

# Small Nudge, Big Impact

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We start out determined. We vow to save more for retirement, eat less, and bike to work. But we eventually succumb to the allure of burgers and fries. We never get around to enrolling in that 401(k). And we hop in the car to get to the office on time.

Habit, convenience, and temptation often hamper the most conscientious goals. But behavioral science is showing that those same forces can be rerouted to make fitness and thrift more rewarding than indolence and waste. Amid concerns about rampant obesity, climate change, and aging Baby Boomers with scant retirement savings, psychological scientists are teaming with economists, business leaders, and policymakers to compel people to take better care of themselves, their communities, and the environment.

“We’re helping people to do what they want to do, but never get around to starting — or don’t maintain if they do,” said APS Fellow Richard Suzman during a forum on psychological science and behavioral economics held in May in Washington, DC. Suzman is director for the Behavioral and Social Research Program at the National Institute on Aging (NIA), which co-sponsored the event with APS and the White House (see related story on page 21).

Pioneering this marriage of behavioral science and policymaking is the United Kingdom’s Behavioural Insights Team (BIT) that British Prime Minister David Cameron set up in 2010. Also known as the “nudge” unit, the BIT has found a variety of techniques to cue people to act in their own self-interest, and thus lessen the burden that bad habits place on society. Under the leadership of experimental psychologist and policy expert David Halpern, a former Cambridge University social psychology lecturer, the BIT has conducted a variety of trials to promote good citizenship and healthy behavior, and many of those trials are now being expanded across the UK. The group found, for example, that sending a personalized text message to people owing court fines results in a 33 percent response rate, compared with a mere 5 percent compliance rate when standard letters are sent. In another trial, the nudge unit

documented that job seekers participating in a newly designed program — one that included such features as reduced paperwork and specific job-hunting commitments — were 15 to 20 percent more likely than control subjects to roll off government benefits 13 weeks after signing on.

Based on the BIT team's early successes (its work has boosted income tax collections by £200 million), policymakers and business leaders in the United States and other countries are anxious to adopt similar models.

The “nudge” unit borrows its nickname, and its mission, from University of Chicago economist Richard Thaler's “nudge” theory — the idea that positive reinforcement and indirect suggestions better influence behavior than do laws and edicts. Also factoring into these strategies is much of the legendary work of Princeton University professor and APS William James Fellow Daniel Kahneman and late APS William James Fellow Amos Tversky, who showed how a human tendency toward status-quo bias and loss aversion lead to irrational decision-making.

Behavioral science is also demonstrating how those same traits can be turned around for the common good.

## **Hitting the Default Button**

Researchers have learned that options and services too often falter because they're designed to depend on people taking some kind of action. Studies show that relying on *inaction* yields better results.

Organ donation is one of the most-cited examples. In the United States, 85 percent of Americans say they approve of organ donation, but only 28 percent give their consent to be donors by signing a donor card. The difference means that far more Americans die awaiting transplants.

But APS Fellow Eric J. Johnson, a professor at Columbia University Business School, and Daniel Goldstein, an advisor to BIT and now a principal researcher at Microsoft Research, found in a 2003 study that in many European countries, individuals are automatically organ donors unless they opt not to be — organ donation is the default choice. In most of these countries, fewer than 1 percent of citizens opt out. In an article published in *Science* in 2003, Johnson and Goldstein theorized that, among other things, opting out in those countries was simply too much of a hassle for most people, since it involved “filling out forms, making phone calls, and sending mail.”

Harvard economics professor David Laibson, whose research focuses on the psychology of savings and investment, has found that defaults counter workers' tendencies to delay enrollment in employer-provided retirement plans. The problem with those savings benefits, he says, is that people are beset with present bias, which leads them to avoid thinking about their future. As a consequence, only about half of US employees save sufficient sums for retirement, he says, largely because on average they wait two years to enroll in a 401(k) program. But in one of his studies, he showed that when newly hired workers have to act to “opt out” rather than “opt in” to those savings plans, participation jumped to 85 percent in a year. These findings have sparked the Obama administration to call for employers to enroll workers automatically in retirement plans.

## **What Are the Neighbors Doing?**

Behavioral scientists have found that one of the most effective tools for spurring behavior change is consensus messaging, which taps into people's tendency to follow social norms and rules.

For example, a study by psychological researchers Noah J. Goldstein (University of California, Los Angeles), Robert B. Cialdini (Arizona State University), and Vladas Griskevicius (University of Minnesota) compared the effectiveness of different types of messages in getting hotel guests to reuse their towels rather than send them to the laundry. Messages framed in terms of social norms — “the majority of guests in this room reuse their towels” — were more effective than messages simply emphasizing the environmental benefits of reuse.

Cialdini, an APS Fellow, has also documented the effectiveness of this persuasion approach as applied to home energy use. In one study, Cialdini's research team (led by Jessica Nolan and APS Fellow Wesley Schultz at California State University San Marcos) went door to door in a San Diego suburb, placing hangers on doorknobs with messages about energy conservation. For some homes, the signs urged the homeowner to save energy to protect the environment; another said to conserve to benefit future generations; a third pointed to the cost savings that would result; and the last stated that most of the homeowner's neighbors were taking steps to save energy every day.

At the end of the month, Cialdini and his team returned to the homes to read the meters, and compared them to homes that received no messages at all. Among all those dwellings, the only hanger that made a difference was the one that cited neighbors' behavior. Homeowners who received any other type of message were no more likely to change their energy usage than control subjects.

“People are looking at those around them, like them, in their particular environment, in their particular context, to decide what to do,” Cialdini explains.

Cialdini's work served as the inspiration for the launch in 2007 of a Virginia-based software company, Opower, which has partnered with more than 75 utilities to incorporate neighbor comparisons into gas and electric bills. According to its website, Opower in 2012 helped consumers save more than \$75 million and cut carbon dioxide emissions by 1 billion pounds.

Scientists have also documented this social norm appeal as a potential way to boost voter participation in elections. In two randomized field experiments, Yale University political scientist Alan S. Gerber and psychological scientist Todd Rogers, at Harvard's Kennedy School, tested two get-out-the-vote scripts in the days prior to the November 2005 general election in New Jersey and the June 2006 primary election in California. One script suggested that voter turnout was expected to be high, while the other forecast the turnout to be low. The call recipients were then asked if they planned to vote. The results showed that the scripts forecasting high voter turnout motivated infrequent or occasional voters to participate in the upcoming elections.

## **To Your Health**

Another concern among US government leaders centers on how people take care of their health. APS

Fellow Laura Carstensen of Stanford University studies message framing to promote healthy behavior across the adult life span. She and doctoral student Nanna Notthoff are testing an intervention comparing groups of elderly people who received information about the positive effects of walking with those who were told about the risks of inactivity. Early results have shown that those who were told about the benefits of walking walked more than those who received negative messages about the consequences of inactivity, and that difference is sustained or increased over 30 days.

Influence at Work, a training and consultancy company that Cialdini founded, worked with the United Kingdom's National Health Service (NHS) in a set of studies aimed at reducing the number of patients who fail to show up for medical appointments. They did this by simply making patients more involved in the appointment-making process, such as asking the patient to write down the details of the appointment themselves rather than simply receiving an appointment card. This reduced the number of wasted appointments by 18 percent. And when the practices participating in the study advertised the number of people who attend their appointments on time, no-shows fell by more than 30 percent.

Behavioral scientists and economists are also identifying the best ways to combat rising levels of overweight and obesity brought on by the rampant availability of cheap, unhealthy, processed foods. Studies have shown that laws requiring calorie postings in restaurant chains is yielding no observable reduction in people's calorie consumption.

Dan Ariely, professor of psychology and behavioral economics at Duke University, joined a multidisciplinary team in three field experiments that tested an alternative approach: having servers ask customers if they want to downsize portions of three starchy dishes at a Chinese fast-food restaurant. The researchers found that 14 percent to 33 percent of customers accepted the downsizing offer, whether or not they received a discount for the smaller portion, and on average were served 200 fewer calories.

APS Fellow George Loewenstein, a professor of economics and psychology at Carnegie Mellon University, has worked closely with University of Pennsylvania Professor of Medicine Kevin Volpp in research on health incentives. The pair have found that dieters lose more weight when they're offered cash incentives. In a study published in the *Journal of the American Medical Association*, the scientists placed adult dieters into three groups — all given the goal of losing 16 pounds in about four months. Participants in one group entered a daily lottery and won money if they hit their weight-loss targets, while those in a second group invested their own money but lost it if they fell short of their goals. A third group received no financial incentive.

Both groups offered the incentives achieved a mean weight loss of more than 13 pounds, with about half the participants reaching the full 16-pound weight-loss goal. The mean weight loss for the control group was just four pounds. While both incentive groups gained some weight back over the next seven months, they fell short of their original weights.

## **Skepticism**

The application of the nudge theory is not without its critics. Many deride it as manipulative and paternalistic. Cornell University political scientist Suzanne Mettler, author of the 2011 book *The Submerged State: How Invisible Government Policies Undermine American Democracy*, argues that governmental nudge policies treat citizens as consumers who need choices arranged for them, which

clashes with many tenets of democracy. And a report from the British House of Lords' Science and Technology Subcommittee questioned the effectiveness of "nudge" policies, concluding they alone will not change behavior enough to surmount the scale of such problems as obesity or joblessness.

But while Halpern himself concedes that the long-term effect of the policy changes sparked by BIT's research remain unknown, in many cases those questions are irrelevant. Nudge-induced behavior changes, such as workers being automatically enrolled in retirement plans, are designed to endure, he suggests.

In other words, doing what's good for us, and for society, eventually becomes the habit. α

## References and Further Reading

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