability, employment growth, and increased well-being and self-sufficiency.

E. The environment and the program context within it

As discussed in Chapter II, people do not operate in a vacuum but in their respective environments, and aspects of their surroundings can influence their behavior. Environmental factors, such as family and peer relationships, neighborhoods, social and economic policies, and the labor market conditions, can either support or hinder use of self-regulation skills, engagement in a goal achievement process, and attainment of goals. In our framework, these environmental factors fall into two categories: (1) socioeconomic and (2) interpersonal.

As the framework graphic depicts, programs operate within the broader environment. For participants of employment programs, various aspects of the program context—such as policies and rules, organizational structure, and staff values, attitudes, competencies, and relationships with each other and with participants—can influence how they think, feel, and behave. The administrative requirements of some programs, including programs that seek to help participants set and pursue goals, may inadvertently impede participants' progress by overwhelming their cognitive capacity. For instance, programs such as TANF and the Supplemental Nutrition Assistance Program (SNAP) often require people to complete extensive paperwork, compile many documents, and visit the program office several times to apply. These requirements necessitate applicants being available during office hours, having access to transportation, and making arrangements for child care. Given the responsibilities of making ends meet with limited financial resources, some people may not be able to marshal the material resources or cognitive bandwidth to complete the process. A large body of literature indicates that complicated application processes are related to lower participation rates (Zedlewski and Rader 2005; Rosenberg et al. 2008; Burstein et al. 2009; Adams and Matthews 2013). Once applications are completed, other program demands—such as meetings with program staff at inconvenient hours or requirements to complete and submit additional paperwork on their participation in program activities or time at work—may also be high. As well as taxing cognitive bandwidth, programs may hurt self-efficacy by exposing a person's need for assistance, which may trigger a stereotype threat (Blair and Raver 2015). Office décor and physical arrangement and how staff interact with participants can also affect participants' self-efficacy, motivation, and emotional skills.

F. Interventions

In this section, we present interventions and strategies that focus on each of three key components of the conceptual framework: (1) self-regulation skills, (2) the goal achievement process, and (3) the program context. Program operators may choose to implement one or a combination of the interventions and strategies within or across components. Table III.1 lists examples of these interventions and strategies, which are color-coded to match the components they target in Figure III.1. The table includes those interventions targeting self-regulation skills that have rigorous evidence of effectiveness in strengthening adults' self-regulation in contexts other than employment programs (no interventions have been developed specifically for employment-related contexts or tested in relation to improving employment outcomes). For details on the efficacy of the interventions we discuss in this section, see the GOALS synthesis

report (Cavadel et al. 2017). The strategies we include related to goal achievement processes and the program context are informed by research but have not been rigorously tested. We describe examples of how employment programs for low-income adults apply these interventions and strategies in practice in a forthcoming paper.

1. Interventions to strengthen self-regulation skills

Cognitive behavioral therapy (CBT). One of the most researched forms of psychotherapy, CBT is designed to change a pattern of thoughts, beliefs, or attitudes in order to change behavior and emotion (Beck 2005; Heller et al. 2013). A trained clinician typically delivers CBT in either group or individual sessions, with the person in therapy practicing certain behaviors in daily life between sessions.

Table III.1. Potential interventions and strategies

Focused on self-regulation
Cognitive behavioral therapy (CBT)
Mental contrasting with implementation intentions (MCII)
Mindfulness
Attention bias modification (ABM)
Motivational interviewing (MI)
Focused on goal achievement processes
Discussing mind-set
Envisioning future selves
Transtheoretical model processes of change
Scaffolding
Incentives
Reminders and messages
Other behavioral strategies
Focused on program context
Ensuring a welcoming environment
Providing clear information
Reducing logistical challenges
Developing personal relationships

Mental contrasting with implementation intentions (MCII). MCII is a behavioral strategy intended to help people commit to and achieve goals through a two-step process: (1) mental contrasting and (2) forming an implementation intention (Oettingen and Gollwitzer 2010; Kirk et al. 2013). Mental contrasting is a process in which people consider all the reasons why their current situation does not match their desired future and why they have not yet achieved their goal (that is, the barriers and challenges blocking them from achieving the goal). An implementation intention takes the form of an if/then statement that links a challenge an individual may encounter during pursuit of a goal and the planned response to that challenge—for instance, “if X occurs, then I will do Y” (Oettingen 2015). A trained facilitator can lead people through MCII in a group setting or individually; once people learn the method, they can also practice MCII on their own or with support from a smartphone app.

Mindfulness. Mindfulness interventions teach people to purposefully direct their attention to what is happening in the moment and to monitor their feelings without judgment, instead of defaulting to automatic or negative thoughts and behaviors (Brantley 2005). Mindfulness interventions are also intended to increase tolerance for distress in order to prevent automatic reactions or behaviors without forethought (Kristeller et al. 2006; Caldwell et al. 2012). Mindfulness activities may be incorporated into other activities (for instance, by devoting ten minutes of a group workshop to meditation).

Attention bias modification (ABM). ABM training techniques intend to direct attention away from distracting or negative stimuli and thereby allow a person to focus on more positive or adaptive behaviors. The technique is based on the idea that people tend to direct their attention toward threatening cues in their environment (referred to as biased toward threat), which leads to increased anxiety. ABM is self-administered through computer-based training modules (Bar-Haim 2010). Although it is typically delivered in a lab, studies suggest that ABM can also be effectively delivered through a smartphone or another communication device (Kerst and Waters 2014).

Motivational interviewing (MI). MI is a goal-oriented, person-centered counseling approach intended to help people overcome obstacles in order to achieve positive behavior change, usually in the context of some specific problem or challenge a person is facing. It focuses on helping people identify and remove barriers to a desired outcome so that the person, rather than someone else or an outside force, generates the motivation to change (Rollnick and Miller 1995). MI is typically delivered in one-on-one settings and requires a strong alliance between the professional and the participant. It also involves the professional's use of reflective listening, open-ended questions, and empathy, as well as affirmations and reinforcements of a participant's statements (Faris et al. 2009).

2. Strategies intended to facilitate the goal achievement process

Discussing mind-set. Educating people about the concept of mind-set and the potential value of having a growth mind-set has been shown to improve a person's readiness for change and encourage people to pursue goals, change behavior, and achieve other outcomes. Strategies to change mind-set often include discussing how brains can grow, change, and learn new things through effort, and having people communicate this information to others in order to reinforce it (Dweck et al. 2014).

Envisioning future selves. This intervention, which also focuses on mind-set, is designed to help people become ready for change by asking them to envision a future self (that is, who they could or hope to become in the future) as well as the steps they could take to become that future self. For example, in one program, high school students took part in a 10-session workshop during which they envisioned who they would like to be as an adult, what challenges they might encounter in the process of becoming that person, and how to address those challenges. They created specific goals to realize their imagined future selves and elaborated on how to pursue those goals (Dweck et al. 2014).

Transtheoretical model processes of change. The transtheoretical model proposes 10 interventions called "processes of change," which are activities intended to lead people through the five stages of change. Four specifically intend to change mind-set, by helping people move

from pre-contemplation to contemplation and preparation for change (see box) (Prochaska et al. 2008).

Processes of change: interventions relevant to changing mind-set

- **Consciousness raising** involves increasing a person’s awareness about the causes, consequences, and ways to resolve problematic behavior. Interventions may include providing feedback, confronting the person about the behavior, or giving the person educational materials to read.
- **Dramatic relief** encourages action by affecting a person’s emotions; this may involve role playing, personal testimonies, discussion of the risks the person is taking, and media campaigns.
- **Self-re-evaluation** asks people to evaluate themselves as taking part or not taking part in certain behaviors. Typical techniques involved in this intervention include talking about values and healthy role models, as well as asking people to imagine themselves in different situations.
- **Environmental re-evaluation** asks people to think about how their behavior affects their social environment—for example, the impact that their criminal activity could have on their family members and friends. This can include talking about being a positive or negative role model for others; training on empathy; and use of documentaries, testimonials, and family interventions.

Scaffolding. This strategy is defined as a supportive, individualized learning process that helps people pursue and eventually meet their goals. Cognitive scaffolding entails providing feedback, asking questions, and offering hints to address gaps in understanding the material or information being discussed. Motivational scaffolding entails teaching goal setting, modeling behavior, and prompting actions to help people pursue goals. Using both types of scaffolding may be helpful for people in employment programs. For example, program staff may provide cognitive scaffolding for a participant preparing for a vocational certification exam by administering multiple practice quizzes, providing feedback on performance on those quizzes, and talking through correct responses to questions the participant did not get right.

An important aspect of scaffolding is that it is temporary—as the participant’s abilities increase, the practitioner progressively withdraws support (Babcock 2012), and eventually the participant can complete tasks independently (Guare 2014). Comparable to the role of co-regulators in childhood, scaffolding provides an opportunity for one adult to support and model behavior for another while also providing guidance on how to break a goal down into smaller chunks.

Incentives. Monetary or other types of rewards can increase persistence in pursuing goals (Baumeister et al. 2005; Pope and Harvey-Berino 2013). Knowing that goal achievement, or achievement of milestones in pursuit of an end goal, will result in a tangible and concrete reward or positive reinforcement of some kind has been shown to help people overcome challenges or hurdles on the way to achieving their goal (Dawson and Guare 2016).

Reminders and messages. Reminders and messages help draw people’s attention to specific information and may help spur goal pursuit behaviors, such as task initiation, organization, prioritization, and time management to achieve desired outcomes (Milkman et al. 2012; Mayer et al. 2015). For example, an employment program could use text messages to prompt people to apply to a job, or use calendar reminders to help them remember that an application deadline is approaching. The use of such reminders or messages may be especially important for people involved in employment programs, who may have several competing priorities in addition to the stress that comes from living in poverty.

Other behavioral strategies. The field of behavioral economics suggests other strategies that can influence people’s behavior. These strategies typically involve small environmental changes that “nudge” people to make decisions or behave in a way that suits their best interest (Richburg-Hayes et al. 2014). For example, there is evidence that commitment devices, or tools through which people commit to a certain behavior either publicly or privately, increase the potential that a person will maintain behavior that moves him or her toward a goal (Bryan et al. 2010). Other evidence suggests that social influence (for instance, using the power of a peer group to change behavior) and feedback (providing ongoing information to help people assess their own behavior) can also be effective. More examples of behavioral strategies can be found in Cavadel et al. (2017).

3. Strategies that address program context

Changes to the environmental context can influence how and how well people are able to use their self-regulation skills and engage in a goal achievement process. As noted, specifying interventions to effect change in the socioeconomic environment or people’s interpersonal environments is beyond the scope of this project. Below, we summarize some examples of how to structure program contexts to best support goal-directed skills and behaviors.

Ensuring a welcoming environment. Research suggests that environments that are clean, organized, and free from distraction and noise can be welcoming, calming, and promote better comprehension among program participants (Babcock 2014). Programs may draw on lessons learned from environment psychology, a field that focuses on designing or managing environments to promote certain types of behavior or solve specific challenges (Prochansky 1987). For example, working in an office or a space blocked off by partitions can heighten the sense of privacy and alleviate the sense of being crowded, and decorating a space can enhance the sense of its personalization (Prochansky 1987). Other environmental considerations that may influence people’s behavior and emotional responses include furniture arrangements, the presence of plants and artwork, lighting, and proximity to a window (Friedman 2014).

Providing clear information. Programs can take steps to ensure that information is clear and easy to understand in order to help participants who may have trouble focusing or paying attention if demands on their cognitive bandwidth are too high. In addition to producing material at an appropriate reading level, this may involve repeating information, conveying it in many different modes, and using organizational tools to support comprehension and goal setting. Examples of tools to aid in comprehension include tip sheets and post-meeting summaries that people can refer to later to jog their memory and aid in their pursuit of a goal or task (Babcock 2014; Ruiz De Luzuriaga 2015).

Reducing logistical challenges. Being cognizant of the time and travel requirements for program activities may be helpful because people whose incomes are limited typically also have considerable constraints on other resources including their time (Babcock 2014). For example, programs could have staff travel to locations convenient to participants to deliver services; set up mobile offices in neighborhoods where the participants live; or provide online tools that participants can access from their homes or other places that are convenient to them.

Developing personal relationships. Practitioners who provide employment services for adults have noted the importance of building positive relationships within a program context. Because of the effect that social relationships can have on self-regulation skills, coaching relationships between program participants and staff have been promoted as a way to help participants build both self-regulation skills and a growth mind-set, enabling them to change their behavior (Ruiz De Luzuriaga 2015).⁵ Two specific techniques that practitioners have endorsed to facilitate positive relationships with participants include (1) building rapport to establish and maintain trust and encourage participants to seek out staff for advice, and (2) using “a sincere and encouraging tone” to help participants feel more at ease (Prosperity Agenda 2016; Dominguez and Watkins 2003; Lowe 2012). Relatedly, whether participants believe that program staff will maintain their confidentiality can affect whether they seek out support from program staff or include staff in their support networks (Dominguez and Watkins 2003). In addition, maintaining a strengths-based focus in conversations with participants can encourage positivity in relationships and place the focus on possibilities for positive change instead of on challenges or weaknesses (Prosperity Agenda 2016; Lowe 2012). Once they establish a trusting relationship, coaches can act as co-regulators, providing support and modeling behavior as participants practice self-regulation and engage in the process of achieving goals. Peer mentoring and discussion groups are ways that programs can promote the development of positive relationships among participants themselves.

⁵ Definitions of coaching vary, but according to experts in the fields of life and executive coaching and financial coaching, coaching should meet at least the following criteria: (1) be collaborative and not directive; (2) be individualized; (3) be ongoing; (4) be outcome- and solution-focused; (5) involve goal setting by the client with assistance from the coach; (6) involve collaboratively developing action steps for meeting those goals; (7) involve helping clients learn the skills to set goals and work toward meeting those goals without the coach; (8) be aimed at enhancing the client’s motivation; and (9) hold the client accountable for the outcomes and hence include monitoring and evaluating the client’s progress (Collins and O’Rourke 2012; Grant 2012).

This page has been left blank for double-sided copying.

IV. CONCLUSION AND IMPLICATIONS

Programs seeking to help adults achieve economic self-sufficiency may be able to find new solutions by integrating lessons from psychology, neuroscience, behavioral science, and goal achievement into their interventions. A framework that recognizes how self-regulation skills, goal-related behaviors, and environmental context can be targeted to achieve self-sufficiency outcomes may help policymakers design more effective employment programs. The framework outlined in this document suggests the skills, behaviors, and program features that could be affected through specific interventions or strategies. It was designed in an interactive process that included stakeholder consultations, a literature synthesis, and phone calls and visits to pioneering programs that are already implementing strategies informed by the research on self-regulation and goal achievement.

The conceptual framework presented here can be used by practitioners, funders, and policymakers. Practitioners may reflect on how their existing and developing employment programs could be modified to incorporate interventions and strategies that target self-regulation skills, the goal achievement process, and changes to program context. Funders may use the framework to prioritize support for programs that have developed or hope to develop such interventions. Policymakers may use it to consider policies that encourage the development or adoption of these interventions or to test models based on the framework.

Although the conceptual framework focuses on how practitioners, funders, and policymakers can promote families' economic well-being and self-sufficiency in the context of employment services and programs, it can be applicable in a variety of contexts. In pursuing its mission of promoting the economic and social well-being of families, children, individuals and communities, ACF programs serve a range of vulnerable populations. Examples include public assistance recipients, noncustodial parents, Native Americans, parents of children in the child welfare system, and refugees and asylees. While programs targeting specific populations may ultimately seek to effect different key outcomes (for instance, programs for noncustodial parents may seek to increase child support payments and parents' engagement with their children, while programs for parents attached to the child welfare system may seek to preserve or unify families and prevent child maltreatment), all adult populations within ACF's purview could benefit from improved employment outcomes and thus can benefit from the concepts and approaches presented in the framework.⁶ Moreover, by including a focus on self-regulation and goal attainment, programs serving these populations may help participants realize other desired outcomes.

The framework presented here reflects the existing research base and lessons from stakeholders; it will be important to rigorously test not just whether and how programs work when they apply the framework, but also the theoretical relationships presented in the framework. Although various employment programs for low-income adults have undergone rigorous evaluations, many of the interventions and strategies considered in this framework have not. In addition, limited evidence supports the linkages between specific self-regulation skills

⁶ ACF also serves various youth populations that can benefit from improved employment outcomes and thus the conceptual framework. They include youth in the child welfare system, runaway and homeless youth, teen parents, and youth at risk of becoming dependent on public assistance.

and specific goal-related behaviors. This framework presents a foundation for future rigorous tests of the interventions and strategies—as well as the proposed linkages among components in the framework—in the context of employment programs for low-income adults. OPRE’s current Evaluation of Coaching-Focused Interventions for Hard-to-Employ TANF Clients and Other Low-Income Populations is designed to provide experimental evidence about whether interventions that focus on self-regulation and goal attainment have an impact on employment outcomes. Additional studies could add to the evidence base.

New and innovative models may be necessary to help low-income populations achieve self-sufficiency. An approach that takes into account the realities that these adults and their families face, as well as the skills, behaviors, and mind-sets that could help them progress toward self-sufficiency, may be more effective than traditional employment program services. By targeting these specific areas for intervention, application of this framework may ultimately lead to better outcomes.

REFERENCES

- Achtziger, A., S. Martiny, G. Oettingen, and P. Gollwitzer. "Metacognitive Processes in the Self-Regulation of Goal Pursuit." In *Social Metacognition*, edited by Pablo Briñol and Kenneth DeMarree. New York: Psychology Press, 2012.
- Adams, G., and H. Matthews. "Confronting the Child Care Eligibility Maze: Simplifying and Aligning with Other Work Supports." Washington, DC: The Urban Institute, December 2013.
- Babcock, E. "Mobility Mentoring." Boston, MA: Crittenton Women's Union, 2012.
- Babcock, E. "Using Brain Science to Design New Pathways Out of Poverty." Boston, MA: Crittenton Women's Union, 2014.
- Bandura, A. "On the Functional Properties of Perceived Self-Efficacy Revisited." *Journal of Management*, vol. 38, no. 1, January 2012, pp. 9–44.
- Bandura, A. "Self-Regulation of Motivation and Action Through Goal Systems." In *Cognitive Perspectives on Emotion and Motivation*, edited by Vernon Hamilton, Gordon Bower, and Nico Frijda. Dordrecht: Kluwer Academic Publishers, 1988.
- Bandura, A. "Social Cognitive Theory of Mass Communication." In *Media Effects: Advances in Theory and Research*, edited by Jennings Bryant and Mary Beth Oliver. New York, NY: Routledge, 2002.
- Bandura, A. "Social Cognitive Theory of Self-Regulation." *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, 1991, pp. 248–287.
- Bandura, A., and E. Locke. "Negative Self-Efficacy and Goal Effects Revisited." *The Journal of Applied Psychology*, vol. 88, no. 1, Feb. 2003, pp. 87–99.
- Bar-Haim, Y. "Research Review: Attention Bias Modification (ABM) – A Novel Treatment for Anxiety Disorders." *Journal of Child Psychology and Psychiatry*, vol. 51, no. 8, 2010, pp. 859–870.
- Baumeister, R., C. Dwall, N. Ciarocco, and J. Twenge. "Social Exclusion Impairs Self-Regulation." *Journal of Personality and Social Psychology*, vol. 88, no. 4, 2005, pp. 589–604.
- Baumeister, Roy, C. Nathan DeWall, Kathleen Vohs, and Jessica Alquist. "Does Emotion Cause Behavior (Apart from Making People Do Stupid, Destructive Things)." In *Then a Miracle Occurs: Focusing on Behavior in Social Psychological Theory and Research*, edited by Christopher Agnew, Donal Carlston, William Graziano, and Janice Kelly. New York, NY: Oxford University Press, 2010.
- Beck, A. T. "The Current State of Cognitive Therapy: a 40-Year Retrospective." *Archives of General Psychiatry*, vol. 62, no. 9, 2005, pp. 953–959.

- Belsky, J., and M. de Haan. "Annual Research Review: Parenting and Children's Brain Development: The End of the Beginning." *Journal of Child Psychology and Psychiatry*, vol. 52, no. 4, 2011, pp. 409–428.
- Best, J., P. Miller, and L. Jones. "Executive Functions After Age 5: Changes and Correlates." *Developmental Review*, vol. 29, no. 3, September 2009, pp. 180–200.
- Bick, J., and C. A. Nelson. "Early Adverse Experiences and the Developing Brain." *Neuropsychopharmacology*, vol. 41, no. 1, 2016, pp. 177–196.
- Bishop, S. R., M. Lau, S. Shapiro, L. Carlson, N. D. Anderson, J. Carmody, Z. V. Segal, S. Abbey, M. Speca, D. Velting, and G. Devins. "Mindfulness: A Proposed Operational Definition." *Clinical Psychology: Science and Practice*, vol. 11, 2004, pp. 230–241.
- Blair, C., and C. Raver. "Poverty, Stress, and Brain Development: New Directions for Prevention and Intervention." *Academic Pediatrics*, vol. 16, no. 3, 2016, pp. S30–S36.
- Blair, C., and C. Raver. "Improving Young Adults' Odds of Successfully Navigating Work and Parenting: Implications of the Science of Self-Regulation for Dual-Generation Programs." Draft report submitted to Jack Shonkoff, Center on the Developing Child, Harvard University, January 2015.
- Blair, C., and C. Raver. "Child Development in the Context of Adversity: Experiential Canalization of Brain and Behavior." *American Psychologist*, vol. 67, 2012, pp. 309–318.
- Bos, K., N. Fox, C. Zeanah, and C. Nelson III. "Effects of Early Psychosocial Deprivation on the Development of Memory and Executive Function." *Frontiers in Behavioral Neuroscience*, vol. 3, no. 16, 2009.
- Bosch, N.M., H. Riese, S. A. Reijneveld, M. P. Bakker, F. C. Verhulst, J. Ormel, and A. J. Oldehinkel. "Timing Matters: Long Term Effects of Adversities from Prenatal Period up to Adolescence on Adolescents' Cortisol Stress Response. The TRAILS Study." *Psychoneuroendocrinology*, vol. 37, no. 9, September 2012, pp. 1439–1447.
- Bouchard, T. J. Jr., and J. C. Loehlin. "Genes, Evolution, and Personality." *Behavior Genetics*, vol. 31, no. 3, 2001, pp. 243–273.
- Brantley, J. "Mindfulness-Based Stress Reduction." In *Acceptance and Mindfulness-Based Approaches to Anxiety*, edited by S. Orsillo and L. Roemer. New York: Springer US, 2005.
- Bronfenbrenner, Urie. "Ecological Models of Human Development." In *International Encyclopedia of Education*, vol. 3, second edition, edited by T.N. Postlethwaite and Torsten Husen. Oxford, UK: Elsevier, 1994.
- Bronfenbrenner, Urie and S. J. Ceci, "Nature-Nurture Reconceptualized in Developmental Perspective: A Bioecological Model." *Psychological Review*, vol. 101, no. 4, 1994, pp. 568–586.

- Bronfenbrenner, Urie and Pamela A. Morris. "The bioecological model of human development." *Handbook of Child Psychology* (2006).
- Brown, T., and G. Latham. "The Effects of Goal Setting and Self-Instruction on the Performance of Unionised Employees." *Industrial Relations* (Canadian), vol. 55, no. 1, winter 2000, pp. 80–95.
- Bryan, G., D. Karlan, and S. Nelson. "Commitment Devices." *Annual Review of Economics*, vol. 2, September 2010, pp. 671–698.
- Bunge, Silvia, and Jonathan Wallis. *Neuroscience of Rule-Guided Behavior*. Oxford, UK: Oxford University Press, 2007.
- Burnette, J. L., E. H. O'Boyle, E. M. VanEpps, J. M. Pollack, and E. J. Finkel. "Mind-Sets Matter: A Meta-Analytic Review of Implicit Theories and Self-Regulation." *Psychological Bulletin*, vol. 139, no. 3, 2013, pp. 655–701.
- Burstein, N., S. Patrabansh, W. Hamilton, and S. Siegel. "Understanding the Determinants of Supplemental Nutrition Assistance Program Participation." Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, December 2009.
- Butler, E., and A. Randall. "Emotional Coregulation in Close Relationships." *Emotion Review*, vol. 5, no. 2, 2013, pp. 202–210.
- Caldwell, K., M. Baime, and R. Wolever. "Mindfulness Based Approaches to Obesity and Weight Loss Maintenance." *Journal of Mental Health Counseling*, vol. 34, no. 3, 2012, pp. 269–282.
- Cavadel, Elizabeth W., Jacqueline Kauff, Mary Anne Anderson, Sheena McConnell, and Michelle Derr. "Self-Regulation and Goal Attainment: A New Perspective for Employment Programs." U.S. Department of Health and Human Services, Administration for Children and Families. Washington, DC: Mathematica Policy Research, February 2017.
- Center on the Developing Child at Harvard University. "Building Core Capabilities for Life: The Science Behind the Skills Adults Need to Succeed in Parenting and in the Workplace." Cambridge, MA: Harvard University, 2016.
- Center on the Developing Child, Harvard University. "Building the Brain's 'Air Traffic Control' System: How Early Experiences Shape the Development of Executive Function: Working Paper No. 11." Cambridge, MA: Harvard University, 2011.
- Center on Budget and Policy Priorities. "Policy Basics: An Introduction to TANF." June 2015. Available at: <http://www.cbpp.org/research/policy-basics-an-introduction-to-tanf>. Accessed February 3, 2017.

- Chambers, R., B. Lo, and N. Allen. "The Impact of Intensive Mindfulness Training on Attentional Control, Cognitive Style, and Affect." *Cognitive Therapy and Research*, vol. 32, no. 3, June 2008, pp. 303–322.
- Chiaburu, D., and S. Marinova. "What Predicts Skill Transfer? An Exploratory Study of Goal Orientation, Training Self-Efficacy and Organizational Supports." *International Journal of Training and Development*, vol. 9, no. 2, June 2005, pp. 110–123.
- Cicchetti, D., and S. Toth. "Child Maltreatment." *Annual Review of Clinical Psychology*, vol. 1, 2005, pp. 409–438.
- Cole, P. M., S. E. Martin, and T. A. Dennis. "Emotion Regulation as a Scientific Construct: Methodological Challenges and Directions for Child Development Research." *Child Development*, vol. 75, no. 2, 2004, pp. 317–333.
- Collins, J., and C. O'Rourke. "The Application of Coaching Techniques to Financial Issues." *Journal of Financial Therapy*, vol. 3, no. 2, 2012, p. 3.
- Colvert, E., M. Rutter, J. Kreppner, C. Beckett, J. Castle, C. Groothues, A. Hawkins, S. Stevens, and E. Sonuga-Barke. "Do Theory of Mind and Executive Function Deficits Underlie the Adverse Outcomes Associated with Profound Early Deprivation? Findings from the English and Romanian Adoptees Study." *Journal of Abnormal Child Psychology*, vol. 36, 2008, pp. 1057–1068.
- Creed, P., V. King, M. Hood, and R. McKenzie. "Goal Orientation, Self-Regulation Strategies, and Job-Seeking Intensity in Unemployed Adults." *Journal of Applied Psychology*, vol. 94, no. 3, 2009, pp. 806–13.
- Crocker, L., W. Heller, S. Warren, A. O'Hare, Z. Infantolino, and G. Miller. "Relationships Among Cognition, Emotion, and Motivation: Implications for Intervention and Neuroplasticity in Psychopathology." *Frontiers in Human Neuroscience*, vol. 7, no. 261, June 2013.
- Curtis, W., L. Lindeke, M. Georgieff, and C. Nelson. "Neurobehavioral Functioning in Neonatal Intensive Care Unit Graduates in Late Childhood and Early Adolescence." *Brain*, vol. 125, 2002, pp. 1646–1659.
- Dawson, P., and R. Guare. *The Smart But Scattered Guide to Success: How to Use Your Brain's Executive Skills to Keep Up, Stay Calm, and Get Organized at Work and at Home*. New York, New York: The Guilford Press, 2016.
- Dawson, P., and R. Guare. *Smart but Scattered*. New York, New York: The Guilford Press, 2009.
- Deák, G.O., S. D. Ray, and A. D. Pick. "Effects of Age, Reminders, and Task Difficulty on Young Children's Rule-Switching Flexibility." *Cognitive Development*, vol. 19, 2004, pp. 385–400.

- Deci, E., and R. Ryan. "The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior." *Psychological Inquiry*, vol. 11, no. 4, 2000, pp. 227–268.
- Diamond, A. "Want to Optimize Executive Functions and Academic Outcomes? Simple, Just Nourish the Human Spirit." In *Developing Cognitive Control Processes: Mechanisms, Implications, and Interventions*, edited by P. Zelazo and M. Sera. Minneapolis, MN: Wiley & Sons, Inc., 2014.
- Diamond, A. "Executive Functions." *Annual Review of Psychology*, vol. 64, 2013, pp. 135–168.
- Diener, E., E. Suh, R. Lucas, and H. Smith. "Subjective Well-Being: Three Decades of Progress." *Psychological Bulletin*, vol. 125, no. 2, 1999, pp. 276–302.
- Dominguez, S., and C. Watkins. "Creating Networks for Survival and Mobility: Social Capital Among African-American and Latin-American Low-Income Mothers." *Social Problems*, vol. 50, no. 1, 2003, pp. 111–135.
- 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.
- Duckworth, A. L., and L. Eskreis-Winkler. "True Grit." *The Observer*, vol. 26, no. 4, 2013, pp. 1–3.
- Duckworth, A.L., C. Peterson, M. D. Matthews, and D. R. Kelly. "Grit: Perseverance and Passion for Long-Term Goals." *Journal of Personality and Social Psychology*, vol. 92, 2007, pp. 1087–1101.
- Duckworth, A.L., H. Grant, B. Loew, G. Oettingen, and P. Gollwitzer. "Self-Regulation Strategies Improve Self-Discipline in Adolescents: Benefits of Mental Contrasting and Implementation Intentions." *Educational Psychology*, vol. 31, no. 1, January 2011, pp. 17–26
- Dweck, C. *Mind-Set: The New Psychology of Success*. New York: Penguin Random House, 2006.
- Dweck, Carol, Gregory Walton, and Geoffrey Cohen. "Academic Tenacity: Mind-Sets and Skills that Promote Long-Term Learning." Seattle, WA: Bill and Melinda Gates Foundation, 2014.
- Eccles, J., and A. Wigfield. "Motivational Beliefs, Values, and Goals." *Annual Review of Psychology*, vol. 53, 2002, pp. 109–132.
- Faris, A., T. Cavell, J. Fishburne, and P. Britton. "Examining Motivational Interviewing from a Client Agency Perspective." *Journal of Clinical Psychology*, vol. 65, no. 9, 2009, pp. 955–970.
- Feldman, R. "The Development of Regulatory Functions from Birth to 5 Years: Insights from Premature Infants." *Child Development*, vol. 80, no. 2, March/April 2009, pp. 544–561.

- Flavell, J. "Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry." *American Psychologist*, vol. 34, no. 10, October 1979, pp. 906–911.
- Foroushani, P., J. Schneider, and N. Assareh. "Meta-Review of the Effectiveness of Computerised CBT in Treating Depression." *BMC Psychiatry*, vol. 11, no. 1, 2011, pp. 131–137.
- Friedman, Ron. *The Best Place to Work: The Art and Science of Creating an Extraordinary Workplace*. New York: Tarcher Perigee, 2014.
- Giuliani, N. R., K. McRae, and J. J. Gross. "The Up-and Down-Regulation of Amusement: Experiential, Behavioral, and Autonomic Consequences." *Emotion*, vol. 8, no. 5, 2008, p. 714–719.
- Gollwitzer, P., and V. Brandstätter. "Implementation Intentions and Effective Goal Pursuit." *Journal of Personality and Social Psychology*, vol. 73, no. 1, 1997, pp. 186–199.
- Gollwitzer, P., and G. Moskowitz. "Goal Effects on Action and Cognition." In *Social Psychology: Handbook of Basic Principles*, edited by E. Tory Higgins and Arie W. Kruglanski. New York: Guilford Press, 1996.
- Gollwitzer, P., and G. Oettingen. "Goal Pursuit." In *The Oxford Handbook of Human Motivation*, edited by Richard Ryan, Oxford, UK: Oxford University Press, 2012.
- Grant, A. "An Integrated Model of Goal-Focused Coaching: An Evidence-Based Framework for Teaching and Practice." *International Coaching Psychology Review*, vol. 7, no. 2, 2012, pp. 146–165.
- Gross, J. J. "Emotion Regulation: Affective, Cognitive, and Social Consequences." *Psychophysiology*, vol. 39, no. 3, 2002, pp. 281–291.
- Gross, J., and R. Thompson. "Emotional Regulation: Conceptual Foundations." In *Handbook of Emotion Regulation*, edited by James Gross. New York: Guilford Press, 2007.
- Guare, R. "Context in the Development of Executive Functions in Children." *Applied Neuropsychology: Child*, vol. 3, no. 3, 2014, pp. 226–232.
- Heller, S., H. Pollack, R. Ander, and J. Ludwig. "Preventing Youth Violence and Dropout: A Randomized Field Experiment." *National Bureau of Economic Research Working Paper Series, Paper No. 19014*, Cambridge, MA, 2013.
- Izard, C.E. *Human Emotions*. Berlin/Heidelberg, Germany: Springer Science & Business Media, 2013.
- Izard, C. E. "The Many Meanings/Aspects of Emotion: Definitions, Functions, Activation, and Regulation." *Emotion Review*, vol. 2, no. 4, 2010, pp. 363–370.

- Izard, C., and B. Ackerman. "Motivational, Organizational, and Regulatory Functions of Discrete Emotions." In *Handbook of Emotions, second edition*, edited by Michael Lewis and Jeannette Haviland-Jones. New York: Guilford Press, 2000.
- Jacobson, S., and J. Jacobson. "Teratogenic Insult and Neurobehavioral Function in Infancy and Childhood." In *The Effects of Early Adversity on Neurobehavioral Development*, edited by C.A. Nelson. Mahwah, NJ: Lawrence Erlbaum Associates, 2000.
- Jha A., E. Stanley, A. Kiyonaga, L. Wong, and L. Gelfand. "Examining the Protective Effects of Mindfulness Training on Working Memory Capacity and Affective Experience." *Emotion*, vol. 10, no. 1, February 2010, pp. 54–64.
- Kerst, W., and A. Waters. "Attentional Retraining Administered in the Field Reduces Smokers' Attentional Bias and Craving." *Health Psychology*, vol. 33, no. 10, October 2014, pp. 1232–1240.
- Kim, P., G. W. Evans, M. Angstadt, S. Shaun Ho, C. S. Sripada, J. E. Swain, I. Liberzon, and K. Luan Phan. "Effects of Childhood Poverty and Chronic Stress on Emotion Regulatory Brain Function in Adulthood." *Proceedings of the National Academy of Sciences*, vol. 110, no. 46, 2013, pp. 18442–18447.
- Kirk, D., G. Oettingen, and P. Gollwitzer. "Promoting Integrative Bargaining: Mental Contrasting with Implementation Intentions." *International Journal of Conflict Management*, vol. 24, no. 2, 2013, pp. 148–165.
- Kristeller, J., R. Baer, and R. Quillian-Wolever. "Mindfulness-Based Approaches to Eating Disorders." In *Mindfulness-Based Treatment Approaches*, edited by R. Baer. Burlington, MA: Elsevier Academic Press, 2006.
- Koestner, R., N. Lekes, T. Powers, and E. Chicoine. "Attaining Personal Goals: Self-Concordance plus Implementation Intentions Equals Success." *Journal of Personality and Social Psychology*, vol. 83, no. 1, July 2002, pp. 231–244.
- Korte, S.M., J.M. Koolhaas, J.C. Wingfield, and B.S. McEwen. "The Darwinian Concept of Stress: Benefits of Allostasis and Costs of Allostatic Load and the Trade-Offs in Health and Disease." *Neuroscience & Biobehavioral Reviews*, vol. 29, no. 1, 2005, pp. 3–38.
- Latham, G., and E. Locke. "New Developments in and Directions for Goal-Setting Research." *European Psychologist*, vol. 12, no. 4, January 2007, pp. 290–300.
- Latham, G., and E. Locke. "Self-Regulation Through Goal Setting." *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, 1991, pp. 212–247.
- Locke, E., and G. Latham. "Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey." *American Psychologist*, vol. 57, no. 9, September 2002, pp. 705–717.

- Locke, E., and G. Latham. "New Directions in Goal-Setting Theory." *Current Directions in Psychological Science*, vol. 15, no. 5, 2006, pp. 265–268.
- Locke, E., and G. Latham. *A Theory of Goal Setting & Task Performance*. Upper Saddle River, NJ: Prentice Hall, 1990.
- Lowe, Jennifer. "Strategically Brokering Social Ties: What Works and Why?" Presented at Disrupting the Poverty Cycle: Emerging Practices to Achieve Economic Mobility, Boston, MA, May 1, 2012.
- Luciana, M., L. Lindeke, M. Georgieff, M. Mills, and C. Nelson. "Neurobehavioral Evidence for Working Memory Deficits in School-Aged Children with Histories of Prematurity." *Developmental Medicine & Child Neurology*, vol. 41, 1999, pp. 521–533.
- Mann, T., D. De Ridder, and F. Kentaro. "Self-Regulation of Health Behavior: Social Psychological Approaches to Goal Setting and Goal Striving." *Health Psychology*, vol. 32, no. 5, May 2013, pp. 487–498.
- Mayer, A., D. Cullinan, E. Calmeyer, and K. Patterson. "Engaging Providers and Clients: Using Behavioral Economics to Increase On-Time Child Care Subsidy Renewals." New York: MDRC, November 2015.
- McEwen, B.S. "Stress, Adaptation, and Disease: Allostasis and Allostatic Load." *Annals of the New York Academy of Sciences*, vol. 840, no. 1, 1998, pp. 33–44.
- McLaughlin, K.A., M.A. Sheridan, and H.K. Lambert. "Childhood Adversity and Neural Development: Deprivation and Threat as Distinct Dimensions of Early Experience." *Neuroscience & Biobehavioral Reviews*, vol. 47, 2014, pp. 578–591.
- Milkman, K., J. Beshears, J.J. Choi, D. Laibson, and B.C. Madrian. "Following Through on Good Intentions: The Power of Planning Prompts." Washington, DC: The National Bureau of Economic Research, April 2012.
- Moore A., and P. Malinowski. "Meditation, Mindfulness and Cognitive Flexibility." *Consciousness and Cognition*, vol. 18, no. 1, March 2009, pp. 176–86.
- Moriya, J., and Y. Sugiura. "Socially Anxious Individuals with Low Working Memory Capacity Could Not Inhibit the Goal-Irrelevant Information." *Frontiers in Human Neuroscience*, vol. 7, no. 840, 2013.
- Mullainathan, S., and E. Shafir. *Why Having Too Little Means So Much*. New York, NY: Times Books, 2013.
- Muraven, M., and R. Baumeister. "Self-Regulation and Depletion of Limited Resources: Does Self-Control Resemble a Muscle?" *Psychological Bulletin*, vol. 126, no. 2, 2000, pp. 247–259.

- Murray, D., K. Rosanbalm, C. Christopoulos, and A. Hamoudi. "Self-Regulation and Toxic Stress: Foundations for Understanding Self-Regulation from an Applied Developmental Perspective." Durham, NC: Center for Child and Family Policy, Duke University, January 2015.
- National Scientific Council on the Developing Child. "Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper No. 3." Cambridge, MA: Center on the Developing Child at Harvard University, 2005/2014.
- Odgers, C., and S. Jaffee. "Routine Versus Catastrophic Influences on the Developing Child." *Annual Review of Public Health*, vol. 34, 2013, pp. 29–48.
- Oettingen, G., and P. Gollwitzer. "Goal Setting and Goal Striving." In *Blackwell Handbook in Social Psychology: Intraindividual Processes*, edited by A. Tesser and N. Schwarz. Oxford: Blackwell, 2001.
- Oettingen, G. "Future Thought and Behaviour Change." *European Review of Social Psychology*, vol. 23, 2012, pp. 1–63.
- Oettingen, G., H. Pak, and K. Schnetter. "Self-Regulation of Goal-Setting: Turning Free Fantasies About the Future into Binding Goals." *Journal of Personality and Social Psychology*, vol. 80, no. 5, 2001, p. 736–753.
- Oettingen, G. "WOOP." Available at <http://woopmylife.org/>. Accessed November 10, 2015.
- Oettingen, G., and P. Gollwitzer. "Strategies of Setting and Implementing Goals: Mental Contrasting and Implementation Intentions." In *Social Psychological Foundations of Clinical Psychology*, edited by James Maddux and June Price Tangney. New York: Guilford Press, 2010.
- Paulsell, Diane, Jennifer L. Noyes, Rebekah Selekman, Lisa Klein Vogel, Samina Sattar, and Benjamin Nerad. "Helping Noncustodial Parents Support Their Children: Early Implementation Findings from the Child Support Noncustodial Parent Employment Demonstration (CSPED) Evaluation." Madison, WI: University of Wisconsin-Madison, Institute for Research on Poverty, 2015.
- Pavetti, LaDonna. "A New Frontier for Workforce and Other Human Service Programs That Aim to Build Adult Capabilities." Presented at Using Executive Skills Concepts and Principles To Help TANF Recipients Achieve Their Goals, Washington, DC, February 19, 2015.
- Pekrun, R., T. Goetz, W. Titz, and R. Perry. "Academic Emotions in Students' Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research." *Educational Psychologist*, vol. 37, no. 2, 2002, pp. 91–105.
- Pope, L., and J. Harvey-Berino. "Burn and Earn: A Randomized Controlled Trial Incentivizing Exercise During Fall Semester for College First-Year Students." *Preventive Medicine*, vol. 56, no. 3, 2013, pp. 197–201.

- Poulsen, A., J. Ziviani, K. Kotaniemi, and M. Law. “‘I Think I Can:’ Measuring Confidence in Goal Pursuit.” *The British Journal of Occupational Therapy*, vol. 77, no. 2, Feb. 2014, pp. 64–66.
- Proshansky, H. “The Field of Environmental Psychology: Securing its Future.” *Handbook of Environmental Psychology*, vol. 2, 1987, pp. 1467-1488.
- Prochaska, James, Redding, Colleen, and Kerry Evers. 2008. “The Transtheoretical Model and Stages of Change.” In *Health Behavior and Health Education: Theory, Research, and Practice Fourth Edition*, edited by Karen Glanz, Barbara Rimer, K. Viswanath. San Francisco, CA: Jossey-Bass, John Wiley & Sons, Inc.
- Prochaska, J., and W. Velicer. “The Transtheoretical Model of Health Behavior Change.” *American Journal of Health Promotion*, vol. 12, no. 1, 1997, pp. 38–48.
- Prochaska, J., W. Velicer, J. Rossi, M. Goldstein, B. Marcus, and W. Rakowski, et al. 1994. “Stages of Change and Decisional Balance for 12 Problem Behaviors.” *Health Psychology*, vol. 13, no. 1, pp. 39-46.
- Prosperity Agenda. “Career Readiness: Coaching and Soft Skills Program.” Available at <http://www.theprosperityagenda.org/career-readiness-program-soft-skills-program-design>. Accessed April 29, 2016.
- Reiss, V. “Effectiveness of Mindfulness Training on Ratings of Perceived Stress, Mindfulness and Well-Being of Adolescents Enrolled in an International Baccalaureate Diploma Program.” *Dissertation Abstracts International: Section B: The Sciences and Engineering*, vol. 74, no. 9-B-E, 2014.
- Richards, J. M., and J. J. Gross. “Emotion Regulation and Memory: The Cognitive Costs of Keeping One’s Cool.” *Journal of Personality and Social Psychology*, vol. 79, no. 3, 2000, p. 410–424.
- Richburg-Hayes, L., C. Anzelone, N. Dechausay, S. Datta, A. Fiorillo, L. Potok, M. Darling, and J. Balz. “Behavioral Economics and Social Policy: Designing Innovative Solutions for Programs Supported by the Administration for Children and Families, Technical Supplement: Commonly Applied Behavioral Interventions.” New York: MDRC, April 2014.
- Roberts, B., and D. Mroczek. “Personality Trait Change in Adulthood.” *Current Directions in Psychological Science*, vol. 17, no. 1, 2008, pp. 31–35.
- Roberts, B.W., K.E. Walton, and W. Viechtbauer. “Patterns of Mean-Level Change in Personality Traits Across the Life Course: A Meta-Analysis of Longitudinal Studies.” *Psychological Bulletin*, vol. 132, no. 1, 2006, p. 1.
- Roberts, B., N. Kuncel, R. Shiner, A. Caspi, and L. Goldberg. “The Power of Personality: The Comparative Validity of Personality Traits, Socioeconomic Status, and Cognitive Ability for Predicting Important Life Outcomes.” *Perspectives in Psychological Science*, vol. 2, no. 4, 2007, pp. 313–345.

- Rollnick, S., and W. Miller. "What Is Motivational Interviewing?" *Behavioural and Cognitive Psychotherapy*, vol. 23, no. 4, 1995, pp. 325–334.
- Rosenberg, L., M. Derr, L. Pavetti, S. Asheer, M. Hague Angus, S. Sattar, and J. Max. "A Study of States' TANF Diversion Programs." Princeton, NJ: Mathematica Policy Research, December 2008.
- Rothbart, M.K., and M.R. Rueda. "The Development of Effortful Control." In *Developing Individuality in the Human Brain: A Tribute to Michael I. Posner*, edited by U. Mayr, E. Awh, and S. Keele. Washington, DC: American Psychological Association, 2005.
- Ruiz De Luzuriaga, Nicki. "Coaching for Economic Mobility." Boston, MA: Crittenton Women's Union, 2015.
- Ryan, R. M., and E. L. Deci (2000a). "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions." *Contemporary Educational Psychology*, vol. 25, no. 1, 2000, pp. 54–67.
- Ryan, R. M., and E. L. Deci (2000b). "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being." *American Psychologist*, vol. 55, no. 1, 2000, p. 68–78.
- Ryan, R. M., and E. L. Deci. "A Self-Determination Theory Approach to Psychotherapy: The Motivational Basis for Effective Change." *Canadian Psychology/Psychologie Canadienne*, vol. 49, no. 3, 2008, p. 186–193.
- Sanchez, N., and S. Pollack. "Socio-Emotional Development Following Early Abuse and Neglect: Challenges and Insights from Translational Research." In *Handbook of Developmental Social Neuroscience*, edited by M. de Haan and M. Gunnar. New York: Guilford Press, 2009.
- Sansone, Carol, and Judith Harackiewicz. *Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance*. Waltham, MA: Academic Press, 2000.
- Schunk, D. H. "Self-Regulation Through Goal Setting." *ERIC Digest*, 2001.
- Shonkoff, J., A. Garner, B. Siegel, N. Dobbins, M. Earls, L. McGuinn, J. Pascoe, and D. Wood. "The Lifelong Effects of Early Childhood Adversity and Toxic Stress." *Pediatrics*, vol. 129, no. 1, January 2012, pp. e232–e246.
- Siegel, D. "Mindfulness Training and Neural Integration: Differentiation of Distinct Streams of Awareness and the Cultivation of Well-Being." *Social Cognitive and Affective Neuroscience*, vol. 2, no. 4, 2007, pp. 259–263.
- Steele, C., and J. Aronson. "Stereotype Threat and the Intellectual Test Performance of African Americans." *Journal of Personality and Social Psychology*, vol. 69, no. 5, November 1995, pp. 797–811.

- Tamir, M., Y. Bigman, E. Rhodes, J. Salerno, and J. Schreier. "An Expectancy-Value Model of Emotion Regulation: Implications for Motivation, Emotional Experience, and Decision Making." *Emotion*, vol. 15, no. 1, 2015, p. 90–103.
- Todd, R., W. Cunningham, A. Anderson, and E. Thompson. "Affect-Biased Attention as Emotion Regulation." *Trends in Cognitive Sciences*, vol. 16, no. 7, 2012, pp. 365–372.
- Velicer, W., J. Prochaska, J. Fava, G. Norman, and C. Redding. "Smoking Cessation and Stress Management: Applications of the Transtheoretical Model of Behavior Change." *Homeostasis*, vol. 38, nos. 5–6, 1998, pp. 216–233.
- Wadlinger, H., and D. Isaacowitz. "Fixing Our Focus: Training Attention to Regulate Emotion." *Personality and Social Psychology Review*, vol. 15.1, 2011, pp. 75–102.
- Wendelken, C., Y. Munakata, C. Baym, M. Souza, and S. Bunge. "Flexible Rule Use: Common Neural Substrates in Children and Adults." *Developmental Cognitive Neuroscience*, vol. 2, no. 3, July 2012, pp. 329–339.
- Wikipedia contributors, "Ecological Systems Theory," Wikipedia, The Free Encyclopedia. Available at https://en.wikipedia.org/w/index.php?title=Ecological_systems_theory&oldid=784300577. Accessed June 14, 2017.
- Zaveri, Heather, and Robin Dion. "Embedding Job and Career Advancement Services in Healthy Marriage Programs: Lessons from Two Programs in PACT." Washington, DC: Mathematica Policy Research, April 2015.
- Zedlewski, S., and K. Radar. "Have Food Stamp Program Changes Increased Participation?" *Social Service Review*, vol. 79, no. 3, September 2005, pp. 537–561.
- Zelazo, P. D., S. M. Carlson, and A. Kesek. "Development of Executive Function in Childhood." In *Handbook of Developmental Cognitive Neuroscience, Second Edition*, edited by Charles Nelson and Monica Luciana. Cambridge, MA: MIT Press, 2008.
- Zelazo, P. D., and U. Müller. "Executive Function in Typical and Atypical Development." In *Blackwell Handbook of Childhood Cognitive Development*, edited by Usha Goswami. Malden, MA: Blackwell Publishers Ltd., 2002.
- Zelazo, P., A. Carter, J. Reznick, and D. Frye. "Early Development of Executive Function: A Problem-Solving Framework." *Review of General Psychology*, vol. 1, no. 2, 1997, pp. 198–226.
- Zimmerman, B. "Investigating Self-Regulation and Motivation: Historical Background, Methodological Developments, and Future Prospects." *American Educational Research Journal*, vol. 45, no. 1, 2008, pp. 166–183.

This page has been left blank for double-sided copying.

www.mathematica-mpr.com

**Improving public well-being by conducting high quality,
objective research and data collection**

PRINCETON, NJ ■ ANN ARBOR, MI ■ CAMBRIDGE, MA ■ CHICAGO, IL ■ OAKLAND, CA ■
TUCSON, AZ ■ WASHINGTON, DC ■ WOODLAWN, MD

MATHEMATICA
Policy Research

Mathematica® is a registered trademark
of Mathematica Policy Research, Inc.