

# **BEHAVIORAL ECONOMICS AND WORKFORCE DEVELOPMENT:**

## **A REVIEW OF THE LITERATURE FROM LABOR ECONOMICS AND THE BROADER FIELD**

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# **BEHAVIORAL ECONOMICS AND WORKFORCE DEVELOPMENT:**

## **A Review of the Literature from Labor Economics and the Broader Field**

There is mutual benefit for employers and workers when workers improve their skills beyond the minimum requirements for their position—a fact not lost on employers, many of who are willing to provide education and training opportunities to staff, including frontline workers. These opportunities typically include on-the-job-training, tuition reimbursement for postsecondary courses, and paid leave to attend classes. Despite often generous budgets for these activities, relatively few workers take advantage of these opportunities, potentially limiting increases in productivity, wages and longer-term career advancement (Tompson, Benz, Agiesta, & Junius, 2013). This dilemma raises an interesting research question: Can emerging lessons from behavioral science experiments be applied to cutting the Gordian Knot of worker participation in education and training programs?

This review of current literature on the topic is intended to explore the strengths and limitations of applying tools of behavioral sciences to increase the participation and completion rate of training for lower-wage, frontline incumbent workers in ways that benefit both workers and sponsoring firms.

### **OVERVIEW**

Early studies in labor economics examined the effect that social preferences have in the workplace, with Akerlof's (1982) study of worker reciprocity as an influence on labor contracts as a leading example. Early work by Kahneman, Knetsch and Thaler (1986) on preferences for fairness can be related to the observed wage compression in several industries, and Thaler's (1989) work on behavioral factors that shed light on inter-industry wage differential, helped to establish the field. Somewhat more recently, Fehr, Kirchsteiger, and Riedl (1993) experiments with the notion of "gift exchange," contributed to Gneezy and List's (2006) study that found that unanticipated changes in wages affect worker effort.

While behavioral economics may have deep roots in labor economics, its application in other fields has drawn much of the recent attention it is receiving. Working somewhat in parallel to these studies of workplace incentives are studies in the field of social sciences that

examine the role of “limited attention” in decision-making, such as default settings, offering reminders to prompt behavior and constructing information in a manner that directs attention. According to Chetty, Looney, and Kroft (2009) for example, limited attention influences individual consumption choices, and may help to explain why people do not respond as predicted to incentives in social programs (Chetty, Friedman, & Saez, 2013). Thaler and Sunstein (2009), in their book *Nudge*, use the term “choice architecture” —the idea to design programs and policies that go with, rather than against, the grain of human psychology: simply stated, choice architects organize the context in which people make decisions to comport to the psychology of decision making.

The impact of incentives and willpower on behavior have also been evaluated and present potentially transferable lessons for economic approaches aiming to increase participation in employer-sponsored training. This paper presents evidence from the fields of labor economics and education, a discussion of the social context of decision making, along with the presentation of current models in practice by behavioral scientists.

## **LABOR ECONOMICS AND BEHAVIOR**

Perhaps somewhat more germane to the topic of this paper, Babcock, Congdon, Katz, and Mullainathan (2010) reviewed key implications of social psychology and behavioral economics to examine how individuals make decisions about work and leisure, searching for jobs, and taking up opportunities for education and training. They found that removing complexity in training offerings, as well as the need for willpower to remain engaged in training, would likely benefit workers and employers seeking to increase uptake in training programs. Earlier research in the field of social psychology has described willpower as a limited cognitive resource that can be depleted by exercising self-control (see Baumeister et al., 2008, for a review of the literature), yet recent research on the effect of willpower depletion on research participants’ susceptibility to framing effects (e.g. context) has suggested that depletion may have more limited and less consistent effects on willpower than implied by earlier research (de Haan and van Veldhuizen, 2015).

Miller, van Dok, Tessler, and Pennington (2012) studied the Work Advancement and Support Center (WASC), a randomized control trial demonstration designed to increase the incomes of low-wage incumbent workers. The project expanded the mission of One-Stop

Career Centers to offer incumbent workers career coaching, skills training and easy access to support services. Miller et al. found that the program simplified worker access to funds for training and substantially increased workers' participation in education and training activities and their receipt of certificates and licenses.

A number of studies have evaluated the effects of financial incentives in workforce development and educational achievement. Bloom et al. (2001) present findings from a randomized experiment conducted in four Canadian provinces to measure the effects of a financial incentive designed to promote rapid re-employment among workers who were displaced from their jobs by changing economic conditions. Over a two year period, cash incentives up to \$250 weekly were designed to supplement earnings for workers who accepted employment with wages lower than their previous position. Persons who received the supplement payments (2 out of 10 displaced workers) benefited from them; on average receiving payments for 64 weeks, totaling \$8,705. Yet, when compared to the control group, the supplement offer had little effect on job-search behavior, employment prospects, or receipt of unemployment insurance.

Madrian (2014) describes research on the effects of a variety of interventions that support the premise that an understanding of psychology can promote the development of policy tools that serve to motivate behavior change. Madrian's (2014) review concludes that financial incentives appear to work best to motivate behavior change when the structure for obtaining the incentive is simple, timely, tied to controllable outcomes and the outcome matters to the participants.

In his comprehensive review of the literature as to whether and how behavioral economics has, in fact, affected labor economics, Dohmen (2014) cites Borghans and Golsteyn's (2014) study that found among incumbent workers required to select a training model, training decisions can be influenced by setting a default, indicating that individuals can be "nudged" to participate in particular training programs.

Dughigg (2012) presents a framework for understanding how habits are formed and a guide to experimenting with how habits might change. He presents a simple three part neurological loop as the core of every habit: a cue, a routine and a reward. He suggests that organizations and individuals can make significant changes through the study of their habits to identify the cue, the spark that leads individuals to act on the desired routine habit and

what is the payoff, or reward, for the individual in maintaining the habitual behavior. Through understanding the habit loop, interventions can be designed to interrupt the loop and potentially develop a desired behavior.

## **EDUCATION**

Simplifying a process, forms, and arranging information in a manner that makes it accessible to participants has been shown to increase participation in the enrollment of social services, education and training. Using a random assignment research design, Bettinger, Long, Oreopoulos and Sanbonmatsu (2012) demonstrated that assisting low- to moderate-income families to complete the FAFSA (Free Application for Financial Student Aid), providing an estimate of aid eligibility, and providing information about local postsecondary options, substantially increased the likelihood that students will submit the aid application, enroll in college the following fall, and receive more financial aid. The results suggest that simplification and providing information could be effective ways to improve college access.

Similarly, Castleman and Page (2014) report that "...several low-cost interventions demonstrate that simplifying information about college and financial aid and helping students' access professional assistance can generate substantial improvements in students' postsecondary outcomes." They build on the growing behavioral economics literature by examining the effect of two applications of behavioral principles to mitigate summer "melt," the phenomenon that college-intending high school graduates fail to matriculate in college anywhere in the year following high school. One group of students received automated and personalized text messages to remind the prospective student of required pre-matriculation tasks and to offer counselor-based support. Another group of students received peer mentors to provide summer outreach and support. Both interventions substantially increased college enrollment among students traditionally underrepresented in higher education.

Fryer (2011) conducted a series of school-based randomized trials to test the impact of financial incentives on student achievement. Partnering with 203 urban schools in low-performing school districts, incentives were distributed to approximately 27,000 students. Results show that incentives can be an effective piece of a program designed to raise achievement among even the poorest minority students in the lowest performing schools.

Sadoff (2014) reports that there are policy areas in which experiments in behavioral economics have the potential to significantly improve educational outcomes and the effectiveness of reforms including: promoting healthy and helpful habits in students and “understanding what the critical non-cognitive skills are, how to move them, and their causal impact on later life outcomes; and targeting and individualizing interventions.”

Paunesku (2013) used the work of the Stanford University Project for Education Research That Scales (PERTS)<sup>1</sup> as a case study for scaling up social psychological research regarding the motivation of at-risk students enrolled in community college math courses. The study involved 770 students enrolled in 22 different math courses and examined the effects of a growth mindset intervention and a sense-of-purpose intervention on math achievement. The growth mindset intervention had students read an article describing the brain’s ability to restructure itself as a consequence of effortful practice, reinforced with written exercises. The sense-of-purpose intervention asked students how they wish the world could be a better place, how they can contribute to this imagined world and related working hard in school to empowerment and making a positive impact on the world. The intervention raised the grades of initially lower-performing students and significantly reduced the rate of failure for at-risk students.

## **SOCIAL CONTEXT**

Anand and Lea (2011) provide an assessment of an emerging literature on the psychology and behavioral economics of poverty. They highlight poverty experiences, role of neighborhoods, poverty dynamics and transmission, child poverty, disability and personal finance. They find that emerging work in behavioral economics is creating a new foundation for future policy consideration by recognizing that the knowledge of individual experiences, thoughts and the social context, developed in the social science fields, complements the traditional economic emphasis on structural factors and policy instruments.

Over the past decade researchers have evaluated the default design technique making a behavior occur automatically unless an individual chooses to opt-out (mentioned above in

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<sup>1</sup> PERTS partners with schools, colleges and other organizations to conduct research to improve programs and expand the knowledge of student academic motivation and achievement, (<https://www.perts.net>).

the reference to Dohmen’s review of the literature). An obvious example of this is the very successful automatic enrollment in 401(k) plans. Madrian and Shea (2001) studied several retirement plans that changed the default so that employees who take no action are automatically enrolled into the retirement savings plan. In one of the plans studied, the percentage of employees saving for retirement increased from 49 percent to 86 percent as the default was changed to automatically enrolling employees into the plan.

Further, Dee, Huffman, and Magenheim (2013), conducted research to compare an opt-out procedure as the default intervention with an opt-in procedure for purchasing savings bonds during tax filing for a group of low-income families. The authors found that the default, opt-out condition did not increase savings for their sample. Before the experiment factors that were assumed to impede saving were procrastination, hassle factors, and forgetting — all of which would have been well managed with an opt-out default. However, when study participants were surveyed about their tax refunds and saving goals after the experiment, they indicated that they had already decided how they intended to spend their refunds.

## **MODELS**

As research presents innovative ideas and approaches for increasing the participation of individuals in education and workforce development programs, the process for scaling-up or the implementation of a successful strategy in a different community, requires local evaluation plans. Haskins and Margolis’s, *Show me the Evidence* (2015), notes that: “Even if a program design is good and shown to work in previous studies when you implement it in a new place . . . it might not work. So the idea is continuous evaluation,” the objective being that evaluations permit program developers to make the necessary changes to support the unique experiences of local communities of workers and employers. The following two models present a process of evaluation that includes an information loop that demonstrates Haskins thesis.

Perhaps the prime example of how policy makers are taking advantage of the potential for behavioral economics to shape policy and services is the UK’s Behavioral Insights Team. This group has demonstrated gains in the uptake of a variety of services through the development of the “EAST framework,” which states simply: if you want to

encourage a behavior, make it Easy, Attractive, Social and Timely (EAST). This framework combined with defining the outcome, understanding the context, building the intervention, and then testing, learning and adapting, has been used by the UK to successfully improve a number of programs and services across the country. One recent project conducted in the UK employed the EAST model to improve adult student retention. In the UK, many colleges offer fully government subsidized adult education programs to improve basic numeracy and literacy skills. Reviewing a dataset of 1179 student attendance records, they found that approximately 25 percent of learners stop attending these programs in the first ten weeks and that average attendance rates deteriorate by 20 percent during that time frame. Applying the EAST model researchers implemented a large-scale field experiment in which they sent encouraging text messages to students reducing the proportion of students that stop attending by 36 percent, and leading to a 7 percent increase in average attendance relative to the control group (Chande et al., 2015).

Similar to the development of the EAST model, the Behavioral Interventions to Advance Self-Sufficiency (BIAS) project, sponsored by the U.S. Office of Planning, Research and Evaluation, is using a behavioral economics lens to examine programs that serve low-income families. The BIAS team uses a four phase method called “behavioral diagnosis and design” to identify potential behavioral obstacles — or “bottlenecks.” In the first phase, the testable problem is defined, in the diagnosis phase, both qualitative and quantitative data is collected to identify what is causing the problem. The design phase suggests theories about why bottlenecks are occurring and behavioral insights are employed to develop the intervention. Lastly the team evaluates the behavioral intervention creating a loop for continuing the process of improving program effectiveness. One example of the use of this model provided incarcerated noncustodial parents with simple and clear information and reminders of the process of applying for child support order modifications. The intervention produced a highly statistically significant impact at relatively low cost (Farrell, Anzelone, Cullinan, & Wille, 2014).

In 2014, the U.S. government established the Social and Behavioral Sciences Team (SBST) to identify how behavioral insights can be integrated into systems to improve access to programs and government efficiency. One of the initial projects, cited in the 2014 SBST Annual Report, sent email notices informing Veterans of their benefits and the steps needed

to apply. A simple change in language identifying the benefits as “earned” (substituted for the work “eligible”) led nearly 9 percent more Veterans to access the application for those benefits.

Simplifying job training services, minimizing barriers to take-up and providing effective supports are only a part of the larger social context in which frontline workers make choices regarding their participation in job training opportunities. Creating a workplace community where frontline workers experience opportunity may vary for each community of incumbent low-wage workers. However, frameworks such as EAST and the similar BIAS’ “behavioral diagnosis and design,” method may hold promise for continued innovation within the United States to create programs that foster environments where workers have the necessary supports to motivate and assist their participation in employer sponsored training programs.

## **SHIFTING PARADIGM**

This review of the literature in the field of behavioral economics has revealed that the language and perspective of the field is undergoing a paradigm shift from the perspective of identifying and correcting the deficit of the workforce (e.g., “...individuals often fail to choose optimally and have difficulty exerting self-control...”), to identifying and building upon the social, cultural and psychological context of worker’s lives to construct a frame of reference for behavioral insights<sup>2</sup> that can guide policy and practice. A recent report by the World Development Bank Group, *Mind, Society and Behavior* (2015), finds that decision-making is influenced by contextual cues, local social networks and social norms, and shared mental models.

Indeed, theories of learning have evolved away from notions that reduce learning to individual mental capacity, shifting the analytic focus from the individual, to learning as participation in the social world (Lave and Wenger, 1991). Markus and Nurius (1986) purport that individual motivation is influenced by what an individual believes possible for the self or possible self. The possible self is made salient by an individual’s particular

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<sup>2</sup> Behavior insights, a term coined in 2010 to help bring together ideas from a range of inter-related academic disciplines (behavioral economics, psychology, and social anthropology).

sociocultural and historical context, from the models, images and symbols provided by the society and culture and an individual's social experiences.

For example, goal setting exercises have been reported to successfully improve GPA among undergraduate students who self-identified as struggling academically (Morisano, Hirsh, Peterson, Pihl, and Shore, 2010). As a student experiences successful goal attainment, self-efficacy increases; enhancing the student's commitment to their goal and motivating students to work toward subsequent achievement (Boekaerts, Pintrich, & Zeider, 2000). Even though these studies report on the effects of interventions on college students, these lessons can inform the broader range of considerations when designing a worker training program.

## **CONCLUSIONS**

Evidence from the fields of labor economics, psychology, education and recent efforts of applying behavioral economics to promote efficiencies in government sponsored programs, can provide valuable lessons and insight into the challenges employers face when creating effective programs to train low-wage, frontline incumbent workers. Interventions ranging from choice architecture to individualized goal clarification may contribute to the creation of a bridge for frontline workers to enter into and complete training programs offered by employers. Further, the literature encourages employers and researchers to be mindful of the cultural and social context of workers lives in developing and evaluating training programs.

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