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The Social Determination of Behavior

The social environment affects our preferences and our thinking. Some effects are momentary. But many are durable—and shape who we are

The assumptions in economic theory about how individuals make decisions have become contested. Hoff and Stiglitz argue in a recent paper that individuals' interactions with others should be at the core of that theory. They introduce a distinction between two strands of findings in behavioral economics. The first strand is about universal cognitive biases; the second is about the influence of cultural mental models, the tools (or schemas) that mediate our interpretation of information. Pioneered by the psychologists Daniel Kahneman and Amos Tversky, the first strand shows that preferences are "frame-bound": if you change the external frame (seemingly inconsequential aspects of presentation or of context at the moment of decision), you may change the preferences. The second, which draws on cultural and social psychology, sociology, anthropology, and neuroscience, shows that society shapes *who we are*, as defined by the set of opportunities we chronically focus on and the kinds of decisions we chronically make.

As an example of a framing effect (strand one), consider the Israeli day care center that adopted a monetary fine to induce parents to pick up their children on time. This converted a social obligation into a standard market exchange in which parents could "buy" extra time. The response

was unexpected: the fine increased the fraction of parents who picked up their children late. Individuals can be thought of as having a selfish identity and an identity that is more other-oriented. Which identity gets expressed depends on framing. Framing a relationship as a cooperative venture evokes the socially conscious identity; framing it as a monetary arrangement evokes the selfish identity. The parents who had picked up their children on time with no monetary incentive to do so were the same ones who picked up their children late when they had a monetary incentive to be on time. The incentive did not change their identities, but it did affect their behavior.

Two experiments in India illustrate the durable effects that experiences may have on our preferences and on the mental models we use to interpret and respond emotionally to the situations we encounter (strand two). In the first experiment, groups receiving loans were randomly assigned to meet either once a week or once a month. Compared with those who met monthly, individuals meeting weekly were much less likely to default on subsequent loans. They were more willing, two years later, to pool risk with their former group members. Greater contact elicited more altruism.

Contrary to much earlier work suggesting that two anonymous individuals can almost always form efficient collaborations through repeated interactions, the second experiment found that high-caste men are much less able than low-caste men to do so.

(continued on page 8)

IN THIS ISSUE

- The Social Determination of Behavior ... page 1
Findings in behavioral economics suggest possibilities for changing behavior in ways that can have persistent economic effects
- Social Norms and Development Economics ... page 2
Social norms shape our behavior, not always with beneficial effects. How can we change them?
- Behavioral Insights to Improve Development Policy ... page 3
An understanding of what influences people's decision making offers new tools for development practitioners
- Overcoming Behavioral Constraints in Access to Social Programs ... page 4
Behavioral barriers may prevent access to social programs among the poorest families. Social intermediation services can help
- Changing Rural Sanitation Behavior in India ... page 5
A large-scale program in rural India aims to increase both access to and use of latrines. Has it been effective?
- Improving the Impact of Financial Education ... page 6
An experiment in India shows how traditional financial education could be improved to increase its effects on financial behaviors and outcomes
- Using Cognitive Behavioral Therapy to Reduce Crime and Violence ... page 7
Antisocial behavior tends to be common among poor young men. Can cognitive behavioral therapy help reduce it?

Social Norms and Development Economics

Social norms can support development or hinder it. Are there possibilities for changing norms in ways that can lead to more beneficial outcomes?

Social norms are a pervasive feature of our lives. Sometimes their effect is beneficial, as when they allow us to find cooperative solutions to Prisoner's Dilemma-type situations, enable efficient coordination, or ensure the provision of public goods. But sometimes their effect is not so beneficial. Social norms can sustain and prescribe gender inequality: female genital mutilation, lack of education for girls, rape and domestic violence. Social norms of sharing and loyalty with kin and friends can lead to corruption. Social norms can lead to bad health: smoking, eating unhealthy food, getting too little exercise. And social norms about appropriate responses to insults or the need to establish a certain reputation can lead to violence. Because social norms dictate behavior in such a wide range of contexts, they can support economic development or hinder it.

A recent paper by Eriksson outlines what social norms are and how they work, providing examples from everyday life and from development case studies. Sometimes not much can be done about changing undesirable social norms; in these cases development economists need to be aware of how the norms can influence the effects of the policies they advocate. But of particular importance to development economists are the ways in which social norms can be changed. While our understanding of social norm change is still patchy at best, the author outlines the theoretical underpinnings of change along with empirical evidence from various policies aimed at changing social norms. Some of those policies raise ethical concerns that alternative, standard means to behavioral change do not, however, and the paper therefore includes a discussion of these concerns.

The author defines a social norm as a widely shared normative view that one is required to behave in a particular way, combined with widely shared beliefs that most people do behave in this way and expect others to behave in this way too. Failure to behave in the required way generally elicits some form of sanction (or at least risk of a sanction), ranging from a hostile glare or negative comment to social ostracism or even violence. The author discusses data from behavioral economics about how norms work, particularly with respect to the sanctioning system and to anonymity. She also discusses the extent to which such results hold true or vary across cultures.

What is it that social norms do? As noted, social norms often solve cooperation or coordination problems, which can sometimes be of great benefit to society. Social norms also allow us to signal to others what kind of people we are: we signal that we are reliable cooperators by complying with norms, and we signal contempt, disrespect, or courage in the face of social disapproval by violating norms. Social norms also have an important symbolic function: they imbue behavior with social meaning. Consider, for example, the difference between attending a funeral dressed in somber black clothes and doing so while wearing a red cocktail dress. Understanding the connection between social norms and symbolic meaning is often the key to understanding why there is resistance to a change in social norms—or why people keep complying even with norms they recognize as destructive.

A large part of the literature on social norms deals with the questions of why social norms emerge, persist, and change. The author outlines what we already know about how norms emerge, both through deliberate creation and through spontaneous processes; why norms are often so hard to change once they are in place; and what we know about mechanisms that can nevertheless lead to a rapid, sometimes surprising unraveling of norms. A particular focus is why bad

norms—norms with negative consequences for social welfare—are not automatically changed.

The most pressing question for policy makers, however, is how we can deliberately change social norms. Unfortunately, our knowledge about this issue is woefully incomplete. By drawing on both theoretical insights from the literature and a wide range of empirical case studies of policies aimed at changing social norms, the author therefore outlines relevant strategies for social norm change. Some of these are already used by policy programs; others have not yet been much explored but seem plausible given the nature of social norms. These include rectifying mistaken beliefs about what others do or think, utilizing the mechanisms of social pressure, changing the symbolic meaning of the social norm in question, creating or exploiting conflicts between different norms, changing the signaling function of norm compliance or violations, changing incentives for key actors, sending the message through the appropriate messengers, and utilizing how norms interact with laws.

Lina Eriksson. 2015. "Social Norms Theory and Development Economics." *Background Paper to the 2015 World Development Report. Policy Research Working Paper 7450, World Bank, Washington, DC.*

Behavioral Insights to Improve Development Policy

Behavioral economics, by greatly expanding our understanding of decision making, can lead to “small miracles” relevant for development

Consider what might seem a trivial experiment. One set of people estimate in five seconds the product of $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$, while another set do so for $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$. The median estimate was only 512 in the first set, but 2,250 in the second (the correct answer in both cases is 40,320).

The results of this and other experiments on judgment were reported in 1974 by the psychologists Amos Tversky and Daniel Kahneman. Their findings heralded a change in the assumptions that economists consider about human decision making. What explains the vast difference in estimates in the experiment above? Individuals first consider the most prominent aspect of a problem, using the value of this aspect as an “anchor,” and then adjust using other aspects, but generally inadequately. The anchoring bias has been widely demonstrated to affect economic decisions. For example, a randomized controlled field trial found that changing the way that borrowing costs are presented reduces consumers’ use of high-cost “payday” loans.

The World Bank’s *World Development Report 2015: Mind, Society, and Behavior* surveyed psychological, sociological, and cultural influences on decision making and organized the evidence for development. In a recent paper, Demeritt and Hoff, two members of the report team, advance the notion that behavioral development economics is a coherent and promising new field. They show how the three principles forming the report’s intellectual framework are useful in diagnosing and addressing causes of underdevelopment that standard economics (based on the rational-agent model) does not recognize.

The first principle is *thinking automatically*. We often rely on cognitive

shortcuts rather than weighing the costs and benefits of an action. For example, categorizing money affects how we use it. Parents’ savings for health expenses have immense potential to reduce child mortality, but many parents fail to save for this purpose. An experiment in Kenya showed that giving people a lockable box that functioned like a piggy bank, along with a passbook in which they designated a savings goal and recorded their deposits, increased spending on preventive health products by 66–75 percent in the first 12 months. The box created a “mental account” labeled for a specific use, and in that narrow frame using money for a different purpose is perceived as a loss, which helps subjects resist the temptation to spend it on other things.

The second principle is *thinking socially*. Social identities and norms influence decision making and affect macro-level outcomes. In Israel, Arab and Jewish judges randomly assigned to cases in small claims courts exhibited bias toward litigants from their own ethnic group. The more violence that had occurred around the court in the previous year, the greater the bias. Ethnic violence may have activated judges’ ethnic social identities, which biased their judgments. There can be vicious cycles in which societal events trigger individual identification, which in turn generates behaviors that reinforce the social divisions. Interventions that help individuals associate new behaviors with existing identities have reduced conflict behavior and helped people achieve future-oriented goals.

The third principle is *thinking with mental models*. Social identities are one kind of mental model. Mental models also include concepts, implicit assumptions, narratives, and worldviews. They make up the cultural toolkit we use to process information. Many shared mental models improve the quality of thinking, but some lead to harmful decisions. For example, the mental model of caste in India generates ill treatment of low-caste individuals and lowers their self-confidence.

An experiment showed that low-caste boys can perform a maze-solving task as well as their high-caste counterparts when caste is not made salient. Yet publicly revealing boys’ castes created a large performance gap between the low and high castes. The fiction of inferiority became true when the mental model was activated. “Equilibrium fictions,” in which stigmatized individuals conform to the fiction of inferiority, have been found for many marginalized groups.

Interventions can interrupt the feedback cycles that sustain equilibrium fictions. In the United States students in stigmatized groups who completed self-affirmation exercises improved their performance, probably because the exercises interrupted a recursive downward spiral of anxiety, disengagement, and underperformance. In India exposure to female political leaders in villages changed villagers’ mental models of the social role and capabilities of women, thereby increasing females’ opportunities and aspirations. Even fictional characters can promote change in mental models. Again in India, exposure to soap operas depicting women with enhanced autonomy reduced the acceptability of wife-beating, reduced son preference, and increased women’s autonomy.

Economics is often described as the science of scarcity, but standard economics considers only material scarcity. It overlooks the scarcity of attention and cognitive resources, the disempowering social identities and norms, and the narrow mental models that also hamper development. When people are given opportunities to see situations from new perspectives and to expand their toolkits for interpreting situations, their behavior may change. Behavioral development economics yields novel insights. It expands the tools of development practitioners, opening opportunities for policy makers to create what *New York Times* columnist David Brooks calls “small miracles.”

Allison Demeritt and Karla Hoff. 2015. ““Small Miracles”—Behavioral Insights to Improve Development Policy.” *Policy Research Working Paper* 7197, World Bank, Washington, DC.

Overcoming Behavioral Constraints in Access to Social Programs

If well designed and implemented, social intermediation services can help ensure that social assistance reaches the poorest families

Social assistance programs are often designed under the assumption that people have a good understanding of what benefits are available and whether they are eligible for them. These programs also typically presume that people make “rational” choices and correctly weigh all their options and risks. For example, many of the first-generation conditional cash transfer programs assumed that households, if given the proper economic incentives today, would be willing to make important decisions about their future (such as sending their children to school or taking infants for health checkups).

Yet economic reasoning is only one element in people’s decision-making process. Informational, behavioral, and societal barriers often play a more important role. This is especially so for people in chronic poverty, who constantly face crises affecting their basic needs and so may lack the “psychological space” to make immediate decisions that will have effects only in the long run. Moreover, barriers that might appear to be minimal—such as paying bus fares, filling out a short form, inquiring about eligibility, or waiting for a few hours in a program’s office to receive benefits—may be insurmountable for some, particularly people in extreme poverty. Those in chronic or extreme poverty may also have doubts about the government’s intention to help them: when they don’t receive benefits because of failure to fulfill co-responsibilities imposed as a condition for the benefits, for example, they may feel penalized by those trying to help them.

Social programs that fail to address such barriers in their design may face relatively low take-up rates among the poorest families—the very people they are intended to reach. In response to this challenge, Latin American

countries have been developing “umbrella” or “social intermediation” services, designed to support poor families in overcoming informational and other barriers. These initiatives represent a shift away from the traditional social assistance paradigm of providing the poor with a broad range of goods and services, toward a more personalized approach aimed at giving people the building blocks to overcome their specific challenges.

A paper by Camacho, Cunningham, Rigolini, and Silva looks at two of these services: Sistema Chile Solidario, created in 2002 as the first such service in Latin America, and Red Unidos, implemented a few years later in Colombia. Overall, it finds that social intermediation services can facilitate poor people’s access to social programs and health and education services; improve their socio-emotional well-being; and, if the right conditions are provided, improve their employment outcomes. Yet the effectiveness of these services depends very much on the quality of their implementation, on the tailoring of the services to the profile and constraints of families experiencing chronic or extreme poverty, and on a design that takes into account existing institutions and local conditions.

Social intermediation services do not directly provide material benefits to families; instead, they facilitate access to other programs. So they need to be well integrated with the social assistance system, and they need to employ well-qualified social workers who can work actively with the target population to match families to social programs that will address their specific needs. Social intermediation services also need to maintain an active dialogue with existing social programs and have the authority to achieve effective coordination. Where social services are rationed, for example, social intermediation services may need to negotiate priority access for their beneficiaries or advocate for tailoring the design of available programs to their beneficiaries’ needs.

The central pillar of any social intermediation service is the provision of one-on-one support to families—and social workers are the backbone of family support. To be effective, they need to have good knowledge of existing social assistance programs and of the informational and psychosocial barriers faced by those in extreme poverty. And they need to visit families regularly: behavioral barriers can be overcome only if families feel that their constraints are understood and that social workers have the means to help them overcome these barriers.

Also crucial is to keep families focused on a few goals to be achieved. Families’ attention span is limited, and the more complicated family development plans become, the less likely it is that families will be able to accomplish them.

Finally, ensuring quality on the supply side is as important as addressing the demand for social services. Granting access to services that are of poor quality, or that are poorly tailored to the needs of those in chronic or extreme poverty, may lead to little or no impact. Sometimes the greatest increase in access can be achieved by working directly to solve supply-side constraints—such as by simplifying enrollment procedures or improving the quality of health services—rather than by implementing a whole new program.

Adriana Camacho, Wendy Cunningham, Jamele Rigolini, and Veronica Silva. 2014. “Addressing Access and Behavioral Constraints through Social Intermediation Services: A Review of Chile Solidario and Red Unidos.” Policy Research Working Paper 7136, World Bank, Washington, DC.

Changing Rural Sanitation Behavior in India

Ensuring access to and use of latrines in rural India could improve child health. But doing so on a large scale involves big challenges

Hundreds of thousands of young children die each year in developing countries from causes linked to diarrheal diseases. And many young children in these countries suffer poor health and growth outcomes because of infection with enteric pathogens (organisms such as bacteria, viruses, and parasites that infect the human intestine or gut). Open defecation is thought to be a major contributor to the burden of diarrhea and intestinal parasite infection among children. This practice can expose people to direct contact with human feces containing infectious pathogens and also contaminate food and drinking water.

Open defecation can be reduced by ensuring that people have access to and use toilets or latrines. Programs aimed at doing so have been initiated in many developing countries, with a focus on changing behaviors and providing technical and financial support to help households build improved latrines (such as pit latrines with sealed squat plates). However, in 2011, according to the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, more than 1 billion people (15 percent of the global population) still defecated in the open.

Studies have shown that interventions that prevent human feces from entering the environment reduce diarrheal diseases and intestinal parasite infections. But much of the research has focused on the provision of sewerage systems in urban areas. Little is known about how rural sanitation programs, which usually focus on providing stand-alone sanitation facilities, affect the health of young children. Governments and international donors need to know whether large-scale rural sanitation programs improve child health before spending more

resources on these interventions—and whether improvements are needed in program design or implementation.

One large-scale rural sanitation program is in India, where 60 percent of people who practice open defecation live and a quarter of global child deaths from diarrheal diseases occur. This is the Total Sanitation Campaign (TSC), initiated in 1999. The TSC includes activities designed to change social norms and behaviors and provides technical and financial support for latrine building. Until recently there had been no published studies that rigorously evaluated whether the TSC improved child health or not. A paper by Patil, Arnold, Salvatore, Briceno, Ganguly, Colford, and Gertler reports the results of such an evaluation in rural Madhya Pradesh, one of India's less developed states. The study investigated the effect of the TSC on the availability of individual household latrines, defecation behaviors, and child health.

The study was a cluster randomized controlled trial, a design that randomly assigns groups of people to receive an intervention and compares the outcomes with a control group that does not receive the intervention. The researchers enrolled 5,209 children under age five living in 3,039 households in 80 rural villages in Madhya Pradesh. Half the villages (40), chosen at random, were included in the TSC (the intervention). Field staff collected data on sanitation conditions, defecation behaviors, and child health from caregivers in each household at the start of the study and after the TSC had been implemented in the intervention villages. A random subsample of children were also tested for infection with intestinal parasites.

Results show that the intervention increased the share of households in a village with improved sanitation facilities by 19 percentage points (with this share averaging 41 percent in the intervention group and 22 percent in the control group). The intervention also decreased the share of adults who self-reported open defecation, from 84

percent to 73 percent. But it did not improve child health as measured on the basis of multiple health outcomes, including the prevalence of gastrointestinal illnesses and intestinal parasite infections. Nor did it improve child growth.

The findings indicate that in rural Madhya Pradesh the TSC only slightly increased the availability of individual household latrines and only slightly decreased the practice of open defecation. These modest improvements in sanitation and in defecation behaviors were insufficient to improve health outcomes among children.

The accuracy of the findings may be limited by some aspects of the study. For example, several control villages actually received the intervention, which means that the findings probably underestimate the effect of the intervention under perfect conditions. Self-reporting of defecation behavior, availability of sanitation facilities, and gastrointestinal illnesses among children may also have biased the findings. Finally, because TSC implementation varies widely across India, these findings may not apply to other Indian states or to different implementation strategies.

Overall, the findings highlight the challenges associated with achieving large enough improvement in access to sanitation and correspondingly large reductions in the practice of open defecation to deliver health benefits through large-scale rural sanitation programs.

Sumeet R. Patil, Benjamin F. Arnold, Alicia L. Salvatore, Bertha Briceno, Sandipan Ganguly, John M. Colford Jr., and Paul J. Gertler. 2014. "The Effect of India's Total Sanitation Campaign on Defecation Behaviors and Child Health in Rural Madhya Pradesh: A Cluster Randomized Controlled Trial." *PLOS Medicine* 11 (8): e1001709. doi:10.1371/journal.pmed.1001709.

Improving the Impact of Financial Education

Addressing behavioral constraints through goal setting and personalized counseling can improve the effectiveness of financial education

Consumers' ability to make informed decisions about money is crucial for both household well-being and financial system stability. Recognizing this, developing country governments, nonprofit organizations, and other institutions working in the field of development have in recent years placed increasing emphasis on financial literacy. These institutions have developed financial education programs, spurred by the rapid growth of financial services—including micro-finance and mobile money—as well as by concerns stemming from the recent financial crisis. But evidence on the efficacy of these programs has been mixed, providing little guidance on which aspects of financial education succeed in improving financial behavior and outcomes and which do not.

In a recent paper Carpena, Cole, Shapiro, and Zia seek to better understand the barriers that prevent people who receive financial education from translating their greater financial knowledge into action. By investigating three supplemental mechanisms for delivering financial education, the authors also seek to gain insight into how to more effectively improve financial outcomes. Their study involves a randomized evaluation of more than 1,300 low-income people in India. Two-thirds of the sample were randomly selected to receive a five-week, video-based financial education program covering financial behaviors (including budgeting, savings, credit, and insurance), while the other third served as a control group.

Among those participating in the financial education training, three additional treatments were randomly assigned, each designed to investigate potential impediments to the translation of improved financial knowledge into financial outcomes. The first

treatment tested for insufficient motivation as a barrier to the acquisition of financial knowledge and subsequent behavior change by providing half the participants a cash incentive for correct answers on a financial knowledge test. The second treatment was meant to address self-control problems by encouraging half the participants to set short-term, achievable, but noncompulsory financial goals. The third, aimed at understanding the potential for structural factors that hinder the efficacy of financial education, provided intensive, individual counseling services to half the participants.

Which aspects were successful, and to what extent? The financial education alone resulted in better performance on a financial knowledge exam: participants receiving financial education but no pay for performance had test scores 10 percent higher on average than the control group did. The additional effect of pay for performance was insignificant in both practical and statistical terms, however. And financial education, whether alone or with pay for performance, brought about no changes in financial behavior.

By contrast, the goal-setting intervention resulted in an increase in relatively simple changes in financial behavior, such as attempting to write a budget, beginning to save informally, and avoiding borrowing for unforeseen expenses. The individual counseling services, meanwhile, allowed participants to engage in costlier and more difficult financial behaviors, including regularly writing a budget and opening a formal savings account at a bank.

These results suggest that traditional approaches to financial education can help improve consumers' financial knowledge and awareness, but need to be delivered more strategically in order to have an effect on financial behaviors and outcomes.

Traditional approaches to financial education need to be delivered more strategically in order to have an effect on financial behaviors and outcomes

Financial education alone is no panacea when it comes to improving the financial well-being of low-income households in developing countries. To improve financial outcomes for these consumers, financial education interventions need to be complemented with personalized add-ons such as goal setting and individual counseling. These findings could help policy makers, nonprofit organizations, and others

seeking to expand financial inclusion to design more effective financial education initiatives.

Fenella Carpena, Shawn Cole, Jeremy Shapiro, and Bilal Zia. 2015. "The ABCs of Financial Education: Experimental Evidence on Attitudes, Behavior, and Cognitive Biases." Policy Research Working Paper 7413, World Bank, Washington, DC.

Using Cognitive Behavioral Therapy to Reduce Crime and Violence

Can cognitive behavioral therapy help reduce antisocial behavior among poor young men? An experiment in Liberia suggests that it can

Many countries have high rates of crime, violence, and other antisocial behaviors among poor young men. In fragile states such men may also be mobilized into voter intimidation, rioting, and rebellion. Besides having direct costs, crime and instability hinder economic growth by leading to lower investment or to greater allocation of resources to security. Two of the most common government responses are policing and job creation. Both take the person as they are and try to change their incentives or simply incarcerate them. In a recent paper Blattman, Jamison, and Sheridan investigate an alternative: changing behavior by shaping people's underlying skills, identity, and values.

A large literature has shown that a broad set of noncognitive skills predict long-run economic performance and criminal activity. These skills respond to investment, especially in childhood, but there is little evidence on the returns to similar investment in young adults. It's also unclear what specific skills are both important and malleable. To investigate, the authors recruited high-risk men, generally ages 18–35, in Liberia's capital. Most were engaged in part-time theft and drug dealing and regularly had violent confrontations with one another, with community members, and with police.

The authors analyze the results of two randomized interventions. One was eight weeks of group cognitive behavioral therapy (CBT) called the STYL program, for Sustainable Transformation of Youth in Liberia. Following this, participants as well as the control group were eligible for a second lottery, for a \$200 grant—equal to about three months' wages. The cash was partly a measurement tool, to see whether therapy affected economic decisions. The cash was also a

treatment, in the sense that it could stimulate legal self-employment and could be directly compared with the therapy. To deliver both treatments cost about \$530 a person.

CBT is an approach used to alleviate a range of harmful beliefs and behaviors, including depression, anger, and impulsivity. It tries to make people aware of and then to challenge or disrupt harmful, automatic patterns of thinking or behavior by practicing new behaviors. Among noncognitive skills, STYL focused foremost on self-control. This includes greater short-term abilities to regulate one's emotions and resist impulse, as well as more sustained abilities to plan, to persevere, and to be patient. The therapy also tried to encourage nonviolent, noncriminal preferences by fostering a change in the men's self-image from outcasts to mainstream members of society.

Men who received therapy dramatically reduced their antisocial behavior. Within a few weeks their drug dealing fell by half and thefts by a third compared with controls. With therapy alone, these effects diminished after a year. When therapy was followed by cash, however, the effects were lasting. A year later, those who had received both therapy and cash were 44 percent less likely to be carrying a weapon and 43 percent less likely to sell drugs. They also reported lower aggression and a reduction in the number of crimes, from 66 a year on average to 30. By comparison, men in the control group reported stealing almost once a week on average.

Therapy probably worked through many channels, but there is evidence of improvement in three pathways in particular: self-control skills, economic time preferences, and anticriminal values. Treatment effects are similar across topics, whether or not emphasized in the STYL curriculum. This, along with an extensive qualitative validation exercise, gives confidence in the results despite the use of self-reported outcome measures.

How was cash used? Regardless of therapy, little of the grant was spent on

drugs or “wasteful” things. Most funds were invested in business or saved. Cash led to a short-term increase in petty trading and income. After a year, however, these gains disappeared, in part because most men were robbed regularly, regardless of treatment.

That the cash grant was crucial to sustaining the effects of therapy is the most unexpected and important finding. Since cash had no sustained effect on earnings, economic incentives do not explain the sustained effect of therapy plus cash on crime and aggression. Drawing on qualitative interviews and psychological theory, the authors suggest that the short-term increase in income and legal employment helped to solidify therapy's impact on self-control skills and values. Specifically, for a few months after therapy, cash allowed men to project a changed self, to stave off homelessness and stealing, and to further practice the behavioral change started by therapy.

Besides evaluating the pairing of an economic intervention with CBT, the study addresses several important gaps in the literature. The most obvious are the absence of evidence outside the United States and the importance of such evidence in fragile states. The malleability of self-image is consistent with evidence from stigmatized Indian sex workers, for whom short courses of non-CBT psychological therapy increased self-worth, reduced shame, and increased savings and health-seeking behavior. This approach is likely to be applicable across a wide range of development contexts.

Christopher Blattman, Julian C. Jamison, and Margaret Sheridan. 2016. “Reducing Crime and Violence: Experimental Evidence on Adult Non-cognitive Investments in Liberia.” Policy Research Working Paper 7648, World Bank, Washington, DC.

(continued from page 1)

High-caste men adhere more strongly to the culture of honor, in which a loss from a coordination failure may be perceived as a challenge, which triggers retaliation. Retaliation can beget retaliation and make it impossible to sustain collaborative arrangements.

Behavioral economics has broad implications for policy. Behavior is often best described as if individuals had multiple identities. Policy can change behavior by changing cues, language, default options, reference sets, and comparison groups that affect which identity gets expressed in a given situation.

Policy also can change behavior by changing who an individual is (that is, the mental models through which he chronically sees himself and the world). It can do this by exposing individuals to unfamiliar social patterns and experiences—for example, to self-affirmation exercises, to women who are educated and active in politics and professions, or to soap operas with characters who have few or no children.

The metaphorical distinction often made between hardware (the brain) and software (culture) is less rigid than the standard vocabulary suggests. Experience can alter the brain and the way it operates. Here is a simple example in categorization: What is the most natural pair in {train, bus, track} or {dog, rabbit, carrots}? There is no single correct answer. In each triad, two of the items share a functional

relationship (trains run on tracks, and rabbits eat carrots), and two belong to the same abstract category (vehicle or animal). In an experiment with more than 1,000 university students across China, the percentage of the cultivated area in the respondent's home province devoted to rice paddy predicted the extent of pairing based on functional relationships. The home province's ecology—which largely determines the extent of rice cultivation (a crop demanding exceptionally high collaboration)—influences how people think!

Societies can be rigid because the prevailing institutions shape the mental models that individuals use to interpret and respond to the situations they are in. On the other hand, large-scale, more or less simultaneous frame switches by many interdependent agents can cause large-scale social changes. Hoff and Stiglitz show in simple models how social influences can shift trust, beliefs, and parents' preferences for educating daughters. Interventions that change mental models can have persistent economic effects, even without direct effects on incentives, endowments, technology, or information—the key targets of intervention in traditional economics.

Karla Hoff and Joseph E. Stiglitz. 2016. "Striving for Balance in Economics: Towards a Theory of the Social Determination of Behavior." *Policy Research Working Paper 7537*, World Bank, Washington, DC.

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