Issue Brief

Creating Creatures of Habit

Nudging Saving in Youth

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Practitioners, policy makers, and researchers often assert the importance of individuals developing savings behaviors. For the poor, especially, who may not have steady flows of income or access to credit, savings is critical to smoothing consumption, providing an economic cushion in case of emergencies, and building capital for productive investments. To begin savings habits at a young age, however, would provide an extended period of time for children and youth to build a stock of assets that could help finance their future economic needs as adults.

Youth savings accounts are emerging as a potential poverty reduction and youth development tool, with initial evidence indicating that children and youth who save in accounts earlier in life begin to think positively about their futures. Researchers have observed asset effects, or as the YouthSave Consortium defined the term in a 2010 publication, the "economic, social, behavioral, and psychological impacts of asset ownership,"[1] in a number of studies. For example, qualitative findings from the SEED (Saving for Education, Entrepreneurship, and Downpayment) Initiative, a national demonstration of 1,171 child development accounts in the United States, showed that, in addition to gaining financial savings, participants had higher self-esteem, hopes for the future, financial knowledge, and security.[2]

Still, economic choices weigh heavily on the lives of the poor, making saving a challenge even when they have access to financial services and understand the benefits of saving. In a precursor to this paper, "Accelerating Financial Capability among Youth,"[3] the authors highlight the psychological barriers that can prevent individuals from making rational financial choices, namely saving, and how specific mechanisms, or "nudges" can be used to overcome those barriers. Unfortunately, even with a nudge to save, the decision often remains a deliberate and conscious one. For the poor, who are already taxed daily by financial stress and conditions of poverty, the choice to save regularly may be tough to make since they are faced with other conflicting financial considerations, such as how to put food on the table, pay for medical bills, or finance children's education.

Fortunately, in many ways, human beings are creatures of habit. Forming a habit of saving at an early age when behaviors are still malleable may have significant impacts over the lifecycle, or the developmental phases, of low-income youth. It can convert an otherwise taxing mental process into an automatic and easy action through practice over a longer period of time. In effect, practicing skills that are part and parcel of saving, such as self-control and planning, can also improve cognitive strength and livelihoods with the proper support services. In this paper, we argue that practitioners and policy makers can maximize the effects of savings-habit formation in youth

by: a) nudging saving as early as possible; and b) taking advantage of developmental touch points in the lifecycle of youth.

First, we explore how economic decision-making can exact a mental or psychological cost among financially constrained populations. Second, the paper describes how establishing savings habits can help overcome those psychological challenges to sound economic decision-making. In exploring savings-habit formation, we identify cognitive skills that are germane to the saving process, namely self-control and planning, and how practicing those skills early in life can lead to powerful multiplier effects in youth. Finally, we identify ways in which policy- and program-level interventions, when delivered during transitional phases in the youth lifecycle, can maximize the impacts of savings-habit formation.*

The Psychological Challenges to Economic Decision-Making

While saving is an important contributor to an individual's well-being, it is a decision that requires the use of cognitive capabilities such as self-control, willpower, and future orientation. Psychologist Roy Baumeister suggests that these mental or cognitive resources, like energy, are limited and drainable in the short-term.[4] Thus, when burdened with economic choices, we deplete some of these resources, leaving less mental control to carry out other important behaviors, including capping expenditures or setting aside savings for future financial needs. While the rich are also taxed by economic decisions that are mentally draining and stressful, they face far less severe and regular consequences from these decisions than do the poor.

In a recent study,[5] economist Dean Spears of Princeton University asserts the damaging impacts of poverty on the willpower of low-income adults. Field researchers traveled to two villages in Rajasthan, India, one richer and one poorer. The researchers offered participants a discounted bar of soap for sale either before or after asking them to squeeze a handgrip.† Before being offered the soap, the two groups squeezed the same length of time on average. But when participants squeezed the handgrip after deciding whether to buy the soap, there was no effect on handgrip behavior among richer people; however, poorer participants reduced their squeezing time by 40 percent. The seemingly simple decision to buy a bar of soap was a serious financial calculation that worsened the subsequent ability of the poor to exercise willpower.

Forming a habit of saving at an early age when behaviors are still malleable may have significant impacts over the lifecycle, or the developmental phases, of low-income youth.

As mentioned in a paper by Spears, Harvard University economics professors Sendhil Mullainathan and Eldar Shafir interviewed Indian sugar farmers before and after their harvest, demonstrating the stress that economic duress causes.[6] Interviewers performed an IQ test before the harvest, during a time when outcomes were uncertain and resources were scarce. The same test was administered to farmers after the harvest, when some uncertainty about the crop had been resolved and resources were more plentiful. Not surprisingly, farmers performed higher on the IQ test after the harvest, when they exhibited less stress. As Mullainathan states, "financial stress can actually reduce the IQ of the poor."[7]

"If you have enough money," writes Jamie Holmes, former Policy Analyst at the New America Foundation, "deciding

*The studies presented throughout this paper are limited in scope and should not necessarily be generalized. Rather, the author uses these examples to describe the *potential* impact of programs and policies centered on promoting youth savings behaviors, since both the state of practice and body of evidence in this field are still emerging. The examples in this paper represent the continuation of experimental work in youth savings and/or psychology, as well as where experimentation is still needed.

†Handgrips are a common way to measure cognitive control in psychological experiments. What is assumed to determine the duration of the handgrip squeeze, for many people, is not physical ability, but willpower.

whether to buy soap only requires considering whether you want it, not what you might have to give up to get it." Holmes goes on to say that, "many of the trade-off decisions that the poor have to make every day are onerous and depressing: whether to pay rent or buy food; to buy medicine or winter clothes; to pay for school materials or loan money to a relative. These choices are weighty, and just thinking about them seems to exact a mental cost."[8] Additionally, these difficult and stressful economic trade-offs can increase the possibility of making errors in economic decisions.[9] Unfortunately for the poor, one error can have disproportionately harmful impacts on their economic well-being; it can mean developing a stock of assets to weather economic challenges versus worsening their socioeconomic conditions.

This has led psychologists to increasingly emphasize the value of developing good *savings* habits, because they free up mental space for other important choices, reduce stress, and automate what may otherwise be a strenuous decision.

Families living at the bottom of the pyramid may find it difficult to save because of a variety of factors, including no flexibility in the household budget, high costs of food, and multiple children who have immediate needs.[10] Furthermore, as Mullainathan and Shafir maintain, poverty is "psychologically important because it is a form of scarcity,"[11] which causes people to experience more stress and expend greater willpower than their affluent counterparts. Saving money would be yet another economic decision that the poor need to carefully calculate in their lives. Fortunately, our brains are structured such that human beings do not need to use up mental resources or cognitive thought on *all* actions. For example, a habit like drinking coffee or tea in the morning entails few, if any, mental demands. Similarly, taking the decision-making component out of saving by creating habits may reduce the burden caused by yet another economic choice. Effective programs and policies that nudge savings habits early in a person's life could mitigate the severity of these challenges and ultimately benefit the poor.

Savings Habits: Why They Are Important and How to Create Them

In a recently published book, called *The Power of Habit*, author and *New York Times* reporter Charles Duhigg explains how habit-making behaviors are traced to a part of our brains called the basal ganglia, which is integral in the development of emotions, memories, and pattern recognition. Alternatively, *decisions* are made in the prefrontal cortex.[12] The moment a behavior becomes automatic, Duhigg writes, "the decision-making part of your brain goes into a sleep mode of sorts,"[13] thereby conserving the brain's energy for other cognitive processes. This has led psychologists to increasingly emphasize the value of developing good *savings* habits, because they free up mental space for other important choices, reduce stress, and automate what may otherwise be a strenuous decision.[14]

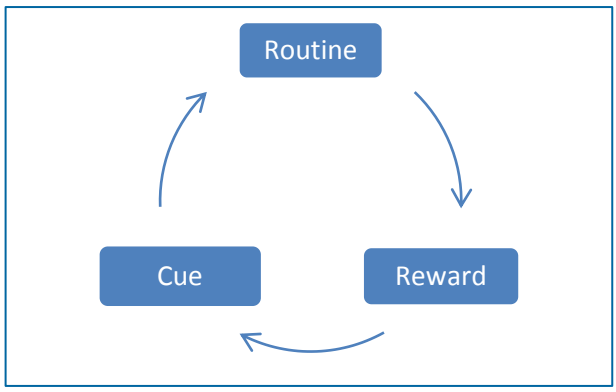
Given the financial burdens low-income households already face in their day-to-day lives and the proclivity of human beings to make irrational choices, savings habits can be immensely beneficial. They can facilitate regular and low-effort asset building, and as psychologist Bas Verplanken now at the University of Bath asserts, "[eliminate] ad hoc rationalizations, hassles, and moods that may lead to the decision not to save."[15] We argue that one approach to creating a savings habit is through establishing a habit loop of cues, routines, and rewards.

Establishing a Habit Loop: Cues, Routines, and Rewards

Studies have shown that habits are formed when a specific environmental cue triggers a behavioral response or routine that often results in a reward. In *The Power of Habit*,

Duhigg terms this process a "habit loop" (see Figure 1). For example, moviegoers who habitually eat popcorn do so because the movie theater (the cue) triggers a behavioral routine (eating popcorn) that satisfies them in some way (reward), which tells the brain that this loop is worth remembering and repeating in the future. But if the context-cue changes (i.e., the movie theater is now a meeting room), the tendency to eat popcorn reduces or ends entirely. By this logic, behavior-change interventions in anti-poverty programs can create good habits or alter bad ones, by triggering new cues, routines, and/or rewards. Once the loop is established, however, a change in the cue or reward can alter or end the habit entirely.

Figure 1: Habit Loop



Cues

About 45 percent of what we do every day is performed almost without thinking due to subtle cues in our environment such as a location, time of day, mood, or people.[16] To illustrate the role of cues, we can look to the public health field. Despite public health education about the benefits of hand washing, nearly 50 percent of child mortality in developing countries is still caused by disorders related to poor hygiene. Even in countries like Ghana, where most households own soap, only 4 percent of adults regularly wash their hands after using the toilet. In one study,[17] Dr. Val Curtis, director of the Hygiene Centre at the London School of Hygiene & Tropical Medicine, and fellow researchers found that part of the problem was that the toilet did not cue a feeling of disgust and so individuals found no need to wash their hands. Thus, to create a hand-washing routine, an advertisement campaign was launched to change the way people viewed toilets, essentially prompting queasiness at the sight of them. Following this campaign, researchers reported a 41 percent increase in soap use before eating. The disgust felt after using the toilet cued a hand-washing routine that left people feeling clean and satisfied.

Understanding and incorporating the role of cues in interventions that nudge sound financial behaviors can be powerful as well. Testing this phenomenon, Assistant Professor Cäzilia Loibl of Ohio State University, and fellow researchers collected and analyzed data from participants in a savings program, the Individual Development Account (IDA). Researchers noted that clients' interaction with the IDA program over the length of their participation "tends to be their *first* prolonged engagement with financial service organizations."[18] The results of this study showed that targeted interventions that created new context cues, such as financial counseling, contributed to participants developing a savings habit. Applied to youth, the chances of changing spending behaviors and creating savings habits are especially increased as they begin to interact with financial institutions for the first time. The trick is in finding the opportune moments in their early lives to establish cues to save.

As psychologist and habit expert Wendy Wood maintains, an environmental or context cue may create new circumstances that bring about behavior change.[19] For youth, the best time to create savings habits may be during key transitional periods in their lives (i.e., at the start of primary school), when new cues can lead to new routines and rewards. As in the popcorn example, however, in order for a habit to persist, the cue cannot change,[20] which is challenging for many low-income youth who live in unstable environments—a negative spillover effect that conditions of poverty often present.

Routines

Duhigg states, "A routine can be incredibly complex or fantastically simple...related to a physical, mental or emotional behavior."[21] For example, a routine can begin as a task or skill that is consciously practiced and, through repetition, becomes automated over time. Case in point: people who habitually take the same route to the grocery store will have consciously first developed the driving skills to get to a mental state in which they no longer have to exert much thought on the direction they are taking the car.

Similarly, when people choose to save money, they call on certain inherent qualities, or cognitive skills—namely self-control and planning—to attain a future savings goal. In order to save, a person would have to regulate compulsions for immediate gratification and spending, and plan ahead for future goals (i.e., buying a car, investing in a small business, financing one's education).

Recent studies also show that self-control and planning are two skills that, when developed early in a person's life, have strong associated multiplier effects. Therefore, *the act of saving* involves practicing salient behaviors that can arguably counter the mental fatigue of economic decision-making later in life. (We delve deeper into the multiplier effects of these cognitive skills in the next section.)

Rewards

Once a cue and routine are established, a reward closes the habit loop and tells the brain that the behavior is worth continuing in the future. Rewards can be as simple as a feeling of satisfaction from a particular behavior, like exercising, or something more concrete, such as a monetary or in-kind prize that incentivizes the continuation of the habit loop.

In one experiment, Duhigg highlights how Massachusetts Institute of Technology neuroscientist Ann Graybiel and colleagues began exploring habits by putting rats into a T-shaped maze with chocolate (the reward) at one end. The animals would be positioned behind a barrier that opened after a loud click (the cue), after which, at first, the rat would usually go slowly up and down the aisle trying to smell the chocolate, unable to find it. By carefully monitoring the rat's brain activity through neurosensors, scientists found that its brain was working furiously every time the rat sniffed the air or scratched a wall. Amazingly, as the rat began repeating the maze activity and reaching the chocolate more quickly, its mental activity showed a significant *decrease,* when previously there had been high mental activity during its search. When the chocolate reward appeared, "the brain shook itself awake again and the chocolate signaled to the rat that this particular habit was worth remembering, and the neurological pathway was carved that much deeper."[22]

Similarly, in the context of saving, rewards can play an integral role in perpetuating habits. Small prizes, seeded accounts (in which a lump sum is deposited on behalf of the account holder), matched savings, or simply the satisfaction of achieving one's savings goals can nudge a person into continuing a habit loop.

What works in mice also seems to work in men: in the Ghanaian hand-washing experiment, for example, we saw how rewards reinforced habits in human beings. The pleasure of being clean after using the toilet led to an increase in the hygienic behavior. Similarly, in the context of saving, rewards can play an integral role in perpetuating habits. Small prizes, seeded accounts (in which a lump sum is deposited on behalf of the account holder), matched savings, or simply the satisfaction of achieving one's savings goals can nudge a person into continuing a habit loop.

While this theory is largely untested in the youth savings context, research across health, finance, and other fields has provided tremendous insights into the role habits play in improving our productivity, financial stability, and well-being. This research also opens up creative thinking into how policy and programmatic interventions can promote good savings habits. For example, the Government of Mexico offers a program called *Jóvenes con Oportunidades*, which consists of savings accounts for youth to incentivize continued education. Starting during a child's last year in middle school, the government deposits "points" in the account for each year of high school that the student completes. When a youth turns 18 years of age, the points are converted into approximately USD 336 cash, which the youth can then withdraw or leave in his/her savings account at *Banco del Ahorro Nacional y Servicios Financieros, S.N.C* (BANSEFI). Since the start of *Jóvenes con Oportunidades* 330,000 youth have opened savings accounts.[23] One way the Government of Mexico can adapt the program to promote savings habits among youth is by providing beneficiaries with easy access to BANSEFI through in-school banking (but more on this later in the paper).

In the youth savings field, practitioners, policy makers, and researchers should begin exploring the role habit loops can play in nudging a sound financial behavior. As with participants in *Jóvenes con Oportunidades*, interventions that encourage asset accumulation can improve development indicators as well as salient skills, like self-control and planning, creating lasting impacts on the lives of youth who face challenging and unstable circumstances.

Researchers are increasingly shedding light on the effects of habits in freeing up mental resources, so that good behaviors can take the path of least resistance. However, as development practitioners have articulated time and again, the unstable socioeconomic conditions low-income youth face throughout their lifecycle negatively impact cognitive capabilities into adulthood, while discouraging their chances of forming savings habits. Policy makers and practitioners who understand the three different stages of the youth lifecycle (Phase 1: Early Childhood; Phase 2: Middle Childhood; Phase 3: Adolescence) and their varying contexts can leverage these moments and transitional periods to create habit loops (see Figure 2), while at the same time strengthening these cognitive skills.

The Multiplier Effects of Developing Saving Skills Early

There are specific cognitive skills—namely self-control, planning, and low-time preferences—that are needed to support healthy savings habits. If strengthened during the formative phases of the youth lifecycle, these skills can play an important role in enhancing an individual's chances for economic well-being over the long-term as well.

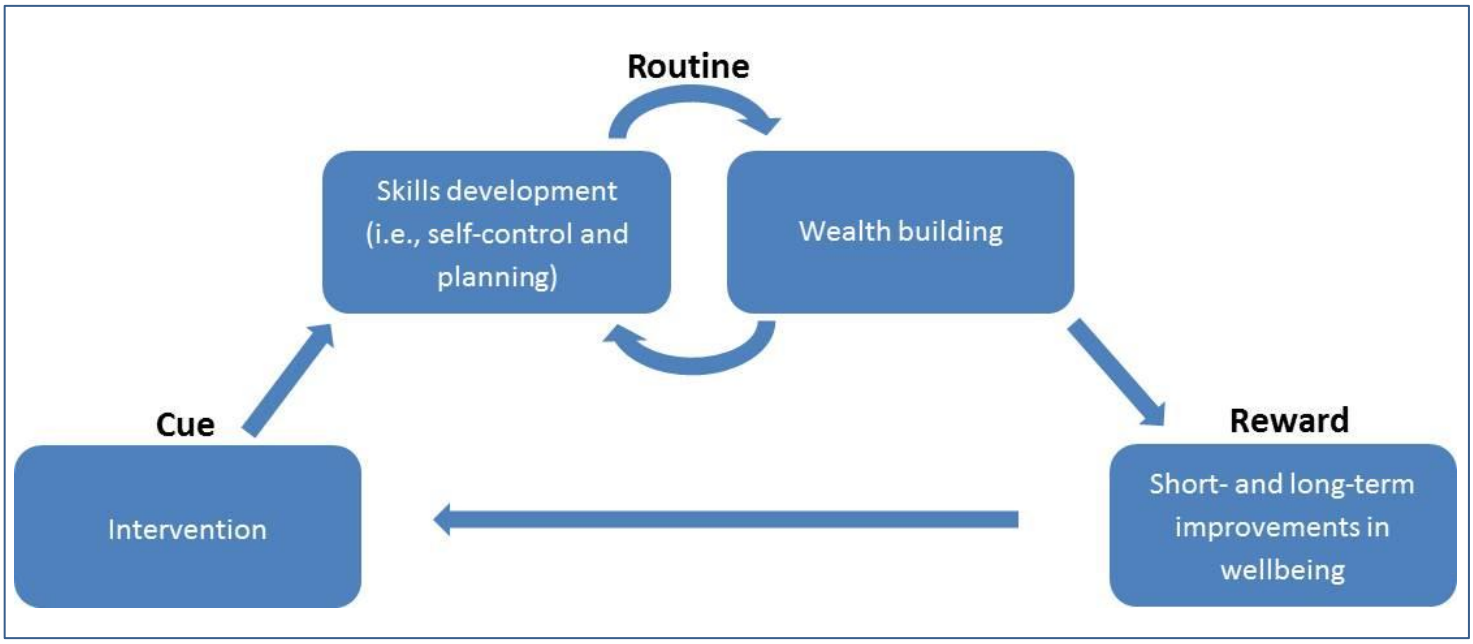
Self-Control

Often considered an umbrella construct, self-control encompasses self-regulation and delay of gratification.‡ The practice of saving can help build self-control because it inevitably requires a person to regulate immediate temptations to consume so as to accumulate assets for some future reward. Several experiments have demonstrated the long-term impacts of self-control on the lives of youth from adolescence into adulthood.

In a famous experiment from the late 1960s, then-Stanford University Professor Walter Mischel and colleagues asked 4-year-old children to choose between one marshmallow immediately or, if they could wait, two marshmallows 20 minutes later. The videos taken of participants in the testare quite poignant (and slightly amusing), with children pulling their hair, covering their eyes, climbing under the desk, or doing anything to avoid eating that one tempting marshmallow. The vast majority of the children opted for the immediate gratification. Longitudinal studies following the lives of these children indicated that those who were able to delay eating the marshmallow for two of them 20

‡ The executive function is housed mostly in the brain's prefrontal cortex, which is responsible for reflective thought and active decision-making.

Figure 2: Triggering Savings Habit Loops during Youth Transition Periods



minutes later, were healthier, wealthier, and achieved higher levels of education as adults.

In another study, researchers tested the self-control of 1,000 children and found that by the age of 10 years old, many had mastered self-control, but others were failing to achieve this skill. Researchers followed them over 30 years and traced the consequences of their childhood self-control for their health, wealth, and criminal offending. The most striking finding, relevant to this discussion, is that childhood self-control also foreshadowed the study participants' financial situations. At the age of 32, those who had had poor self-control as children were less likely to save and had acquired fewer financial building blocks for the future. They were also struggling financially in adulthood and reported more money-management difficulties, including credit problems.[24]

Planning and Low-Time Preferences

The act of planning and low-time preferences (i.e., placing a higher value on future outcomes over immediate ones) are also proven predictors of achieving tasks associated with a plan, especially saving for a future goal. Inherently, when people save, they put a greater premium on "larger later" rewards, such as accumulating funds for higher education, over immediate gratification. Empirical evidence suggests that low-time preferences have direct effects on wages (controlling for schooling), schooling, teenage pregnancy, smoking, crime, performance on achievement tests, and many other aspects of social and economic life.[25]

Much of the evidence on the behavioral effects of having low-time preferences has been observed in developed-country contexts. For example, psychologist Paul Webley and economist Ellen Nyhus (2006) found a significant relationship between adolescent future orientation and savings.[26] Similarly, researchers Terri Friedline and colleagues (2011) found a positive significant relationship between adolescents' future orientation and their subsequent savings as adults.[27]

While future orientation, or low-time preferences, and planning are skills integral to the saving process, the act of saving has proven effects in increasing those skills as well. For example in Uganda's SUUBI (the Ugandan word for "hope") project, orphans with a matched savings account and life-skills training also experienced improved educational outcomes compared with peers without those services, including greater aspirations and confidence for pursuing higher education in the future. SUUBI

participants also reported higher self-esteem than nonparticipants, and an attitudinal change against sexual risk-taking.[28] Thus, this virtuous cycle of asset- and skill-building is yet another reason to nudge savings-habit formation in youth.

Studies show that behaviors established at one stage of a young person's lifecycle grow stronger at later stages.[29] "There is something of a developmental sweet spot [in children]," [30] maintains Professor Kathleen Vohs of the University of Minnesota. Therefore the periods of childhood through adolescence would signal a critical time to lay a solid foundation of self-control and planning, skills that youth can build on over time, and which also happen to be predictors for the amount of wealth accumulated in the long-run. As Baumeister's research concludes, cognitive skills can be strengthened like a muscle;[31] because saving requires some exertion of self-control and planning, it can serve as a sort of "barbell" to fortify those mental muscles.

Unfortunately, *low-income* youth are at a significant disadvantage in developing cognitive skills from an early age. In addition to the inadequate services and conditions that disadvantage them during key phases in their lifecycle, when these skills are in their formative phases, often times economic uncertainty within the household and unstable life circumstances make developing savings habits an even greater challenge. Here is where practitioners and policy makers can provide the support services and stable environments necessary to trigger savings-habit loops in youth during key transition periods in their lives.

Establishing Habit Loops during Key Lifecycle Phases

Just as strong foundations can lead to positive behaviors, weak foundations can have an equal but opposite effect on youth. It is well known that economic scarcity throughout a young person's lifecycle sets him or her on a trajectory toward diminished physical, emotional, and mental capabilities.[32] Thus, a deeper understanding of key lifecycle phases, and the trigger points when behaviors are most malleable, is critical in maximizing the effects of habit loops—i.e., cue, routines, and rewards. The following section draws on current examples of interventions that can be combined to form habit loops in an effort to propose new ways forward in forming savings habits and other development indicators among low-income youth.

Just as strong foundations can lead to positive behaviors, weak foundations can have an equal but opposite effect on youth.

Phase 1: Early Childhood (0-6 years old)

In the literature on early childhood development, this phase typically includes children between birth and the official start of formal schooling. Since this is a time of rapid physical and neurological development, the abilities formed during this time especially lay the grounds for subsequent mental, physical, and economic capabilities. A landmark study by the Center on the Developing Child at Harvard University also concluded that virtually every aspect of early development, "from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environment and experiences [children] encounter."[33] So while this may not be a time in which children are themselves saving, they are heavily influenced by their parents' behaviors and surroundings. Therefore, interventions that nudge habits may not necessarily target children directly during this key lifecycle phase, but rather their parents/caregivers.

One natural transition point to begin a habit loop for *parents*, then, is when a child is born, a time in which households are experiencing drastic changes with new beginnings—a perfect time for establishing savings behaviors. The benefits of engaging parents or guardians in saving are evidenced through qualitative interviews with parents participating in the SEED Oklahoma study. The study involved 12 nonprofit community organizations that established child development accounts (CDAs)—or seeded and matched accounts—for 1,171 children and youth.

Lessons from SEED revealed "[self] perceived positive effects on [parents'] 1) self-esteem, 2) self-efficacy, 3) hope for the future, 4) future orientation, 5) sense of security, 6) fiscal prudence, and 7) interaction with children about finances."[34] Later, parents also observed positive effects on their children including fiscal prudence, future orientation, and self-esteem.

For many low-income households, participating in CDAs such as the SEED Initiative can be their first time interacting with a financial institution. These new experiences with financial institutions can help trigger positive financial behaviors in various ways. As evidence from recent studies suggests, other context cues can include budgeting and one-on-one counseling sessions,[35] as well as reminders to save.[36]

Once a cue triggers the behavior to save, participants, in order to complete the habit loop, will need to receive some sort of reward. Among participating households, CDA policies can provide in-kind or monetary rewards, such as matched savings accounts, up to a certain limit. In the SEED Initiative, once the child accounts are opened, usually at birth, they are "seeded" with an initial deposit made by the program and participants are encouraged to contribute regularly to the account. The goal is that monetary rewards would incentivize a household culture of saving that the child can grow into.

Phase 2: Middle Childhood (7-11 years old)

The second phase of a child's lifecycle prominently features executive function (EF) development, an umbrella term that incorporates goal selection, planning, and self-regulation—skills referred to earlier as necessary to savings-habit formation.[37] By middle childhood, self-control and self-regulation processes are relatively mature and youth begin to develop an understanding of the financial world by observing and modeling their parents' behaviors. Additionally, schoolteachers and peers are integral to young people's cognitive development at this time. Unfortunately, in developing countries, about one-third of children drop out before completing primary school, "leaving many adolescents and youth at the margin,"[38] and drastically reducing their chances for future employment and wealth accumulation. Therefore, this period signals a new context ripe for interventions to: a) create fresh saving cues immediately as youth enter the formal schooling system; and b) provide a stable context to maintain school attendance and saving.

For many low-income households, participating in CDAs such as the SEED Initiative can be their first time interacting with a financial institution.

There are a number of conditional cash transfer schemes designed to encourage school attendance while supplementing the resources parents need to pay for fees and providing a cushion of assets to meet the young person's long-term financial needs. For example, the Bangladesh Female Secondary School Assistance Program supported a government initiative to improve access to secondary education for girls by providing tuition stipends. The project covered 119 of Bangladesh's 480 subdistricts, and from the program's inception in 1991 to 2005, school enrollment jumped from 1.1 million to 3.9 million.[39] These types of interventions can go further in providing an enabling environment and pathway for routine savings accumulation *by linking financial services to the education system*.

Financial institutions globally, such as Hatton National Bank (HNB) in Sri Lanka, are bringing banking services to schools to make saving easier for children and youth. Already, HNB has opened more than 200 in-school banking centers reaching over 500,000 youth account holders through its *Singithi Lama* product.[40] In an effort to incentivize account openings among primary school entrants, a crucial transitional period, HNB contributes 50

percent of parents' initial deposit into the account (up to about USD 8), if students sign up in their first three months of school enrollment.[41] In order to incentivize continued saving, HNB offers in-kind gifts and interest paid out to account holders. Others, such as Bank of Kathmandu, YouthSave's financial partner in Nepal, are integrating in-school banking with financial capability efforts to educate youth about the value of saving while providing them with an easy way to make deposits. Thus, if governments, schools, and financial institutions can coordinate days that children receive cash transfer payments when in-school banking is made available, school attendance may not only increase, but actually begin to cue savings behaviors.

A school lunch program in India, called *Akshaya Patra*, illustrates the potential of cueing good behaviors through linkages between development interventions and the school system. The program began delivering lunches to low-income schools where, prior to the intervention, students would report to class malnourished and understandably unprepared to learn. Since the program started, independent audits have found that school attendance has increased, malnutrition levels have dropped, and school dropout rates have also decreased.[42] The program created an environment that was conducive to educational attainment while supporting a positive behavior, i.e., eating healthy.

Related to the school lunch program, youth savings interventions can get creative in cueing a routine of good savings behaviors. For example, with *Akshaya Patra*, officials would encourage school attendance by offering dessert one (random) day of the week to keep youth guessing and going to class. Cash transfer payments for tuition support that are linked to school banking can be offered in a similar fashion. The short-term rewards of these linkages can include: satisfaction with receiving monetary awards in school; the benefits of interacting socially with peers; or simply valuing the ability to continue learning. And the long-term rewards of linking school with saving are even more promising, namely, improving young people's chances to lead productive economic lives during this crucial developmental phase.

Phase 3: Adolescence (12-18 years old)

During this third phase in the youth lifecycle, the brain undergoes a burst of electrical and psychological development.[43] Information processing, cognitive flexibility, and goal setting are all relatively mature by 12 years of age, although many executive processes are not fully "established" until mid-adolescence or early adulthood. Studies have reported that also at this time, youth are influenced more by their peers and can engage in risky decision-making, such as dropping out of school, abusing drugs and alcohol, and practicing unsafe sex. These risky decisions are due, in part, to the significant physiological changes youth undergo. As a result, this tumultuous period in the lives of youth, especially more vulnerable low-income adolescents, can allow saving, as well as other healthy decisions, to fall by the wayside. Interventions can effectively step in to cue saving routines while simultaneously improving young people's chances for productive and healthy lives by creating linkages to public health and education initiatives.

The potential benefits of reaching youth through targeted public health and education interventions, especially during this transitional period, can be evidenced through a stand-alone social protection program in Malawi. The program reached girls ages 13 to 22 and their parents, who were given USD 15 each month conditioned on regular school attendance. One year after the start of the program, 95 percent of recipients stayed in school (compared with 89 percent of the control group that did not receive a cash payment). A surprising finding also surfaced. HIV prevalence rates among the girls who received the cash were 60 percent lower than those in the control group.[44] But social protection programs and support services, like that in Malawi, can cue school attendance, positive health practices, *and* saving. For example, by transferring a small stipend into a savings account conditioned on attendance,

programs can nudge public health education or health clinic visitation among young girls. Just as combining school attendance with banking cued saving among participants in *Jóvenes con Oportunidades*, the same can and should be explored with public health and saving programs. As evidence from the SUUBI project shows, linkages between saving and public health interventions can improve the chances of youth to lead healthy lives, while accumulating assets.

When youth are conflicted with pressure to drop out of school or engage in unsafe sex, creating a stable environment that not only alleviates these pressures but also facilitates wealth accumulation is essential. SUUBI, an asset building and economic empowerment intervention in Uganda, shows the potential of saving initiatives to improve sound financial and non-financial behaviors among adolescent youth. Here, 300 participants were provided with matched savings accounts for secondary education or microenterprise development, and given life-skills training. Results from SUUBI found positive associations between youth savings and economic, education, physical, and mental health outcomes. Furthermore, active savers in SUUBI became more oriented toward the future—they placed a higher premium on their well-being by avoiding risky sexual behavior in the present and actively saving for productive investments later in their lives.

Linking saving with health programming or secondary education during this transitional period for youth can have multiple impacts. As in the SUUBI experiment, saving can strengthen the planning and self-control skills that are germane to one's future well-being. At the same time, wealth accumulation can reward youth in unexpected ways. With SUUBI, orphans accumulating assets through their matched savings accounts—a possible reward to saving—reported improvements in their HIV-prevention attitude.[45]

Conclusion

Saving is essential for economic growth, for helping families pay for emergency expenses without incurring high-priced debt while allowing for investments that improve their life chances over time and across generations.[46] However, conditions of poverty make undertaking sound economic decisions, such as saving, mentally taxing for low-income adults who are regularly challenged by economic trade-offs, stress, and self-control depletion induced by the scarce resources at their disposal. The inability of many poverty-stricken families to accumulate assets, because of depleted fiscal and cognitive resources, places their children at a disadvantage compared with their middle- and high- income counterparts who have better access to education, health, and economic opportunities. For many youth living in poverty, these combined limitations result in weakened cognitive capabilities, including self-control and planning, which reduce their potential for achieving future well-being.

The examples presented in this paper provide just a few insights into how policies and programs can target the youth population during key changes or transitions in their lifecycles, when cognitive abilities are still in the formative phase. While researchers will need to conduct rigorous studies to determine their specific impacts, interventions to spur savings habits—which can be tied to youth employability initiatives, maternal and child health care programming, and financial education interventions, among others—can provide youth with the supportive environment needed to reach their highest potential while accumulating wealth, and creating lasting, positive habits over the youth lifecycle and into adulthood.

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