





A Literature Scan and Synthesis of Research on Labor-Related Behavioral Science

About behavioral science

Behavioral science studies how people make decisions and act in a complex world. It draws on decades of research in the social sciences to provide a more realistic model of how we make decisions and act in real life. Other models commonly assume that we consider all available information, weigh the pros and cons of each option, make the best choice, and then reliably act on it. However, in practice, people often decide and act with imperfect information, do not always make the choice predicted by standard economic models, or fail to act on their choices. Policymakers have begun to align policies, programs, and products with behavioral science, with the objective of improving outcomes for the people they serve.

The Department of Labor (DOL) Behavioral Interventions project explores how using behavioral science can improve the performance and outcomes of DOL programs. It is sponsored by the DOL Chief Evaluation Office and draws on insights from economics, psychology, and related fields. This project applies behavioral insights to DOL programs and rigorously tests whether they improve outcomes. It builds on a previous project that evaluated three different behavioral interventions in DOL programs.*

Behavioral science research, also referred to as behavioral economics or behavioral insights, has shown that subtle changes to programs and policies can have profound effects. The past decade has been marked by an expanded application of behavioral insights from academic studies to interventions designed to shape policy and outcomes in the real world. Many countries have established agencies within their respective governments tasked with applying behavioral interventions to improve program performance. Behavioral insights have been successfully applied in a wide variety of contexts, such as increasing retirement savings (Benartzi & Thaler, 2013), decreasing energy consumption (Allcott, 2011), improving adherence to medication (Mbuagbaw et al., 2013), and reducing arrest warrants (Cooke et al., 2018).

DOL programs, like many other public programs, can use insights from behavioral science to achieve greater impact by diagnosing and addressing behavioral "bottlenecks" or cognitive biases (predictable ways in which people often make reasoning errors) that often lie behind common and persistent program challenges. Behavioral insights focus on challenges that are most likely to be behavioral in nature (those that arise from cognitive biases), as opposed to challenges that are entirely related to structural barriers (such as insufficient resources) or informational barriers (such as not having heard that a program exists).¹

HOW TO USE THIS LITERATURE SCAN

Reading the full literature scan will provide you with a broad overview of promising applications of behavioral insights to challenges relevant to DOL programs. If you want to learn more about applications addressing challenges relevant to a specific population, such as workers, job seekers, or employers, focus on the section that addresses that issue.

The literature scan is organized according to the following themes:

<u>Behavioral insights for challenges common to workers and job seekers</u> (pages 2-5)

Behavioral insights for challenges common to employers (pages 6-8)

Behavioral Insights: From Theory to Practice (page 8)

Endnotes and References (pages 9-10)

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https://www.dol.gov/asp/evaluation/completed-studies/BI-Files/8-BILRP-Implementation-Brief-Final-20170501.pdf

This literature scan highlights promising applications of behavioral insights to challenges that are specifically relevant to DOL programs, workers, job seekers, and employers. It synthesizes this information for DOL and others who are interested in applying behavioral interventions to address challenges within the labor context. DOL's own work in this area contributes to this evidence base. Suggestions of areas in which to extend this body of work are also noted.

Applying behavioral interventions to labor programs and their outcomes is relatively new. Although the field has tested promising interventions, which this scan reviews, many areas of interest have not yet been explored.

The body of evidence in this field is limited, but growing. Many important topics in labor policy remain largely unstudied from a behavioral perspective. Especially lacking are rigorous experimental trials. For example, behavioral science has extensively studied choice architecture (the framing of the options that decision makers encounter). But this targeted literature scan did not find any studies of interventions that applied this concept to help job seekers choose between different jobs or careers. This is just one example among many promising areas for further study.

Behavioral science interventions are being used to improve public agencies' performance in several dimensions, many of which are relevant to DOL.

A variety of domestic and international government agencies have used behavioral science,² and successful behavioral interventions that other agencies and governments use may be applicable to DOL programs. Missions and goals differ from agency to agency, yet agencies often share common challenges and lessons. For example, several studies have examined how programs can increase enrollment using behavioral interventions. Although labor programs have unique features, lessons from these interventions could also apply to and improve take-up of DOL programs.

Examples of behavioral science interventions that have targeted organizations (as opposed to people) are limited.

DOL's work often aims to affect behaviors that occur at the organization, not individual, level—for example, when encouraging employers to increase workplace safety or to increase use of subsidized training programs. Although behavioral science has been applied to change the behavior of people within organizations, few studies look at interventions aimed at organizations as a whole. This may be the result of several factors. Many researchers may not have access to a sufficient number of organizations to carry out a rigorous study; the complexity in what drives decision making within organizations may make it harder to isolate specific behaviors; and the diversity among organizations may hinder the ability to generalize findings from one study to a wide range of organizations. Further research on organizational behavior change and continued testing of applying interventions focused on individual behavior to organizational behavior could expand the potential applications of behavioral science.

RELEVANT STUDIES

This literature scan examined studies related to behavioral science, with a particular interest in studies that were run by, or on behalf of, government agencies. The initial database search generated a list of more than 1,000 studies, which we reduced to 116 that were relevant to the labor area. We then selected a final set of 18 studies on the basis of two criteria:

- Relevance to the DOL context. We prioritized studies that we considered most applicable to a refined set of challenges DOL programs are likely to face. This included studies conducted by DOL as well as other U.S. government agencies, the private sector, and international programs such as those run by the World Bank and the United Kingdom's Behavioural Insights Team.
- 2 Rigor of the study. To ensure our highest possible confidence in the studies' results, we prioritized studies that used randomized trials with large enough sample sizes to produce statistically significant findings. We also included a few studies based on small-scale experiments involving highly relevant populations and meta-analyses of findings across a range of studies. We included studies that used other methods to assess impacts if the behavioral intervention had demonstrated effectiveness using more rigorous testing methods in other contexts.

We grouped these studies into two overarching categories: (1) those focused on challenges common to workers and job seekers and (2) those focused on challenges more relevant to employers. In each challenge area, we highlight three or four relevant studies.

Behavioral Insights for WORKERS AND JOB SEEKERS

Behavioral science research has identified promising interventions to address behavioral bottlenecks that labor programs face in their efforts to serve workers and job seekers. Key challenges that behavioral science may be well equipped to address include increasing workers' and job seekers' participation in beneficial programs and encouraging people to persist in their job search.

Many agencies face low program enrollment; seemingly minor features of the enrollment process may deter eligible people from participating.

Enrolling in a program often requires filling out paperwork, visiting a website, or engaging in some other important action that people can easily postpone. People might postpone important actions because they underestimate the value of participating in a program, view the steps to enrolling as too burdensome, or forget to enroll altogether, possibly due to a lack of perceived urgency. Failing to enroll can limit people's job prospects (if they fail to attend sessions that could help in their job search) or increase the burden on program staff (if nonparticipation requires follow-up with potential enrollees).

Based on behavioral science research, promising interventions that may improve program participation include emphasizing people's values or goals, providing clear instructions, sending reminders, and personalizing communications.

Key takeaways from relevant studies

• Emphasizing the value of a benefit and providing simple step-by-step guidance can increase benefits enrollment. Employees often miss out on benefits of real value, such as a 401(k)-savings match their employer provides. They may intend to sign up for these benefits but forget to do so, or may not understand the value of the program. A randomized trial involving 4,078 DOL employees tested the impact of sending an email that included a reminder about the retirement savings program, including information about the value of the savings match and guidance on navigating the benefits website. Before the intervention, more than 25 percent of eligible DOL employees were contributing less than 5 percent of their salary to the agency's retirement savings program, despite having access to an employer match of up to 5 percent. The email led to a 7.5 percentage point increase in the share of employees who were contributing at least 5 percent of their salary to the program and



thus receiving the full employer match (Amin et al., 2017). These savings are forecasted to result in an \$11,500 increase in retirement funds per employee over 20 years.

- A personal and collaborative tone may increase job seekers' participation in reemployment programs. Job seekers often do not respond to invitations to participate in government programs, even when participation is likely to benefit them. For example, participation in the Reemployment and Eligibility Assessment program, which has been shown to substantially shorten the length of unemployment (Michaelides, Poe-Yamagata, Benus, & Tirumalasetti, 2012), can be as low as 50 percent. This is the case even though the program is mandatory and failure to participate can result in a person losing unemployment benefits. A randomized trial among 747 unemployment insurance (UI) claimants in Michigan found that a series of emails that used a personal and collaborative tone and provided clear instructions led to a 14 percentage point increase in the program completion rate (Darling et al., 2017).
- Framing the use of government programs in a positive light may increase workers' willingness to access these programs. Perceived stigmas and beliefs about "handouts" may deter people from using government programs, even when a program is intended for people who have earned access to it. The Department of Veterans Affairs conducted a randomized trial to test an email that framed program access in a positive manner, emphasizing that veterans had earned access to job placement and other programs through their military service. This effort led to a 9 percent increase in the number of veterans who accessed an application for these services (Congdon & Shankar, 2015).



The importance of careful diagnosis in designing a behavioral intervention

The effectiveness of behavioral interventions can depend on the context, and interventions that use behavioral strategies successfully in one context may not have similar success in another. For example, reminders will only be effective if the primary barrier to the desired behavior is that people are forgetting to follow through on a given task.

A recent study used a variety of behavioral interventions—including reminders—to increase adherence to medication, but the intervention had no effect (Volpp et al., 2017). This underscores the importance of carefully diagnosing the context's barriers and challenges as a core part of developing and implementing a behavioral intervention. Although there is no way to ensure that a given behavioral intervention will be effective, carefully diagnosing the challenge can help designers understand which interventions are most likely to suit the context.

Many people struggle with persisting in a job search; services and programs supporting job searches may not address behavioral factors that limit job seekers' perseverance.

The job search and reemployment process can be daunting. People must take the large, complex goal of attaining employment, break it into sub-goals such as searching for jobs and applying for jobs, and then execute those sub-goals with high levels of effort, sometimes for sustained periods. Job seekers may be overconfident about their ability to get a job, overlook important completion details, and avoid tasks or information that generate negative feelings. This can affect the rate at which they reenter the workforce or find a job, if they reenter the workforce at all.

Behavioral interventions to change people's approach to the job search

Although most of the interventions we discovered in our review focus on whether people searched for jobs, interventions might have potential in changing people's approach to their job search.

For example, many unemployed people seek jobs that are similar in pay, title, location, or industry to their previous job—possibly because of a bias in favoring the status quo (Samuelson & Zeckhauser, 1988). Interventions that help people consider a wider scope of potential jobs could help job seekers return to work faster.

Promising interventions that can help people facing unemployment persist in their job search are reframing setbacks, creating a sense of urgency, setting clear and specific job search plans, and supporting emotional processing.

Key takeaways from relevant studies

- Reframing job seekers' goals may increase the effectiveness job workshops. Adversity and setbacks during a job search may discourage job seekers. Dealing with setbacks can be difficult when people are overly focused on the outcome of gaining a job, rather than building the skills and competencies related to job searching. If people focus on the outcome alone, each job they do not receive may feel like a failure instead of a learning opportunity. A randomized experiment among 109 unemployed job seekers in the Netherlands tested the effects of a workshop instructing job seekers to focus on increasing their competencies in the search process.
 - Focusing on competencies leads to a growth mindset, to help job seekers **reframe setbacks** during the job search and persist through challenges. This work led to a 23 percentage point increase in reemployment compared to a control workshop that focused on finding a job (Van Hooft & Noordzij, 2009).
- Escalating job-search urgency by requiring mandatory participation in reemployment services may shorten the duration of UI benefit receipt. Recipients of UI benefits may have incentives to limit the intensity of their job search so they can continue receiving benefits. One experiment tested an intervention that communicated to UI recipients that they would be required to participate in employment and training services to continue receiving UI benefits—thus increasing the "hassle factor" for retaining UI benefits and creating a greater sense of urgency for finding a job. The study randomly assigned 1,236 people to the intervention group and 745 people to the control group. Requiring participation in employment and training services resulted in UI recipients returning to work earlier and decreased UI benefit receipt by two weeks (Black, Smith, Berger, & Noel, 2003).
- Making plans more concrete may help individuals find jobs. People may fail to meet job search goals, especially when goals are vague ("I'll spend a lot of time looking for a job"), as opposed to specific and measurable ("I'll spend at least 10 hours looking for a job"). An intervention that encouraged people to make **specific job search plans**, including a weekly commitment to search for a specified number of hours, was tested in a randomized trial among 1,100 unemployed youth in South Africa. Adding this planning exercise to a job search workshop increased search efficacy and effectiveness and ultimately led to a 30 percent increase in job offers and a 26 percent increase in employment, compared to those who attended the workshop only (Abel, Burger, Carranza, & Piraino, 2017).
- Journaling practices may improve performance in the labor market. People who have recently lost jobs may experience anger or sadness, which can hinder their success in the job market. Processing those emotions may help job seekers perform better in the job market or be more willing to accept jobs substantially different from their previous positions. A small experiment with 63 unemployed professionals in Texas tested a program that encouraged them to engage in expressive writing for a week. Study participants who did expressive writing were 29 percentage points more likely to have full-time employment eight months later than were participants who were instructed to only write about their job search activities (Spera, Buhrfeind, & Pennebaker, 1994).



Behavioral Insights FOR EMPLOYERS

Behavioral science interventions show potential to address key challenges that labor programs interfacing with employers face, including ensuring compliance with regulatory requirements and avoiding escalation of enforcement actions, improving hiring officials' ability to identify the best candidates for a job, and increasing employers' participation in agency services.

Ensuring compliance with regulatory requirements is challenging; enforcement actions often escalate when agencies and firms do not communicate effectively.

When responding to enforcement actions, such as a workplace safety citation, employers may be required to read detailed instructions and follow them precisely to avoid escalation. They may remain uncertain about the next step or the date by which they must take action. Or they may not understand that different options are available to them for mediation. Small businesses may not have the staff available to pay attention to every task. If employers' attention is stretched—for instance, by the need to read a complex packet about safety citations and complete other urgent day-to-day tasks—they may forget to address less urgent demands. More effective communication about regulatory requirements may encourage people and firms to comply with government reporting requirements and taxes or fines. Promising interventions to increase compliance with regulations can include providing clear action steps, encouraging honesty by requiring a signature at the beginning of a form, and invoking social norms.

Key takeaways from relevant studies

- Checklists may improve response rates to citation letters. When busy employers receive detailed instructions from government agencies, failing to understand the purpose of the letter or missing a step in the set of instructions may prevent them from responding at all. Because of this limited attention, employers may miss details that turn out to be important—including ways they could prevent an enforcement action from escalating. The Occupational Safety and Health Administration (OSHA) used a randomized trial to test a revised package of mailed materials for employers cited for health and safety violations. These materials included a cover letter that provided clear action steps for responding to the citation and a checklist denoting each step for the employer. The study randomly assigned 69 OSHA offices to a treatment or control group. The total sample consisted of 11,272 inspection cases. The revised mailing packet reduced the number of employers referred to debt collection for failing to resolve their case by 4.4 percentage points— equivalent to 1,000 fewer employer cases referred to the national debt collection office in a year (Chojnacki et al., 2017).
- Asking employers to assert that all statements are true before completing a form may increase the accuracy of information and the honesty of reports. Although many people (beyond just employers) will avoid telling explicit falsehoods, they may be willing to over- or underestimate reports in their favor—if they can do so in a way that does not make them feel as if they have told a direct lie. Requiring a signature at the beginning of a form can lead to more complete and accurate reporting because it asks people to confirm the accuracy of their report before they fill it in. The General Services Administration used a randomized trial with more than 18,000 federal vendors to test this in a redesigned vendor form for self-reported sales, resulting in more accurate reporting and an additional \$1.59 million in fees collected in a single quarter (Congdon & Shankar, 2015).
- Communicating that most firms pay their taxes on time may encourage other firms to comply. Employers that are required to pay specific taxes or fines may fail to do so on time. Increasing the perceived social pressure to pay on time can help improve payment rates. A randomized trial of 1,000 employers of domestic workers in Singapore,

Behavioral interventions that raise standards beyond fulfilling minimum requirements

The studies that have been conducted in the labor market context so far typically examine whether behavioral interventions can improve people's compliance with regulations or other guidelines, by increasing enforcement or encouraging voluntary compliance with mandated standards.

Another potential use of behavioral interventions could be to encourage employers to voluntarily improve standards beyond the minimum guidelines established by DOL.



required to pay a monthly levy, tested the effects of a reminder letter emphasizing the **social norm** of on-time payment. The letter led to a 4 percent increase in the payment rate among employers who had not paid the previous month's levy (Organisation for Economic Co-operation and Development, 2017).

Reducing the potential for bias when employers are making hiring decisions can help them best meet their hiring goals. When people make decisions—especially about other people—biases might affect their decision making more than they realize. Hiring officials can be influenced by a wide range of attributes that are unrelated to a potential employee's future performance. Some of these attributes are related to specific types of prohibited job discrimination—such as discriminating on the basis of race, sex, religion, or veteran status. Other attributes may not stem from prohibited discrimination (such as whether the interviewer is able to make a personal connection with the interviewee), but still might cause employers to hire people who are not the best fit for the position. Missing out on the best candidates for each position can lead to a less effective workforce and rapid turnover of staff. Promising interventions to reduce hiring biases include limiting access to demographic information and structuring the hiring process to limit subjective influences.

Key takeaways from relevant studies

- Removing information about race or gender may result in better employment decisions. Employers can be influenced by a candidate's race or gender. For example, employers are 50 percent less likely to call an applicant for an interview if the resume shows an African American name (Bertrand & Mullainathan, 2004). "Blinding," or preventing decision makers from seeing certain information, can reduce this effect. In a study to select performers for an orchestra, a pre-post analysis of 7,065 individual performers and 309 auditions across eight orchestras found that callbacks for women increased after introducing physical screens for auditions, such that they could not be seen. Women were 25 percent more likely to be chosen for an orchestra if the audition occurred behind a screen (Goldin & Rouse, 2000).
- Reviewing job candidates simultaneously may reduce employer bias. Looking at candidates together, rather than making decisions about each candidate separately, can reduce biases. This was tested in lab experiments where 554 college students acting as "employers" decided whether to hire other college students as "workers" for a task. The "employers" were paid fees that were linked to the productivity of the workers they had hired, and they could see the workers' performance in previous rounds. "Employers" were 43 percent more likely to hire on the basis of available past performance data than on other information (such as the applicant's gender) when they compared multiple candidates simultaneously (Bohnet, Van Geen, & Bazerman, 2015).
- Structured interviews may increase the quality of job candidate evaluations. Unstructured interviews, with no fixed format or questions and no consistent procedure for evaluating candidates, may cause employers to improperly value unimportant information about candidates. Unstructured interviews predict only 14 percent of future performance, whereas structured interviews predict 26 percent of future performance. This finding is based on a meta-analysis of 19 different assessment techniques used in hiring (Schmidt & Hunter, 1998).



Employers may not consistently make the most of agency services, such as compliance assistance or workforce development programs. As is the case with job seekers, businesses may not always take advantage of available services—even when such services could help them meet their goals. In some cases, the structure of the organization may further increase barriers. For example, business protocols may not clearly define who has the authority to decide to engage with a service, or who should take the time to learn more about it. Employers may also be skeptical about programs'

effectiveness or suitability for their needs. Promising interventions to improve use of advantageous services include reducing hassles, encouraging immediate action, and more clearly communicating how and why a program works.

Key takeaways from relevant studies

- Removing small barriers to accessing services may substantially increase use of those services. The Australian Department of Employment was interested in whether allowing firms to submit requests online would increase the use of financial incentives for employing disadvantaged job seekers. In a randomized controlled trial, the department found that using a redesigned online form that helped reduce hassles increased firms' use of financial incentives by 35 percent (Briscese, 2017).
- "Act now" messaging may result in quicker responses than assigning deadlines. People tend to focus on immediate needs as opposed to important (but not urgent) goals. Notices that tell firms to take immediate action may be more effective than notices that give firms a substantial time window. The City of Chicago increased the speed at which businesses renewed licenses by three days using a revised notice letter encouraging immediate action. This was tested in a randomized trial among 29,915 small businesses.³
- Greater visibility of government services may increase their use. People may not use government programs if they do not believe the program will be responsive to their needs, and government agencies' efforts to be more transparent could increase employers' willingness to participate in the programs they offer. A mobile phone application (app) that enabled the Boston Department of Public Works to show people who submitted a service request a picture of the work being performed increased the number of future requests by 60 percent. The study tested this by examining how people with an updated app responded to case closures when a picture had been included with the original request (Buell, Porter, & Norton, 2013). Employers may be more likely to use available services when they can see evidence that the services are responsive to their needs and priorities.

Behavioral Insights: FROM THEORY TO PRACTICE

A small, but growing, body of rigorous evidence suggests behavioral insights can strengthen the effectiveness of labor-related programs and policies. This area of study is nascent—in fact, 13 of the 18 studies reviewed were published in the past 10 years—and there is a need for continued investigation, innovation, and testing of behavioral insights in this domain.

Continuing to build this evidence base will deepen policymakers' understanding of the role human behavior plays in the challenges policymakers aim to address. It will also contribute to the design of effective solutions, having considered these behaviors. This, in turn, will support programs in fulfilling their mission of improving the lives of workers, job seekers, and employers alike.

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Endnotes

¹For example: The idea that subtle enrollment features may deter eligible individuals from program participation, and the discussion that follows, draws on a now large and consistent empirical and theoretical literature in behavioral economics. See, for example: Bertrand, M., Mullainathan, S., & Shafir, E. (2006). Behavioral economics and marketing in aid of decision making among the poor. *Journal of Public Policy & Marketing*, 25(1), 8–23; Kleven, H. J., & Kopczuk, W. (2011). Transfer program complexity and the take-up of social benefits. *American Economic Journal: Economic Policy*, 3, 54–90; Bettinger, E.P., Long, B.T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *Quarterly Journal of Economics*, 127, 1205–1242; Madrian, B. C., & Shea, D. F. (2001). The power of suggestion: Inertia in 401 (k) participation and savings behavior. *The Quarterly Journal of Economics*, 116(4), 1149–1187; Swartz, K., & Graves, J.A. (2014). Shifting the open enrollment period for ACA marketplaces could increase enrollment and improve plan choices. *Health Affairs*, 33(7).

² Examples include the Social and Behavioral Science Team in the United States; the Behavioural Insights Team in the United Kingdom; the Mind, Behavior, and Development Unit at the World Bank; and the City of Chicago Behavioral Design Team.

³Work conducted by ideas42 in the City of Chicago, unpublished.

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