

The Persistence of Poverty in the Context of Financial Instability: A Behavioral Perspective

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Abstract

We review recent findings regarding the psychology of decisionmaking in contexts of poverty, and consider their application to public policy. Of particular interest are the oft-neglected psychological and behavioral consequences of economic scarcity coupled with financial instability. The novel framework highlights the psychological costs of low and unstable incomes, and how these can transform small and momentary financial hurdles into long-lasting poverty traps. Financial instability, we suggest, not only has obvious economic ramifications for well-being, but it also creates the need for constant focus and attention, and can distract from the very opportunities otherwise designed to alleviate the effects of poverty. We describe a variety of public policy strategies that emerge from this perspective that are not readily apparent in conventional theories that permeate the design of social programs. © 2015 by the Association for Public Policy Analysis and Management.

INTRODUCTION

Many Americans—nearly a hundred million—are living precariously near the poverty line and experiencing ongoing challenges balancing their finances (Hacker, 2006; U.S. Census Bureau, n.d.). Although the aftermath of the 2008 recession may be appropriately blamed for recent upticks in poverty, the prospects for economic mobility did not appear measurably better in prior decades. Permanently moving out of poverty is rare and challenging. More than half of those individuals in the bottom income quintile in 1994 remained there 10 years later, and fewer than 4 percent reached the top quintile (Acs & Zimmerman, 2008). Equally troublesome are the long-term societal costs of intergenerational poverty, estimated by some to be in the order of \$500 billion annually (Holzer et al., 2007). As we pass the 50th anniversary of President Lyndon Johnson's War on Poverty, debates continue over why the problem of poverty in the United States has proved so intransigent and why the public investment to eradicate poverty has not proved more effective than anticipated.¹

¹ For a historical context, see the Fox et al. (2015) retrospective documenting trends in poverty using alternative measures. Poverty's impact on children's educational achievement and health result in lower productivity of the nation's economy and higher health-care costs (Aber, Morris, & Raver, 2012). Also, see Tanner (2012).

To shed some light on the inherent difficulties, we apply recent insights from behavioral research on decisionmaking under conditions of economic scarcity and financial instability. Specifically, we consider the implications of the behavioral framework, as presented by Sendhil Mullainathan and Eldar Shafir (and their colleagues, as cited below), for the implementation and design of poverty programs and policies.² Our application is grounded in the economic reality of the lives of the poor. It posits that the psychological costs of having to deal with low and unstable income streams can prove unexpectedly high, transforming small and momentary financial hurdles into long-standing and persistent poverty traps.

OLD AND NEW PERSPECTIVES ON THE DETERMINANTS OF POVERTY

Most common treatments of poverty draw on accounts of human capital and related social science theories addressing the variety of social and economic factors that influence the personal choices of the poor.³ As the dominant perspective on poverty and its causes, this view—call it “the human capital” view—highlights several assumptions that drive the design of poverty alleviation strategies. According to the human capital view, many Americans lack the education, skills, and work experience to be productive and earn wages sufficient to meet their basic consumption needs and still save for a rainy day (Besharov & Call, 2009; Haskins & Sawhill, 2010). Proposed solutions to the human capital challenge include enhanced quality of early education and child care, improved quality of schooling, greater access to adult job training programs, or addressing earnings deficiencies directly through income maintenance programs such as the Earned Income Tax Credit (EITC). From this perspective, if incomes are low because of limited human capital, the government must increase access and ameliorate individual abilities so as to enhance human capital.

A variety of social science approaches expand on the human capital perspective by incorporating sociological, cultural, and environmental features that affect personal choice (e.g., Jencks & Mayer, 1990). In this view—call it the “personal choices” view—many Americans are, and remain, poor because of the choices they have made, and continue to make, in full or in part because of the constraints of their environment. Poor attendance or performance on the job drives down productivity and earnings and interferes with wage growth and promotions from entry-level jobs. Regrettable choices outside of work, according to this view, further aggravate the problem, including teen pregnancy, substance abuse, living in economically deprived neighborhoods, and reliance on public assistance and income support programs.

Of course, opinions differ on *why* the counterproductive choices persist. Some argue that the source of the problem is the welfare state itself, which creates cultural and social norms that drive the poor, among other things, toward reliance on welfare, nonmarital fertility, and divorce (Danziger et al., 2000).⁴ Others attribute the problems to experiences and environments in early childhood (or even in utero); failure to promote critical mental and cognitive capacities in infancy can create a lifelong shortfall of important capacities and compromise subsequent decision-making (Noble et al., 2012; Shonkoff & Phillips, 2000; Stevens, Lauinger, & Neville,

² See also Barr, Mullainathan, and Shafir (2008) for applications to consumer financial behavior.

³ Cancian and Danziger (2009) provide comprehensive background to theories and empirical reviews of poverty and poverty policy. We seek not to replicate their work, and comparable reviews, in this manuscript.

⁴ We acknowledge but do not fully describe other risk factors that contribute to poverty, including depression and related mental health issues, substance abuse, and being victimized by domestic violence.

2009). Those different interpretations in turn lead to somewhat different policy solutions—from conditional cash transfers (CCTs, intended to encourage choices that reinforce better behavior, ranging from preventive health care to getting good grades in school),⁵ and a more stringent public safety net (intended to introduce incentives, alter expectations, or impose requirements to work), to investments in high-quality early child care and education. A diversity of solutions notwithstanding, the “human capital” and “personal choices” approaches share a common assumption: to make a large dent in poverty, one must work on the behaviors of low-income people. Underlying the attributes that come with low income—poor education and health, unsafe and violent surroundings, substance abuse, unstable personal relationships, and negligent parenting—are what amount to bad choices. These bad choices make it exceedingly difficult to build human capital needed to escape poverty.

We provide an alternative account, which is grounded in human cognition and behavior, but is not confined to poverty. Consider the following vignette.

Linda is 26 year old and works as a paralegal in a downtown office. She has a baby, and together with her husband, who is an electrician, they manage a life that’s financially modest and fairly busy. Linda would very much like to advance to a better place and, being well educated and smart, is encouraged by her firm to go to law school. The first hurdle is the Law School Admission Test (LSAT). Linda hires more child care and begins to use her free time to study. The texture of her life subtly changes. She gets a bit less sleep, she has even less quality time with her husband, who feels neglected, the cost of extra child care further increases financial tensions, and Linda is constantly preoccupied, for the first time since college, with what will happen if she doesn’t do well on the test. Her typed reports at work have more errors, she is distracted by trying to make sense of the LSAT material, which often seems unclear or hard to remember. On occasion she falls asleep at her desk, something she had never done before. Her boss is profoundly unimpressed, her husband is gloomy, and the baby, whom she sees less, appears to her fidgety and morose. She forgets a lunch date with a friend, cancels her regular checkup for the first time, and neglects the traditional weekend call to her aging parents. She lets herself go a bit physically, eating more junk food and forgoing the gym. What makes matters worse is that she isn’t even able to do her studying well. Between the fatigue, the disappointed boss, husband and baby, and feeling lethargic, she finds herself procrastinating, her mind wandering and preoccupied. Thankfully, the day of the LSATs comes and somehow Linda does fine. She gradually begins to put the pieces back together. Luckily, friends, family and even coworkers understand and are supportive. Her mind is less encumbered, she spends more time with the baby, she sleeps, she exercises. She is herself again. And then, one fine day, she gets accepted to a highly competitive law school . . .

This vignette captures something profound about human behavior. Linda’s problems stem not from her limited intrinsic abilities, but from juggling multiple demands. The vignette highlights the ways in which mental life changes when challenges are great and persistent, when people are preoccupied or overwhelmed. At those times, intellectual resources become scarce, self-control depleted, and choices compromised. With mental resources stretched, it is easier to neglect things, give in more readily to temptation, and apply temporary Band-Aids to persistent problems because mental capacity is not available to apply full treatment. The overburdened mind functions poorly, decisions can be shortsighted and wrong-headed.

This vignette provides a suggestive perspective on poverty. Contrast Linda with Denise, living near the poverty line with two young children and no spouse or reliable

⁵ For example, see Riccio et al. (2010) for a description of the Opportunity New York City conditional cash program.

child support, employed at a cafeteria for a variable number of hours and a not fully predictable weekly schedule. Twice a week she attends an evening training program to qualify as a medical administrative assistant. Denise's sister, who provides much of her child care, has a similarly complicated life, and has recently been less reliable, leaving Denise with a patchwork of child-care arrangements that must be arranged and altered daily. The schedule is so challenging that Denise shows up to work late for two shifts, is docked pay for the week, and receives a warning that she could be fired. Consumed by the juggling of child-care arrangements, Denise misses a mobile phone payment, and her phone service (a primary means of contact for social and private support, and of important reminders) is interrupted. She also misses the application deadline for two programs her children were eligible to attend. Eventually she loses her job.

Linda was able to recuperate from a temporary shock to her life (the LSAT) and eventually returned to her pursuits. Presumably, she would be able to bounce back from small financial crises as well. For the poor, in contrast, there is the incessant and overwhelming juggling of financial and related challenges, akin to having to diligently prepare for an LSAT that one never takes and never passes. Something as simple as missing a monthly payment can have overwhelming consequences. How will Denise patch together the money needed to reinstate her cell phone plan, while at the same time juggling child-care needs and a job search? For the financially comfortable, a missed payment is an annoyance, to be rectified with other available resources with likely little damage to one's overall conditions or credit report. Temporarily cutting back on other goods is another possibility. Arranging to purchase a disposable or new phone may be a better plan. These are easy options. Some rearranging required, but not an all-consuming mental task. For the poor, in contrast, these options are not readily available. There is little slack, insufficient savings, and few alternatives for cutting back on current consumption. Instead, reinstating a discontinued phone plan entails real challenge: Will the money come from skipping rent, money reserved for some other needed expense, or a payday loan? Where will the interest payment for the loan or the late fee come from, and which will be more manageable and affordable? For the poor, such concerns can quickly transform basic economic challenges into highly consuming mental ones.

The missed payment is not unique. Income "shocks" like these abound for poor individuals. Estimates from the Survey of Income and Program Participation show that the lowest income households with children experience twice as many income shocks (defined as monthly income changes of 33 percent or higher) during a two-year period, and more than 70 percent have no savings or comparable assets; in contrast, households at higher incomes not only experience fewer income shocks but over 90 percent have at least \$1,000 in savings (Gennetian et al., 2015). The shocks occur because low-income individuals live near a financial precipice. Many jobs offer no security and little prospect for growth, with frequent fluctuations in hours and sometimes in wages (Enchautegui, 2013). Low-income individuals have fewer financial buffers and limited access to liquid financial resources, such as savings and low-cost credit (Barr, 2012). They also have less inessential consumption to cut back on. In addition, they face other stressors. Neighborhoods are dangerous, health care is not always available, and close friends and relatives often need help (Edin & Kissane, 2010; Gennetian et al., 2015; Halpern-Meekin et al., 2015; Ludwig et al., 2013). These conditions imply two important things. First, income instability is a persistent complication, requiring constant juggling, and making life at the edge even harder to manage. Second, the constant struggle affects decisionmaking, requiring persistent focus on managing the most immediate instability, which risks miscalculation and distraction in other aspects of life, rendering long-term consequences more dire.

With this as a backdrop, the personal choice perspective is turned on its head. Misguided decisions can often be a consequence rather than the cause of poverty. According to the perspective we develop below, suboptimal decisions are often the result of a specific mindset created by the demands and circumstances of poverty. This novel perspective allows a reinterpretation of the human capital account. Workers who are depleted and distracted by their financial burdens may be more likely to err on the job, may fail to follow clear instructions, and may be less sensitive and courteous to demanding customers. *Investing* in human capital itself becomes more difficult. Signing up for a training program requires mental bandwidth they just do not have. Keeping up with the program requires overcoming the recurring inclination to skip a class as one deals with the day-to-day struggles that stand in the way, like finding a babysitter or solving the challenges of long commutes. Even learning while inside the classroom requires the mental resources to listen, focus, and absorb.

The rest of this manuscript draws out this argument in greater detail. We begin with a brief account of the financial lives of the poor as background, followed by a review of the behavioral findings most pertinent to a better understanding of the cognitive resources taxed by financial instability. The behavioral review includes summaries of recent empirical evidence about socioeconomic differences in the psychology of decisionmaking. Informed by these findings, the remainder of the paper considers a broad set of policy implications for poverty alleviation strategies.

THE FINANCIAL LIVES OF THE POOR

A persistent lack of economic slack is endemic to the lives of the poor (Mullainathan & Shafir, 2009). Many people experience some financial tightness at some point in their lives, but for the poor, these periods are frequent, if not constant, and cumulative. Periods of financial tightness are becoming increasingly common and unpredictable as traditional buffers are weakened, and stable housing, jobs, and cash safety nets are all cut back, eliminated, or made increasingly contingent on employment, which in turn is also increasingly precarious. For many, this means continuously living on the margin of being poor or near-poor (Cellini, McKernan, & Ratcliffe, 2008; Hill & Ybarra, 2014; Masumura & Hisnanick, 2005). Analyses of national data show that households in the lowest income quintile have the highest incidence of substantial income declines (50 percent or larger), with 16 percent making no recovery within a year (i.e., their income remaining at less than one-half of the pre-drop level for at least one year), 33 percent making an incomplete recovery, and 51 percent making a full recovery (Acs, Loprest, & Nichols, 2009). Although fewer than 2 percent of the population continuously lived in poverty from 2004 to 2007, approximately 31 percent of the population had at least one spell of poverty lasting two or more months during this same four-year period (DeNavas-Walt, Proctor, & Smith, 2009). As summarized in analyses of data from the Panel Study of Income Dynamics “the new face of the working poor, suffering not so much from a dearth of possessions as from a cavalcade of chaos—pay cuts and eviction notices, car troubles and medical crises—that rattles [their] finances and nudges [a] family toward the economic brink” (Gosselin, 2004).

Much of this income instability arises from volatility in earnings (with the empirical literature traditionally focused on patterns in male earnings; Cellini, McKernan, & Ratcliffe, 2008; Dahl, DeLeire, & Schwabish, 2011; Gottchalk & Moffitt, 2009; Nichols, 2008; Shin & Solon, 2011). The low-wage labor market has become increasingly precarious, characterized by temporary or seasonal employment and by a susceptibility to layoffs or reductions in hours (Kaye & Nightingale, 2000; Loprest et al., 2009; Schohet & Rangarajan, 2004). As compared to higher wage workers,

low-wage workers are much more likely to hold multiple jobs and jobs without fixed schedules during standard weekday hours and to have experienced declining real value in their wages (DeNavas-Walt, Proctor, & Smith, 2009; Kalleburg, Reskin, & Hudson, 2000). These labor trends are coupled with trends in the structure of social assistance, which is increasingly conditioned on work, or reallocated to the elderly and disabled (Ben-Shalom, Moffitt, & Scholz, 2011). These dual trends have created tensions in social policies originally intended to provide an income safety net to individuals from a loss or cutback in work hours. And among the increasingly few who are eligible for means-tested programs on an interim basis, enrolling in public assistance programs takes effort, and once enrolled, quick access to emergency financial assistance is rare (Schott, Pavetti, & Finch, 2012).

Many of the coping strategies around finances adopted by the poor prove effective and satisfactory in the short term, but risk creating deeper poverty soon thereafter. About one-sixth of families in the lowest income quintile have been late in paying a bill within the last year (Caskey, 2006), which commonly results in paying high reconnection and late fees and a lower credit score. Some families cut back on basic but less essential needs, such as certain foods (Barr, 2009), or they ignore those bills that will have the least direct consequences. Such strategies are often coupled with easy-to-access but costly alternative credit sources. In 2013, one in four U.S. households used at least one alternative financial service in the prior 12 months, such as a pay day, auto-title, or refund anticipation loan (Burhouse et al., 2014). Like delaying bill payments, such strategies will solve today's problem but will result in new and more serious financial problems tomorrow. To procure funds, some households tap into private safety nets or social networks such as families and friends. However, a reliance on these tends to be risky and often makes future reciprocity less certain (e.g., see Hernandez & Ziol-Guest, 2009).

Accumulating savings before financial instability strikes would guard against such shocks, but transforming small amounts of money to more substantial savings is difficult and rare. The poor typically deal with relatively small sums of cash, receiving weekly or biweekly paychecks. After paying rent, utility and other bills, they are typically left with only small amounts of cash on hand. In recent polls, nearly two-thirds of Americans report living paycheck to paycheck (Forsyth, 2012). Further, nearly 57 percent of low-income families are *asset-poor*, defined as lacking the liquid resources necessary to finance consumption for three months (McKernan & Ratcliffe, 2009). It is particularly hard to save if a person lacks a bank account, which is the case for one-quarter of families in the bottom income quintile.⁶

Even more troubling, but consistent with the behavioral analysis below, is that despite the high threat of adverse events, poor individuals are less likely to have unemployment insurance (UI), car insurance, life insurance, disability insurance, or other forms of insurance protection. Surprisingly, even health insurance coverage is low despite many individuals having access to Medicaid and the Children's Health Insurance Program. Nationally, 15.4 percent of children in poverty lack health insurance compared with 9.8 percent of all children (U.S. Census Bureau, 2011). This combination of circumstances—instability of both income and expenses, combined with low savings and no insurance—translates into much greater levels of material hardship for the poor and near-poor, as adverse events jeopardize their ability to meet basic living needs.

⁶ Evidence from the Detroit Area Household Financial Services Survey indicates that more than two-thirds of those currently unbanked were previously banked. Conversely, more than half of those presently banked had previously either closed a bank account voluntarily (because of inconvenience, fees, or a move) or had an account that was closed by the bank (because of overdrafts, low balances, low activity, or other difficulties).

A BEHAVIORAL LENS ON POVERTY AND FINANCIAL INSTABILITY

The empirical study of decisionmaking is informed by research into perception, cognition, and other features of the human information-processing system. Behavioral economics applies insights from this research to the analyses of everyday economic decisions. In what follows, we focus on those elements of behavioral research that are most pertinent to understanding decisionmaking in the context of poverty and of financial instability. The hope is that providing such a perspective might enrich the analysis that would emerge from a classical economic framework.

Any attempt to understand mental function must consider the limits to human capacity that come into play when too many demands are placed on the mind. To stay on track, to sift through the many demands, humans must impose attentional control, both to disengage attention from current distractions and to redirect it to what matters most (Mischel & Ayduk, 2011). But that task, paradoxically, is increasingly difficult to do as the mind finds itself processing additional information, when it experiences what psychologists call “cognitive load.” The most fundamental abilities affected by cognitive load are attention span, cognitive capacity, and executive control.

Attention is a limited resource that must be selectively allocated as a person concentrates on certain aspects of the environment while ignoring others. It is central to multitasking. The human attentional system has severe limits. As load on the system increases, people needing to shift attention back and forth perform more slowly and make more mistakes. *Cognitive capacity* refers to the cognitive mechanisms that underlie the ability to solve problems, retain information, and engage in logical reasoning. Perhaps the most prominent feature of everyday human capacity is fluid intelligence, the ability to think and reason abstractly and solve problems independently of any specific learning or experience. *Executive control* underlies the ability to manage cognitive activities—deciding whether, at any particular moment, one wants to attend, plan, initiate, or inhibit certain actions or control an impulse. Like a computer’s central processor, executive control is essential to functioning well. It determines the ability to shift attention and multitask, control memory, and self-monitor.

Cognitive Load

Fundamental abilities such as attention, cognitive capacity, and executive control can all be affected by cognitive load. For example, even in simple visual search tasks, cognitive capacity and executive control have been found to be impeded under cognitive load (DeFockert et al., 2001; Lavie, 2000; Lavie et al., 2004). Increased load can also reduce the executive control of attention, for example, as measured via participants’ performance on task-switching and response-inhibition tasks (Roberts, Hager, & Heron, 1994). Similarly, prospective memory—the ability to remember to perform tasks in the future—has been shown to be heavily affected by cognitive load (Marsch & Hicks, 1998). Load also changes how people reason and solve problems (Kahneman, 2011; Kahneman & Frederick, 2002), increasing reliance on heuristics and shortcuts, including forgoing active decisions and instead opting for default options that may not always lead to the best solution.

Some sources of distraction and cognitive load are external, such as peripheral stimuli that shift attention away from engaging with what matters most. As one poignant example, children’s reading levels in classrooms situated near passing trains were lower than those of children in the same school but in classrooms on the school’s quiet side (Bronzaft, 1981). Often equally consequential are those causes of distraction and load that are produced internally, for example, by thoughts that are persistent and distracting.

Living in poverty presents numerous external and internal causes of increased cognitive load. Economic scarcity forces people to focus their attention on daily trade-offs more persistently than the wealthy (Mullainathan & Shafir, 2013b); the poor consistently must juggle overwhelming demands, and as a result often mismanage them (Barr, 2012; Halpern-Meehin et al., 2015). Poverty presents a particularly large array of unwanted and persistent distractions, including living environments that are louder (Evans, Eckenrode, & Marcynyszyn, 2007), more crowded (Evans, Eckenrode, & Marcynyszyn, 2007), and less safe (Kling, Liebman, & Katz, 2007), all of which impose additional cognitive demands.

For those living in relative abundance, there are, of course, many and various concerns, but most such concerns—so long as dear ones are reasonably healthy and there are no emergencies—can await their turn, as cognitive resources are methodically shifted to deal with one issue and then the next. The poor, in contrast, even when there are no special emergencies, must persistently contemplate necessary trade-offs and carefully juggle immediate payments with trickling incomes and both anticipated and unanticipated expenses.

Cognitive Load and Diminished Performance

Although the limits of everyday cognition are evident in areas ranging from driving and playing chess to the design of cockpits and air traffic control towers, their explicit role in managing our daily lives has been given less thought (for an exception, see Thaler & Sunstein, 2009). Only recently has attention turned toward the cognitive challenges faced by the poor (Mani et al., 2013; Mullainathan & Shafir, 2013a, 2013b; Shah, Mullainathan, & Shafir, 2012). Mani et al. (2013) conducted several experiments with shoppers at a mall, who were divided by median split on household income into “rich” and “poor.” Participants contemplated hypothetical scenarios describing everyday financial challenges, and were then presented with the Raven’s Progressive Matrices task (Raven, Raven, & Court, 2003, updated 2004), commonly used to measure “fluid intelligence” in IQ tests, and a second task used to gauge executive control, in this case one’s ability to inhibit an impulse in favor of a different response (Davidson et al., 2006). These studies found that in the context of financially manageable scenarios (where, e.g., car repair costs are affordable), the performance of the poor on the cognitive tasks was indistinguishable from that of the rich. The poor, on the other hand, performed significantly worse on both measures when the financial scenarios were challenging (when fixing the car would be very costly).

The effect of cognitive load produced by financial concerns was substantial. The effects observed in the studies above correspond to between 13 and 14 IQ points. By most commonly used descriptive classifications of IQ, 13 points are sufficient to transition from a rating of average to a rating of superior intelligence. Alternatively, a loss of 13 points reduces a rating of average to borderline deficient. A similar pattern occurred for the executive control tests. In the context of financially manageable scenarios, the poor and the well-off looked similar—they were able to control their impulses equally. But in the face of financially challenging scenarios, the well-off subjects continued to do just as well, whereas the poorer subjects performed significantly worse—they acted more impulsively. The focus on scarcity reduced executive control.

Note that the difference is not between poor and rich *people*. The poor performed just like the rich when their financial concerns were not dominant; when, for example, the car cost little to fix. Rather, these experiments demonstrate the consequences of the burden of juggling poverty-related concerns. A person who is taxed by the challenges of poverty shows diminished performance during times of concern.

Cognitive Load and Focusing

Decisions that require control are influenced by two competing forces: (1) present-focused drives that push the person in the direction of acting impulsively and succumbing to temptation, counteracted by (2) higher level, often long-term, goals driven by resource-intensive cognitions that help resist that impulse (Hinson, Jameson, & Whitney, 2003; Hoch & Loewenstein, 1991; Loewenstein, 1996; Shiv & Fedorikhin, 1999; Sjoberg, 1990; Ward & Mann, 2000). The repeated exercise of self-control itself depletes subsequent self-control (Baumeister et al., 1998; Baumeister & Tierney, 2011; Muraven & Baumeister, 2000). Moreover, self-control is compromised whenever the cognitive resources devoted to resisting temptation are focused elsewhere, as will occur in times of greater load. The impact of impulses on behavior tends to increase under greater cognitive load (Frieze, Hofmann, & Wanke, 2008), thus affecting self-discipline. For instance, when dieters are under cognitive load, they exhibit less self-controlled eating and show decreased executive function (Hinson, Jameson, & Whitney, 2003; Shiv & Fedorikhin, 1999; Ward & Mann, 2000). In one study, participants asked to remember a seven-digit number were significantly more likely to opt for cake over fruit than were those asked to remember a two-digit number (Hinson, Jameson, & Whitney, 2003; Shiv & Fedorikhin, 1999; Ward & Mann, 2000).

Cognitive load also affects short-term memory capacity (Miller, 1956) and constrains perceptual and fluid reasoning abilities and attention (e.g., Baddeley & Hitch, 1974; Neisser, 1976). In classic dichotic listening tasks, subjects pay attention to, and are very good at reporting, the audio message played in their right ear, but know remarkably little about—and do not even realize it was in a different language—the message heard simultaneously in the left ear (e.g., Baddeley & Hitch, 1974; Neisser, 1976). In another popular demonstration, observers, busy counting passes between players, fail to notice a person in a gorilla suit walk across a basketball court (Simons & Chabris, 1999). In yet another, people walking across a U.S. university campus were less likely to notice a clown riding a unicycle in the middle of the plaza when they were talking on a cell phone compared with those who were not (Hyman et al., 2010). The attempt to regulate attention is in part a tug of war between competing goals. Although we often decide what to attend to, some stimuli are automatically salient or flagged as motivationally salient by reward-processing mechanisms in the brain (Field & Cox, 2008; Knudsen, 2007), which can then hijack our attention, despite conflicting goals.

Economic and material scarcity absorb attention, interrupt fluid reasoning, and leave less of these for other things. As an extreme example, in a series of starvation experiments conducted in Minnesota during WWII, healthy and highly educated male volunteers were given extremely small rations of food for 24 weeks. The quality of their thoughts and aspirations changed substantially. But perhaps most prominent was their focus on food—and not necessarily in ways that were productive. They read recipes and collected cookbooks and made plans to open restaurants, a focus that was of little help in their condition. If anything, it only made them hungrier (Kalm & Semba, 2005; Tucker, 2006). Other experiments have shown that scarcity quickly becomes top-of-mind (Mullainathan & Shafir, 2013b). In one study, inducing thirst in subjects led to quicker recognition and greater recall of thirst-related words (Aarts, Dijksterhuis, & De Vries, 2001). In another, showing dieters food words led to diminished performance immediately thereafter owing to distracting, lingering thoughts of food (Bryan, Mullainathan, & Shafir, 2010).

A recent series of laboratory game experiments reveals how scarcity can capture attention and interfere with decisionmaking (Shah, Mullainathan, & Shafir, 2012). Participants used various forms of resources to earn rewards. Some participants were randomly assigned to be poor and had fewer resources; others were assigned

to be rich and had greater resources. Subsequent measures found that the poor were more focused than the rich on how they allocated their resources. They deliberated longer and were more careful. But this focus came at a cost. As poor participants focused heavily on doing the best they could with their limited resources in each round of the game, they neglected other concerns. As they honed in on patching up things right now, they neglected future consequences. When they were given the option to borrow at high interest rates, the rich declined, but poor participants neglected the future implications of borrowing and borrowed too much. As a result, they fared worse when they had the option to borrow than when they did not. A greater focus on managing scarcity in the present rounds led participants to borrow at high rates, something they avoided when greater abundance allowed them to take a more global perspective (Shah, Mullainathan, & Shafir, 2012).

Further empirical support for the notion that scarcity imposes costs on decision-making was documented with Indian sugarcane farmers, who receive the bulk of their annual income at harvest time. These farmers find it hard to smooth their consumption and, as a result, find themselves poor before harvest and richer after. The study found that the same farmer scored lower on intelligence tests and was more impulsive before harvest, under greater scarcity, than after harvest, in contexts of abundance. (For further analysis and discussion, see Barr, Mullainathan, & Shafir, 2008; Mani et al., 2013; Mullainathan & Shafir, 2013b; Shah, Mullainathan, & Shafir, 2012.)

Scarcity and Local Decisionmaking

A fundamental observation in these and related studies, and in decisionmaking research more generally, is the exceedingly local nature of everyday decisions. People tend to focus narrowly and to discount more global perspectives involving considerations about the long term, in favor of issues salient to their immediate circumstances. Narrow focusing has clear implications for planning, and for the potential of policymakers and others to intervene in shaping decisionmaking. Careful attention devoted to decisions in the present—how to pay an urgent bill, afford a school trip, see a doctor—imply relatively less attention will be allocated to decisions that are less immediate, such as how to plan for retirement or if to save at all (Neisser, 1979; Shah, Friedman, & Kruglanski, 2002; Shah, Mullainathan, & Shafir, 2012; Simons & Chabris, 1999). Neglecting things even as minor as taking a daily prescription pill or paying an overdue bill can trigger a chain of events that ultimately leads to poorer health or to costly financial outcomes. In circumstances of depleted resources, people will make less far-reaching or fortuitous choices, which may further diminish their ability to deal with challenging circumstances in the future.

Poverty Policy Overlooks Drain on Cognitive Resources

Depleted economic resources can bring about depleted cognitive resources. Yet, the relevance of human cognition, its resilience and vulnerability, is not easy to glean in conventional poverty frameworks. Cognitive capacity is typically seen as static and inherent to the individual. As such, IQ or literacy tests are thought of as measuring inherent (or genetic) cognitive capacity, and often used to target particular services or appropriate job training. Economic circumstances are not assumed to affect levels of attention, cognitive capacity, or self-control available for decision and action. Rather, the conventional view assumes that cognitive capacity is inherited or shaped by a person's history in ways that can hardly be altered by programs to help improve the lives of the poor.

The conventional policy response to poverty looks to income protection or enhancement (or more generally to increased human capital) as the ultimate objective, achieved through a variety of incentives and services. Low-income individuals, it is assumed, will avail themselves of advantageous programs and services and will explore available ways to overcome barriers, earn more, lessen dependence on public assistance, and perhaps even accumulate some savings. The low and erratic rates of planning, program participation, and follow-through is seen by policymakers as structural hurdles or else as failures of understanding or motivation, rather than a result of distraction, depleted cognitive resources, and compromised decisionmaking.

It is unconventional to think of a dip in income as resulting not only in money owed to a loan shark but also as a cognitive burden that reinforces the persistence of poverty. Much as a broken car might mean not only unanticipated expenses, but a situation where without alternative forms of transportation one may be late to work and one step closer to job loss. Just as an air traffic controller (ATC) who is focusing on a potential collision course is prone to neglect other planes in the air, so do the poor, juggling monetary concerns, have less capacity to attend to other problems that deserve attention. And what appears as minor, say, a moment of disengaged parenting due to other preoccupations, might result in a teenager roaming unsafe streets.

Empirical support about the ramifications of external shocks on cognitive load can be gleaned from studies not specifically about the poor, but concerning other types of cognitive load, such as that experienced by ATCs, who have difficult and easier days at work, determined by fairly random factors such as climate and congestion. Studies have found that the difficulty of an ATC's workday is associated with behaviors such as marital withdrawal and the increased passive disciplining of children (Repetti, 1989, 1994). Apparently, on days of hard work, ATCs lack the energy and patience to engage in demanding and attentive interactions. In low-income contexts, the preponderance of evening shift work and the impact of irregular schedules may have similar consequences for the life outcomes of workers, who exhibit more withdrawal and less tolerant and more dismissive parenting (Presser, 2005). Like ATCs after a hectic day, low-income individuals have sapped their attention and self-control, resulting in the common experience of cognitive depletion, with spillovers into the rest of life. The poor, you might say, are keeping many planes in the air. Unlike ATCs, however, it is rare that the poor are able to go home after "all planes have landed," rest, re-energize, and arrive refreshed and prepared the next day.

Changing policy to recognize and reflect the role of cognitive resources will require work. Assembling evidence in support of the proposed notion of behavioral limitations in the U.S. context of poverty and financial instability (beyond the lab) is empirically challenging, in part because it is difficult to measure human cognition, and in part because it is difficult to untangle the causal relationships between aspects of cognition and features of instability. One approach is to examine whether income shocks, as representative moments of economic scarcity, are associated with decisionmaking behaviors characteristic of strained cognitive load. The timing of social assistance income might offer one such natural experiment. Many low-income families receive food stamps at the beginning of each month. Like the Indian farmers, budgets at the end of the month are often tight (Shapiro, 2005; Stephens, 2003). Although no one has designed a study on these adults, we have suggestive evidence from a study of school children. Among Chicago public school students in grades 5 through 8 in the 2005 to 2006 academic year, Gennetian et al. (2013) found a 40 percent increase in school disciplinary events at the end as compared to the beginning of the month for students whose families participate in The Supplemental Nutrition Assistance Program (SNAP). This difference was statistically larger than the same

comparison among fellow students not receiving SNAP benefits. Estimates from The American Time Use Survey data further show that public benefits recipients sleep 70 minutes less on average at the end of each month than at other times in the month. Although it is not possible to attribute these effects to cognitive function with certainty, the behavioral patterns observed at moments of extreme income scarcity are consistent with other findings, and may be particularly consequential for children's ability to participate and excel in school settings. Such quasi-experimental empirical explorations provide illustrative examples of behaviorally informed studies that might be designed to test the ways in which income scarcity and instability affect cognition, and of the kinds of programs and interventions that policymakers have at their disposal to improve important outcomes.

USING THE BEHAVIORAL PERSPECTIVE TO REVISIT WHY POVERTY PROGRAMS AND POLICIES MIGHT NOT REACH THEIR POTENTIAL

A behavioral perspective may illuminate possible strategies to increase the rate of success across a number of today's well-intended social policy programs that are currently seeing mixed or lower than expected success. Indeed, in assuming that poor individuals act "rationally" as prescribed by standard economic thinking, policymakers and researchers are often left puzzled by a program's failure. In a synthesis of 46 U.S. welfare-to-work programs, Smedslund et al. (2006) conclude that, compared with participants in a control group, those in the programs show only about a 4 percentage point increase in employment, on average, and only an average of about \$2,000 higher earnings annually. This finding is consistent with Greenberg, Michalopoulos, and Robins' (2003) review of the effects of job training programs. And the effects of early childhood programs are equally mixed. Some intensive, high-quality programs targeted to very small groups of high-risk children (such as the High/Scope Perry Preschool Study) show fairly large effects on measures of achievement as well as long-term success in adult earnings and behavior. However, results from evaluations of larger programs such as Head Start show much smaller benefits to children's cognitive and behavioral development (see Montie, Xiang, & Schweinhardt, 2006, for commentary). Evidence is also quite mixed on the effectiveness of financial literacy programs and the extent to which short-term behaviors contribute to long-term improvements in savings, budgeting, credit-worthiness and asset-building (Caskey, 2006; Fernandes, Lynch, & Netemeyer, 2014).

Particularly puzzling is why participation is not broader, engagement not more intensive, and drop-off so high given the financial and related generosity of programs. In many of the safety net and economic mobility programs in the United States, there is a persistent discrepancy between the proportion of those eligible for a program and actual take-up. A 2005 report by the Government Accountability Office estimated that fewer than half (40 percent) of individuals eligible for Temporary Assistance for Needy Families (TANF) were enrolled. Job training, teen parenting, and marriage programs have similar gaps.⁷ Stigma and strategic rationing by program administrators may explain part of the puzzle, particularly when done to curb program costs. Indeed, some administrators may intentionally overload applicants with information or create other hurdles to dissuade them from applying or continuing with benefits. Such explanations, however, do not apply to benefits such as the

⁷ In the Job Training Partnership Act Demonstration over one-third of participants did not engage in any form of education, training, or employment assistance (Barnow & King, 2000). In the Building Strong Families study only about 40 percent of couples indicated in the follow-up period they had attended a relationship skills group session (Wood et al., 2012).

EITC that do not impose on state budgets in the same ways as the cost-sharing of other safety net programs (Bhargava & Manoli, 2011).

What typically informs efforts to reduce the gaps between eligibility and enrollment, and the broader design of programs on the ground, is a blend of social science theories and accumulated experience of practitioners. Indeed, the combination of these approaches has given rise to a new field called implementation science (Durlak, 2011; Fixsen et al., 2005). A thorough review of resulting strategies informed by these perspectives is beyond the scope of the current exposition. For our purposes, we focus on the tools brought to program design from conventional economic theory, where—under assumptions of full information, availability, and cost-benefit analysis—lower than maximum enrollment and participation are presumed to filter those who badly need the program from those who need it less, thus contributing to efficiency in delivering program services. From this perspective, lower take-up is seen as a potentially efficient outcome.

A behavioral framework would arrive at a very different interpretation. Behaviorally speaking, it seems likely that those who might benefit the most from various programs are often those who are most taxed by the struggle with scarcity and financial instability, the ones most likely to find themselves with depleted cognitive resources and a reduced ability to surmount the required hurdles and make logical or accurate cost-benefit trade-offs. By this reasoning, the discrepancies between eligibility and enrollment are not fully explained by strategic or efficient rationing. Rather, they call into question assumptions of well-calibrated planning and evaluation. To that end, the imposition of program hurdles by administrators and others may unintentionally (and sometimes perhaps intentionally) deprive those individuals who need the programs' benefits and services the most and who might reap the greatest benefits relative to the costs of program services.

Contrast this with examples of behaviorally informed programs or services structured to benefit individuals without requiring that they redirect their already strained attention or become future-oriented planners. These include, for example, opt-out options that effortlessly, and substantially, increase retirement savings (see Choi, Laibson, & Madrian, 2005), and social programs where enrollment is automatic or presumptive, and where higher enrollment rates are typical (Currie, 2006). Recipients of EITC refunds opt by default for a lump sum payment that strategically acts as a forced savings plan (Beverly et al., 2005); and individuals are more likely to open a savings account when they have learned about the total amount of their EITC refund, for example, at tax-filing time (Azurdia et al., 2013; New York City Department of Consumer Affairs, 2010). These design features impose fewer decisionmaking demands and are structured to yield the desired outcomes with fewer resources allocated to attention, planning, or self-control. Many such behaviorally informed features, furthermore, support program objectives with neutral consequences to program budgets.

Program features, such as child-care subsidies or transportation vouchers, typically address financial hardship and structural impediments, with only indirect consequences for attentional demand (leaving individuals slightly better off and with fewer trade-offs to have to consider). It is worth noting, however, that subsidies and vouchers can have the unintended consequence of increasing cognitive load, anytime the receipt of benefits is contingent on required new behaviors, documentation, or complex procedures. (We discuss such situations, e.g., in the case of CCTs, in the case studies below.) As a consequence, strategies that directly—and sometimes cheaply—aim to reduce attentional demand can prove more effective than a range of expensive support services that increase availability at the cost of excessive cognitive demand (Dion et al., 2008).

Parenting interventions may be particularly worth revisiting from a behaviorally informed perspective. To succeed, many such programs depend on recurring

day-to-day practices by parents, most of whom are poor and live financially unstable lives (Kalil, Ryan, & Chor, 2014). Billions of public dollars are invested in home visiting and early childhood interventions (Daro & Dodge, 2010; Kahn & Moore, 2010; Sweet & Appelbaum, 2004).⁸ These programs are supported by an empirical literature on the influence of parenting styles on children's problems and their learning and success in school (Bornstein, 2012; Gershoff et al., 2012; Lugo-Gil & Tamis-LeMonda, 2008). Yet altering parenting styles remains a challenge, despite the intensive education and one-on-one coaching offered through, for example, Nurse-Home Visiting programs (Goodman, 2006). Explanations abound regarding the potential social and cultural challenges to altering parenting, but our framework suggests something that is rarely considered: Economic conditions may be largely responsible for the disengaged parenting styles that appear most detrimental to children (Brookes, 2006; Brooks-Gunn, Berlin, & Fuligni, 2000; Conger et al., 1994; Gershoff et al., 2012). Low and unstable income places high demands on mental resources and can easily contribute to feeling frayed, on edge, disengaged, distracted and impulsive at home with partners and children. Well-intended parenting programs assume that what is learned can then be implemented. But the lessons often do not match the real contexts of the lives of the poor.

We offer three case studies of how a behavioral framework—in the context of poverty and financial instability—may help uncover aspects of social programs that interfere with program success. These case studies complement deeper investigations that explore the implications of cognitive and behavioral limitations for program and policy design (Congdon, Kling, & Mullainathan, 2011; Shafir, 2012; Thaler & Sunstein, 2009).

Case Study: SNAP

With more than 46 million participants as of October 2012, SNAP is currently one of the nation's largest and most important components of the safety net (Food and Nutrition Service, 2013b). In addition to its practical function of providing food to individuals, SNAP has been understood to also help households "smooth" income over periods of volatility (Gunderson & Ziliak, 2003). Indeed, participation rates in SNAP are countercyclical to that of the economy, with rates rising as the macroeconomic situation declines (Ziliak, Gunderson, & Figlio, 2003). Individuals eligible for SNAP must have gross income under 130 percent of the federal poverty threshold (Food and Nutrition Service, 2013a) and have limited assets and resources.⁹ The amount of benefit a family receives is based on the estimated cost of a "thrifty food plan" (TFP).¹⁰ In 2012, the maximum benefit for a family of four without income was roughly \$500 per month (Food and Nutrition Service, 2008). Every dollar increase in income equates to about a 30-cent decrease in the amount of benefits a family receives.

To receive SNAP benefits, individuals must apply, usually in person, and obtain a determination decision within 30 days, or within seven days if the application

⁸ See the Administration for Children and Families, U.S. Department of Health and Human Services initiative documenting the literature, procedures, practices and models of various home-visiting programs at <http://homvee.acf.hhs.gov/>.

⁹ Countable resources must be under \$2,000 or \$3,000 if at least one person in the household is at least 60 years old or disabled.

¹⁰ The TFP is one of four USDA-designed food plans specifying foods and amounts of foods to provide adequate nutrition. It is used as the basis for designing Food Stamp Program benefits. It is the cheapest food plan and is calculated monthly using data collected for the consumer price index.

has been expedited.¹¹ Eligible individuals can continuously receive benefits without fear of hitting a time limit, as is the case with the TANF program.¹² However, they must recertify every three to 12 months depending on their home state.¹³ Federal regulations declare that “[s]tate agencies must assign the longest certification period possible based on the predictability of the household’s circumstances” (7 CFR 273.10), which is usually interpreted as a minimum of six months (Finegold, 2008).

Until very recently, take-up for SNAP had been consistently low. In fiscal year 2007, only 66 percent of all eligible individuals, and only 56 percent of eligible working participants, received SNAP (Cunnyngham & Caster, 2009, November). Researchers believe some important factors that reduce take-up include transaction costs and stigma (Currie, 2006; Currie & Grogger, 2001; Kaushal & Gao, 2009; Moffitt, 1983).

For the most part, longer periods of eligibility—thus, lower transaction costs associated with repeated re-certification—have consistently been associated with higher enrollment among eligible families (Hanratty, 2006; Ratcliffe, McKernan, & Finegold, 2007; Wilde et al., 2000). Research has also shown that simplifying¹⁴ the steps, and documents, required for certification and re-certification increases participation rates (Kaushal & Gao, 2009).

Motivated primarily by the assumption that stigma accounted for lower take-up, the most dramatic change to SNAP was in the late 1990s when states replaced paper vouchers with Electronic Benefit Transfer (EBT) cards. EBT cards look and operate like prepaid debit cards and, in this way, feel quite mainstream. Indeed, switching from paper to EBT cards appears to significantly increase participation, although the role that stigma plays remains uncertain (Kabbani & Wilde, 2003; Kaushal & Gao, 2009; Kornfeld, 2002; Wilde et al., 2000).

Now, what if mental barriers to access were removed further? Imagine a redesign that categorized individuals into two broad types: newly eligible and historically eligible. Newly eligible clients are those who seek out social assistance in response to a recent stressful event (Bartlett, Burnstein, & Hamilton, 2004; Gennetian & Miller, 2002).¹⁵ Their decisions are being made under current strain, driving them to focus on the immediate crisis at hand and, in this case, ensuring that food is on the table for dinner that evening.

Currently, applying requires finding the right place to apply, getting oneself to the right location at the right time, and waiting in line sometimes for many hours (not to mention the risk that one lacks the proper documentation in hand to complete the process). These steps are demanded even when the outcome is quite uncertain and, when successful, might involve a long delay before receipt of consistent benefits begins.

In the new scenario, new applicants walk into a public benefits office (or, more radically, an office that is co-located with places such as unemployment offices) and leave with a fully functional interim EBT card. This directly addresses immediate financial hardship. More important, it immediately frees mental resources to focus on ways to address the crisis; the money immediately available to pay for today’s

¹¹ In response to the question: “Are processing times changing?” <http://www.fns.usda.gov/snap/snap.htm> (U.S. Department of Agriculture, Office of Research and Analysis, 2012).

¹² Able-bodied adults without dependents can only receive benefits for three months in a three-year period if they do not work or participate in job search activities.

¹³ If every member of the household is disabled or elderly, states can extend certification periods to 24 months.

¹⁴ Families now only have to report if their income increases over 130 percent of FPL, whereas previously households had to report all income or family structure changes that may impact eligibility and benefits.

¹⁵ Change in family composition, loss of a source of income, or member of family become sick or disabled.

food or gas can open up the opportunity to attend an available job interview, which might otherwise be forgotten or postponed. Online determination of eligibility would further facilitate the process.¹⁶ Most Americans have access to a public library where they could apply online. This can reduce time spent commuting to a public benefits office and waiting in line, as well as the potential stigma associated with the process.

For the second type of individual, those historically eligible for SNAP but who have not enrolled, there may be several possibilities: (1) They may not know they are eligible, (2) they may know they are eligible, but procrastinate or be too distracted to proceed through the necessary steps, or (3) they may know they are eligible, but not believe the benefits outweigh the cost. Interestingly, all three possibilities could involve individuals who are cognitively loaded and mentally depleted, for whom applying for SNAP, despite available information, has gone by the wayside, has proven too challenging to plan successfully, or for whom today's hassles render the future just too out-of-mind to worry about.

A simple intervention may increase participation rates across each of these groups by leveraging tax information. Tax forms require individuals to disclose most of the information needed to determine SNAP eligibility. At that moment, an opt-out option could be available to facilitate the option of easy SNAP enrollment. Simply put, unless an individual chose not to, his or her tax information would be used to determine SNAP eligibility, and this could be followed up by receipt of an EBT card in the mail. The income information would be relatively fresh, and, based on tax records, could be used for annual renewal, thus acting as a way to stabilize income throughout the year. This would leverage existing program processes to ease and increase the probability of desirable outcomes (somewhat comparable to the ways in which enhanced savings initiatives are increasingly being built in at the time that recipients receive tax refunds).

Case Study: Opportunity NYC CCT Program

A second example of how a behavioral perspective could improve outcomes is the Opportunity NYC-Family Rewards program. Launched in 2007, the "CCT" program is designed to financially reward individuals if they participate in and satisfy the conditions of a set of predetermined activities intended to improve health, children's educational attainment, and employment. The theoretical premise—rooted in psychology—of CCT design is that tying financial incentives to these types of outcomes will address misguided or misinformed evaluations of future, often delayed, rewards. The program does not use case managers or social services. Rather, it relies heavily on the marketing of incentives and information about resources and services that families can access. Upon proof and verification of participation, families receive cash that varies in value depending on the completed behavior(s). The program is the first of its kind in the United States and is inspired by successful CCT programs in Central and South America (e.g., Progres-Oportunidades in Mexico; Fizbein et al., 2009; Levy, 2006).

Opportunity NYC launched in New York City's six highest poverty neighborhoods in 2007. Nearly 2,400 families recruited through neighborhood partner organizations were randomly selected to participate in the study's program group.¹⁷ They

¹⁶ Individuals who receive services from nongovernmental organizations, such as food banks, soup kitchens, and churches, would be able to assist individuals applying for food stamps.

¹⁷ Eligibility criteria includes: live in one of the six neighborhoods; have at least one child in fourth, seventh, or ninth grade; and have an income level at or below 130 percent of the federal poverty line (to document income, families produced proof of receipt of food stamps or Medicaid).

were informed during orientation and ongoing marketing campaigns of the program's benefits, and how and when benefits could be collected. Participants could open free, no-fee, no minimum Opportunity NYC bank accounts to which benefits would be deposited, they could receive benefits using an existing bank account, or they could access funds using a prepaid card. Participants were offered a \$50 bonus if they opened an Opportunity NYC account. Fifty-five percent opened an account. The idealized process for receiving the CCTs was relatively simple. Individuals had a list of predefined activities they were to do and they were paid upon proof they had done those activities. Proof was in the form of either administrative records (such as children's test scores attesting to test taken) or mailed documentation in the form of coupons, such as a signed doctor's form attesting to a doctor's visit.

Evaluation results indicate that the program had small but statistically significant effects on a variety of outcomes, including reduced material hardship, increased savings, increased likelihood of having a checking account, reduced reliance on alternative banking institutions such as check cashers, and increased use of regular health-care providers along with reduced use of emergency room services (Riccio et al., 2010, 2013; Verma et al., 2012). In its first two years, the program did not, however, improve overall educational outcomes for children in grades K-8, though it did improve school performance among high school students who were high achievers. The program also did not increase frequency of regular medical check-ups or improve parents' relationships or earnings. Why did not CCTs improve school attendance or children's test scores more widely despite the generous incentives and a priori buy-in among participants? Although parents expressed a general desire to do what was best for their children, interviews revealed they were not always able to convert those goals into action (Greenberg, Dechausay, & Fraker, 2001). Juggling the management of crises and the demands of a chaotic everyday life often meant that good intentions went unimplemented.

In year one, 17 percent of participants did not receive any rewards from the coupon books (which required the active procurement of proof), and in year two, the rate increased to 20.4 percent. This compared to more than 99 percent of individuals receiving cash for benefits that were automatically validated with administrative data records. In survey reports, about 93 percent of participants felt that they knew what they needed to do to submit coupons and about 89 percent found the coupon book easy to understand. However, about 40 percent reported having trouble keeping track of the coupons. Why? As one participant stated, "My brain be somewhere else. . . 'cause I just took my kids to the doctor last month, but me rushing to get them to the doctor, I forgot to bring those coupons. So half the time I be forgetting to bring it. It's not that I don't want to bring it; I be forgetting 'cause I be busy" (Riccio et al., 2013, p. 114). Indeed, the menu of financial incentives, by activity, was long—more than 20 in the first year of the program—and the coupon book was dense, particularly for larger families, with fairly complex documentation requirements in certain cases, such as employment and some health activities.

Family Rewards is a promising program providing significant cash benefits, yet it appears to have presented a challenge for many individuals who completed their activity with the intention to follow through to receive their cash benefits, but failed to do so. These individuals, who understood how to use the coupons, failed to convert that understanding into actionable plans. It is not entirely remarkable that those who did reap the full benefits had a few systematic differences in education, income, and other factors from those who did not. The common theme for those who failed to take full advantage of this beneficial program is that other things got in the way. What this means for CCTs is that benefits may not be reaching those individuals who can gain the most. Implementation research suggests that the coupon books helped

families to organize their involvement in the program; they could look through the book and think about what they needed to do. However, many of the program's most valuable rewards (e.g., education rewards for standardized tests, credit accumulation, graduation, attendance) were verified using administrative data only, and provided no visible reminders. Families did not have to do anything to claim these rewards, but being out of sight also meant they were out of mind, thus potentially diluting the effects of the CCT.

Reframed through the behavioral lens of income instability it is not surprising that prioritizing is hard to do, as is keeping track of things like coupons. Take-up and follow-through for activities with more immediate short-term benefits were higher than for those that required a longer-term view (e.g., bill payment or emergency room vs. educational outcomes). Would commitment to long-term activities improve by making some short-term benefits more salient? With the right future-oriented intentions, certain tactics or strategies can help minimize distraction. Some parents devised systems to reduce the mental burden of keeping track of coupons: "one parent pasted folders for each child on her wall and inserted the relevant coupons in them so she would be reminded of what each child needed to do" (Riccio et al., 2012). This participant recognized that daily life—coupled with the uncertainty and instability of income—would create distractions from keeping track of things.

All this suggests a behaviorally informed and nuanced balancing act: coupons in an organized book may serve to arrange and remind. But the need to provide proof and submit subsequent documentation is often neglected, and benefits foregone. The right balance of reminders and default accreditation is likely to increase the impact of programs such as CCTs.

Case Study: Early Head Start

Early Head Start was created in 1995 to address the comprehensive needs (i.e., education, social services, health) of low-income pregnant mothers and their newborn children up to the age of three years, a child's most crucial developmental period (Carnegie Task Force, 1994).¹⁸ Services include child care, parenting education, home visits, health-care referrals, and family support.¹⁹

In 2013, Early Head Start served more than 192,000 children and mothers (Annie E. Casey Foundation, 2014; Child Outcomes Research and Evaluation, 2002). This program was initially launched at 68 sites and progressively increased to more than 400 sites across the country. Families were recruited through local advertising in public programs such as Women, Infants, and Children (WIC) program offices, and through referrals from local health-care providers.

Evaluations of the Early Head Start program using a randomized controlled trial found that low-income families with infants and toddlers from nearly every subgroup were positively affected, but the impacts were small (Love et al., 2002). Early Head Start had modest, positive effects on parenting skills and on children's cognitive and linguistic abilities, and social development. Center-based programs showed the most pronounced improvements in cognitive and social-emotional development and some positive effects on parenting, while home-based programs demonstrated some positive impacts on children's social-emotional development and reduced parenting stress. The mixed approach produced the most widespread and largest

¹⁸ Eligibility for Early Head Start begins once the mother becomes pregnant with the "focus child" and lasts until the child turns one. Therefore, families are qualified to receive program services for as long as three years (if the family registered during the pregnancy period).

¹⁹ For a more comprehensive review of investments in early childhood and subsequent well-being, see Currie and Rossin-Slater (2015).

effects on language and social-emotional development of children and on parents' self-sufficiency and general parenting behaviors.

Despite the program's best efforts to tailor services both in and outside the home, approximately two-thirds of families did not complete the Early Head Start program because they moved away or dropped out before the end of their eligibility period. Furthermore, staff discontinued nearly one-third of families' memberships due to low attendance rates, poor behavior, or at participants' request. A disappointing pattern was also observed in the intensity of service use, with about one-half of participating families receiving services at the suggested intensity levels (Vogel et al., 2015). Similarly troubling patterns of low service use and short-term enrollment have been reported in other home visitation programs (Gomby, Culross, & Behrman, 1999).

Early Head Start is a promising program that can address socioeconomic inequities during a highly malleable developmental period, when policy can produce high returns to investment. But for those living in poverty and facing unstable financial conditions, life with a young child only magnifies day-to-day demands, with little energy reserved for practicing newly taught skills. This in turn leads to persistently low use and retention. For one example, stringent drop-off times are important for day-to-day classroom curricula, but for struggling parents such stringency is challenging because of often erratic employment schedules. While parents of eligible Early Head Start children—like any parent—value their child's education and development, the struggle with the challenges of economic instability can easily undermine good intentions. This can manifest itself in the failure to fully engage while children are enrolled in the program, as well as through a nonnegligible proportion of families deemed eligible who never fully participate in the first place (Child Outcomes Research and Evaluation, 2002). As a result, evaluations of Head Start, the nation's prime attempt at providing early education to vulnerable children since 1965 (Love et al., 2002), show much smaller benefits on children's cognitive and behavioral development than hoped (Montie, Xiang, & Schweinhardt, 2006).

Behaviorally informed design suggests strategies intended to help parents engage by reducing the distractions due to a persistent juggling of financial crises. Well-timed reminders, including text messages, for example, can help. Simple monthly text messages have been found to increase savings rates by 6 percent, the probability of loan repayments by up to 9 percent, exercise levels by 8 percent, and smoking cessation rates by 15 percent—all behaviors that, like good parenting, begin with good intentions, but can easily fall to the wayside (Cadena & Schoar, 2011; Karlan et al., 2010; Newton, Wiltshire, & Elley, 2009; Rodgers et al., 2005). Text messages can further incorporate suggestions that reinforce positive parenting, or, as recently tested, early literacy skill-building (York & Loeb, 2014).

USING THE BEHAVIORAL PERSPECTIVE ON POVERTY AND FINANCIAL INSTABILITY TO INFORM A NEW RESEARCH AND POLICY AGENDA

The proposition that poverty *and* financial instability can affect cognitive processes, and impede the effectiveness of programs and policies, presents opportunities not only to revisit previously unappreciated design features of existing programs, but also to bring behaviorally informed design to programs from the ground up. Though not a panacea, the behavioral perspective offers avenues to potentially improve take-up, participation, engagement and follow-through, all ways to improve the impact of already implemented programs. A behavioral perspective can also inform the design of new programs and policies yet to be rolled out.

Directly Addressing Financial Instability

Whether in periods of economic expansion or recession, the poor face substantial earnings instability in the low-wage labor market. The social safety net has never adapted to this uncertainty in wages, hours, and work schedules. Even in 2005, when the economy was strong, 54 million jobs were eliminated, and 20 million of those were not instigated by the employee (U.S. Department of Labor, 2006a). Nearly one-fifth of those whose jobs were involuntarily terminated intended to return to the workforce immediately and were actively seeking employment. This represents a receptive moment to re-engage with job relocation or training services (Kling, 2006; U.S. Department of Labor, 2006b). In 2005, a time of economic growth, 7.9 million Americans used UI. Although UI is an important benefit whose explicit goal is to supplement income during gaps in employment, it does not insure against employment shocks in the form of reduced hours, or loss in the value of wages, among other things.²⁰

What if UI were redesigned to absorb some common labor market uncertainties in hours and earnings? One strategy might be to deposit a portion of paychecks into government-sponsored instability insurance accounts, to be drawn on when hours and earnings decline or when jobs are lost (for more information, see Autor et al., 2013; Feldstein, 2005; Kletzer & Rosen, 2006; Kling, 2006). An employer would determine new employees' average number of hours worked and dollars earned. Whenever an employee worked fewer than the anticipated number of hours, their paycheck would be supplemented from their account (which could be capped at specific value relative to salary.) Of course, there are costs to offering such programs, both for employees and employers. For employees, income is being diverted that could otherwise be used for immediate consumption. This might not be a reasonable or desirable option depending on net income and availability of liquid assets. For employers, such a program incurs administrative costs, though these may largely be one-time fixed costs. The benefits to both, however, could be substantial, increasing worker productivity, reducing use of leave (due to spiraling crises), and generally boosting employees' human capital due to reduced susceptibility to the vagaries of earnings instability. One concern may be the impact on initial terms of employment. Employers or employees may side-step their commitment by setting up low numbers of guaranteed hours that feed into such account contributions. A variety of incentives can be structured to discourage this type of situation, varying from purely financial (government subsidies or tax reductions that tie insurance account contributions to some minimum hour requirements), to behavioral, such as defaulting to a certain number of hours or earnings per week, with options to opt-out (to alternatives arrangements of hours or earnings), possibly made sticky with some added conditions.

While earnings insurance is one stabilizing solution, low-cost public insurance or short-term work-sharing compensation schemes are others (Abraham & Houseman, 2014). An imperfect example of low-cost public insurance is to dip into family assistance programs often made available through state funds or a state's diversion of TANF money to recipients experiencing a short-term crisis. A bolder and broader design is akin to Janet Currie's (*The Invisible Safety Net*) "safety net card." Each family receives a card linked to an individual's personal tax information, through which participants are automatically enrolled annually in public benefits. When they experience a crisis, participants can call a number on the back of the card, and receive temporary eligibility for public benefits, allowing them to quickly overcome

²⁰ For example, estimates from March 2013 show that 4.8 million workers who reduced their hours to part-time were ineligible for UI because they were still attached to a job, even though their total earnings from that job had substantially declined (U.S. Bureau of Labor Statistics, 2014).

a financial hurdle that might otherwise develop into a poverty trap. Implemented in at least 17 states in the United States and in many European countries, short-term work-sharing compensation schemes protect individual jobs during periods of low demand (for up to six to 12 months) by reducing employment hours across all employees and compensating for the reduction in hours through UI benefits.

Of course, each of these approaches has trade-offs. It is not always feasible to have flexible resources reserved in government budgets that can be immediately responsive to crises. Concerns may arise about dependency on public resources when private alternatives might be available. Short-term work-sharing compensation schemes are sometimes administratively costly as employers need clear documentation that fits within guidelines to receive the UI reimbursements; and the collective reduction in hours might prove limited as employers must maintain existing health and pension benefits. Further, the most productive employees might choose to leave. A fuller range of such trade-offs for short-term work-sharing compensation schemes is well articulated in Abraham and Houseman (2014).

Irrespective of approach, timing is an essential ingredient. When income and expenditures coincide, budgeting can be a lot simpler. Lags or delays in the availability of any type of “income insurance” can impose unintended costs. Regardless of source, timing and frequency of income disbursement alone can be important. Most paychecks and social supports are monthly or bi-monthly, whereas important expenditures such as food and public transportation are often daily. More frequent benefits or income may not be helpful to everyone, of course, and must be balanced with the availability of lump sum payments (that sometimes act as a savings mechanism) needed for larger expenses. A balancing of the time flow and targeting of income can provide substantial help with financial planning. EITC refunds, for example, can now be split into a sum that goes into savings for a rainy day or toward a big, one-time purchase, or to pay down debt (Romich & Weisner, 2000).

Creating Financial Buffers

Income instability can sometimes be weathered through one’s own financial cushion.²¹ Savings provide a form of self-insurance to low-income households, yet in the context of daily struggles to make ends meet, savings can be exceedingly difficult to come by. Nearly 38 percent of households with incomes less than \$25,000 cite winning the lottery as the most practical strategy for accumulating wealth, just shy of the 41 percent who report saving just a little bit each month as a strategy (Consumer Federation of America, 2006).²² In the face of financial instability, savings must be self-replenishing and out-of-sight, yet accessible (i.e., liquid but not too liquid).

Many programs attribute low savings to a lack of knowledge or understanding (Lusardi, 2014), and focus on financial education and budgeting information strategies.²³ Some financial education programs report mild, positive effects on budgeting

²¹ Recognizing this, eligibility criteria for most government programs have some type of asset test limiting the amount of assets individuals can hold and retain eligibility for social assistance. Such asset limits have proved debatable and controversial because of the potential disincentives to accumulate such assets that may contribute to future economic security (Corporation for Enterprise Development, 2012; Hiatt & Newcomer, 2010).

²² See Hogarth, Anguelov, and Hilbert (2004); Hogarth, Anguelov, and Lee (2004) analyses of financial knowledge, based on a series of survey questions, and behavior as measured through bill payment, credit, assets and investments.

²³ The private sector offers more than 4,000 personal finance websites. One critique is that these private online approaches do not focus on financial information or numeracy (Gale & Levine, 2010). Dave Ramsey, Financial Peace University, emphasizes paying off small loans first as emotional victories over debt and habit formation.

and savings, but this mostly occurs among small, self-selected and highly motivated groups (Caskey, 2006; Schreiner, Clancy, & Sherraden, 2002). Recent meta-analyses find that, on the whole, the effects of financial education interventions are minimal at best (Fernandes, Lynch, & Netemeyer, 2014).

Heeding the behaviorally informed distinction between intention and action, a productive avenue might be to develop a suite of financial products for individuals who are heavily income-constrained, but who have developed some intent and an understanding of what might be financially feasible and useful. Such products can build on the evidence gleaned from lab experiments (e.g., Shah, Mullainathan, & Shafir, 2012) and would be designed to lower the burden of juggling income and expenses by, for example, automating necessary bill payments, presenting useful and simple graphical depictions of expenses and income inflows, and perhaps providing (limited but easy) access to low-cost credit with a built-in payback mechanism (Mills et al., 2010). Such features could be coupled with more conventional cost reduction approaches (whether viewed as addressing perceived or real barriers), including regulatory policy to provide free checking or savings accounts to qualified individuals. Building on earlier insights around behaviorally informed design and choice architecture (Shafir, 2012; Thaler & Sunstein, 2009), the guiding motivation behind such products is to create contexts specifically designed to help manage highly constrained and unstable funds.

Another facet of creating financial buffers is to increase ease and access to low-cost credit that is rarely available for those who might benefit from it the most (Chase, Gjertson, & Collins, 2011; Cramer, 2014). Forty-four percent of American households are considered “liquid asset poor,” meaning they lack the savings to cover basic expenses for three months (Corporation for Enterprise Development, 2010). Access to low-cost modest credit is embodied in some emergency assistance programs available to community college students (e.g., Dreamkeepers, sponsored by Scholarship America), and in the structure of diversionary programs such as those often created under TANF (National Conference of State Legislatures, 2014). In fact, affordable loan amounts of \$500 are associated with as much reduction in the incidence of hardship among low-income individuals as a tripling of household income (Mayer & Jencks, 1989).

Designing for the Demands of Financial Instability

Well-intentioned programs often introduce features that impose regressive taxes on people’s cognitive capacity, on their mental bandwidth available for juggling daily routines. There are reasons for these design features, including the verification of eligibility criteria (that often impose bureaucratic and administrative hurdles), eligibility cliffs, and recertification processes intended to minimize windfall and maximize efficient allocation of limited resources to target populations. These same features, however, can impose cognitive demands and present an impediment that offsets any presumed cost-benefit analysis. This implies that even small costs, such as asking individuals to front \$1 for their otherwise subsidized metro card, can entail trade-off thinking, as well as planning, remembering, and implementing needs, and may present a sufficient obstacle to using the card to get to work. The demands on attention increase the cost of trying to make sense of intricate eligibility criteria, and uncertainty and complexity can reduce the likelihood of applying for benefits.

Recent developments, such as Express Lane Eligibility (ELE), have reduced the burden on clients. In ELE, when individuals enroll in other government programs, the caseworkers inform them of their eligibility for, and in some cases automatically enroll them in, Medicaid (Hoag et al., 2013). A variety of nongovernmental organizations and states have also adopted or are piloting electronic tools that inform

individuals of work supports for which they are eligible, streamline application and verification, and break down the benefits access process into actionable steps, a management improvement even if individuals still have to apply in person (Golden, 2013).

One pertinent example is the Free Application for Federal Student Aid (FAFSA) form. By automatically populating the forms with economic and demographic data from tax filings (Harris & Goldrick-Rab, 2012; Hoxby, 2004), the program has helped to increase college attendance by roughly 8 percentage points (more than a 30 percent relative increase²⁴; Bettinger et al., 2009). Merely reducing the informational burden in program design increased effectiveness beyond what would be anticipated by classical cost-benefit analyses.

DISCUSSION

Concepts from the behavioral sciences point to the central role that mental resources play in everyday decisionmaking. These concepts include attentional demand and distraction, cognitive load, depleted executive function, and self-control, and the resultant power of the immediate context of decision to influence choice and action. Many social scientists have begun to pay attention, and to learn from lab and field experiments that economic scarcity and financial instability impose persistent demands on cognitive load, executive function, and attention and can distract from the very opportunities otherwise designed to alleviate the effects of poverty and to support self-sufficiency.

Insights from the behavioral sciences have shown promise in policy interventions ranging from reduced smoking and regular exercise, to healthier diets, and higher rates of saving. Such insights provide a new lens through which to envision potential policies and programs to improve the lives of the poor and are slowly making inroads into the realm of poverty programming and policy (e.g., Farrell et al., 2014).

Poverty is complex. No one theoretical account or solution can address the myriad circumstances and challenges that the poor face (not even including the multiple physical and health barriers that are endemic to life in poverty, such as depression, substance abuse, noisy environments, domestic violence, etc.; see Danziger & Danziger, 2009). One predominant characteristic of being poor is the persistent need to juggle competing demands and struggle to make ends meet. (For detailed accounts, see Edin & Lein, 1997; Morduch & Schneider, 2014; as well as Halpern-Meehin et al., 2015. Also see Collins et al., 2010, for an international perspective.) Creative strategies for coping—from high-cost solutions such as transferring debt from one high-interest credit card to another, to low-cost arrangements such as bartering with neighbors to do house repairs rather than calling expensive repair men—require constant attention. This can be overwhelming and depleting, and can distract from other important decisions, especially concerning options that appear less urgent or more distant.

Conventional policy approaches to poverty can be broadly categorized as focusing on either income or human capital enhancement strategies, or on directly targeting preventive or curative services. The impact and effectiveness of these approaches depends on take-up, engagement, and follow-through, and the efficient sorting of individuals who would benefit the most from receiving program benefits. A behaviorally informed framework attuned to the problems of scarcity and financial

²⁴ An H&R Block assistant informed customers with college-aged children of the eventual cost of college were they to obtain federal aid (often quite below their expectations). Some were then offered immediate assistance and a streamlined process to complete the forms, allowing researchers to uncouple the role of information from the additional streamlined assistance process.

instability complements these approaches by providing a new set of tools to help meet the common objective of economic mobility (often at low cost). If financial instability exacerbates mental, cognitive and attentional costs, then moments of financial stability may represent useful reset opportunities, presenting less depleted circumstances for decisionmaking. If financial instability interferes with cognitive and attentional resources and undermines programs intended to improve mobility, then freeing up mental resources may increase program benefits, ranging from returns from employment to increased educational attainment to being involved with children's schooling. If those most in need of program benefits are also those under greatest cognitive load, then easing attentional burdens might beneficially alter the composition of who is served. If increasing participation and follow-through in programs (such as child support payments to children with parents on TANF) can substitute allocation of social for private resources, then pressure on government budgets would be eased. As such, building and further testing evidence in support of a behaviorally informed framework is an essential next step for the effective conduct of antipoverty policy and the most efficient use of social and government resources.

While debates about ways to address poverty in the United States will undoubtedly persist, it seems clear that advances in our understanding of human behavior, cognitive limitations, and decisionmaking should form an integral part of the conversation.

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