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in this issue

Nudging people to get flu vaccinations

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Behavioral Science & Policy
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Features

The White House Social and Behavioral Sciences Team Papers

editors' note

Welcome to Volume 2, Issue 2 of *Behavioral Science & Policy (BSP).* This is this first of two issues that will showcase behavioral insights at the federal level.

We begin with the first two papers from Behavioral Science & Policy Association's (BSPA) working groups whose mission was to identify promising new applications of behavioral insights for federal policymakers. These groups were organized to inform the work of the White House Social and Behavioral Science Team. In addition, this issue contains articles on applying behavioral insights to macroeconomic policy and it takes stock of lessons learned by the British Behavioural Insights Team from their experience conducting policy experiments. Other papers in this issue address a wide range of policy issues from voting to policing to health.

With his perspective as Chairman of the US Council of Economic Advisers, Jason Furman observes that the impact of behavioral science on public policy has been limited by the traditional approach of starting with behavioral tools and looking for problems to address. Chairman Furman asserts that behavioral science can have even greater impact by starting with major policy problems and looking for relevant behavioral tools that can help address those problems, echoing a recommendation we made in our article that appeared in the inaugural issue of BSP [Fox, C.R. & Sitkin, S. (2015). Bridging the divide between behavioral science & policy. *Behavioral Science & Policy,* 1(1), 1–12]. In particular he identifies and illustrates four economic policy challenges: ending recessions, mitigating climate change, addressing reduced male labor force participation, and moderating economic inequality.

A second contribution to this issue describes behavioral policy approaches taken by a unit that was initially part of the British federal government. Michael Sanders and David Halpern report on the UK's Behavioural Insights Team's extensive experience conducting policy field experiments and helping to build behavioral science networks around the world. They offer guidelines for other behavioral policy units, some of which may seem natural (for example, do small pre-tests and observational studies before launching large-scale field experiments) and several of which are less obvious (for example, start by running multi-variable trials to find an effect before running targeted studies to isolate what causes the effects). The authors conclude by characterizing the growth and impact of behavioral science-based policy initiatives around the world.

In this issue we are also pleased to offer the first two reports to emerge from an initiative of the BSPA in support of the White House Social and Behavioral Science Team. We commissioned working groups to examine promising opportunities for the social and behavioral sciences to inform new policies and policy experiments that can help the federal government serve the public interest in various policy areas.

The first working group article, by Aguinis, Davis, Detert, Glynn, Jackson, Kochan, Kossek, Leana, Lee, Morrison, Pearce, Pfeffer, Rousseau, and Sutcliffe, taps the Federal Employee Values Survey to identify major management and labor needs of the agencies. The report then draws on organizational science research to identify opportunities for improvement in three areas: employee motivation, voice, and collaboration. The second report, by Sah, Tannenbaum, Cleary, Feldman, Glaser, Lerman, MacCoun, Maguire, Slovic, Spellman, Spohn, and Winship, focuses on justice and ethics. This report offers policy recommendations for addressing bias and unequal treatment in the courts, in pretrial detention, and in policing—for example, through the use of blinding procedures and the handling of prejudicial information.

These reports highlight both the significant opportunities for using currently available information and for undertaking new research relevant to addressing the kind of big policy questions noted in Jason Furman's opening essay. Part of our motivation for establishing this journal was to disseminate such research results and identify new research opportunities, and so we are pleased to publish key insights here, with supplementary material available on the BSPA website. In the next issue of BSP we look forward to presenting additional working group reports on health care, education, development, innovation, household finance, and energy and the environment.

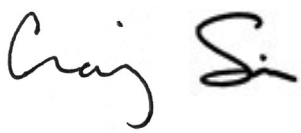
In addition to our special focus on behavioral policy at the federal level, the present issue features a rich set of Reviews and Findings.

Complementing the Justice & Ethics Working Group report by Sah and colleagues, Phillip Goff reviews the empirical behavioral research related to race and policing, which he notes is sparse. Goff contrasts the "Traditional Civil Rights model" that focuses on police bigotry and the impact of punishment with a contemporary "Behavioral Insight Model" that focuses on situational factors and techniques aimed at de-escalation of negative interactions between police and community members. Goff advocates for an evidence-based approach that draws on justice and identity research and rigorous empirical observation.

Daphna Oyserman and Neil Lewis review identity-based interventions for reducing health disparities by acknowledging that identity plays a role in people's health behavior and how they respond to health information. The authors highlight three key insights from the identity-based motivation literature: (a) people are motivated to resist behavior they perceive as incongruent with their identity, (b) although identities are typically seen as stable they are in fact dynamically constructed (and thus can be influenced), and (c) difficult goals are perceived differently depending upon whether the challenge is interpreted as a signal of the goal's importance or the plausibility that it will be achieved. The authors discuss how these insights can be applied by policymakers and health care providers.

Finally, Chapman, Li, and Leventhal report details of an original study examining how defaults affect vaccination rates. Past studies have found that patients are more likely to receive a flu shot at a medical practice if they are automatically assigned an arbitrary appointment time (but can call to change or cancel their appointment) than if they are left to sign up for themselves. This study documents for the first time that such interventions do not merely reflect people changing where they get their flu shots. Even when accounting for people who receive flu shots outside of the target clinic, automatically assigning appointments increases the *total number* of vaccinations that people receive.

We hope that you find these articles valuable, and we look forward to receiving your feedback and suggestions, and to seeing new innovative research enter our review pipeline. Most of all, we look forward to seeing public and private sector policymakers apply the practical research described in the pages of this journal.



Craig R. Fox & Sim B Sitkin
Founding Co-Editors

essay

Applying behavioral sciences in the service of four major economic problems

Jason Furman

abstract

Behavioral scientists have developed a powerful tool kit for understanding individual decisionmaking and have embedded it in a framework that acknowledges the need for robust experimentation to determine optimal public policy. But to date, the integration of behavioral science into public policy has proceeded from developing a set of tools to then searching for problems these tools can help solve. Behavioral science can play an even more important role in the policymaking process in coming years if practitioners instead begin with some of the large-scale questions that economic policymakers face and then develop insights that, often as a complement to more traditional policy tools, can help solve them.

Furman, J. (2016). Applying behavioral sciences in the service of four major economic problems. *Behavioral Science & Policy, 2*(2), pp. 1–9.

Core Findings

What is the issue?
Jason Furman, former chair of the Obama administration's Council of Economic Advisers, argues that behavioral science should move beyond creating tools in the abstract, and actively "address both market and normative failures" in society.

How can you act?
Furman suggests first identifying large-scale issues, and then using behavioral science research and insights to help solve them. He identifies four challenging issues facing society: ending recessions; combating climate change; reversing downward trends in male labor force participation; and reducing income inequality.

Who should take the lead?
Behavioral science researchers, and policymakers looking to maximize policy effectiveness

Behavioral scientists examine human behavior in multiple contexts, including (but not limited to) social interactions, decisionmaking on both individual and group levels, and economic and health choices. As the discipline has evolved, equipped with greater understanding of how individuals behave and what leads to their behavioral choices, policymakers have attempted to leverage this understanding to improve both individual and social welfare. Yet, as David Halpern and Michael Sanders of the United Kingdom's Behavioural Insights Team point out in an accompanying article in this issue of *Behavioral Science & Policy*, virtually all public policies aim to influence human behavior. Thus, although greater attention has been given in recent years to the use of behavioral science in developing policy, in many ways, injecting the current understanding of human behavior into policy is old hat.

Over the past several decades, behavioral scientists have developed a framework for understanding human behavior as it relates to the economy, with an emphasis on the various mental shortcuts that individuals take in actual economic decisionmaking.[1] Policymakers have examined these behavioral insights to better explain why the overall economy might not function as expected under standard economic theory. For example, the finding that setting defaults was a powerful way to overcome the often myopic or shortsighted decisions that individuals make with regard to saving for retirement helped motivate legislation like the Pension Protection Act of 2006, signed into law by President George W. Bush, which made it easier for companies to adopt automatic enrollment as a feature of their retirement plans.[2]

Furthermore, insights from behavioral science literature can help inform assessments of the costs and benefits of policies that are not themselves explicitly behavioral. In setting fuel economy standards—a policy mandate rather than an attempt to assign a default or shape behavior—policymakers should take into account the extent to which consumers, when purchasing a vehicle, are affected by the framing of information or the weighing of present costs that are certain against future benefits that are uncertain.[3]

Starting With Behavioral Tools & Looking for Problems

To date, most of the integration of behavioral science into public policy has proceeded from developing a set of tools to then searching for problems these tools can help solve. Tools such as setting defaults, enforcing active choices, framing issues around gains and losses, making information more salient, and providing social context are powerful ones, and over the past decade alone, behavioral scientists have made great strides in developing even more effective policy-applicable instruments.[4]

Moreover, these tools are embedded in a theoretical framework that not only expresses a set of ideas related to how individuals behave—caring about the way issues are framed, having limited attention spans, being myopic, and so on—but also acknowledges that much of behavior is not obviously predictable *ex ante* and thus that there is a need for robust experimentation to form an improved base of well-developed evidence to decide what works when creating policy.

In 2015, via executive order, President Obama formed the Social and Behavioral Sciences Team (SBST) to build upon existing behavioral science tools and policy insights. The SBST works with agencies across the federal government to integrate knowledge gained from behavioral science research into policymaking at the federal level. In its first year, SBST focused on a number of "proof-of-concept" projects to demonstrate the effectiveness of incorporating behavioral insights into federal agencies' existing programs.[5] Over the course of two terms, the Obama administration has applied behavioral policy insights while developing policies that have affected millions of Americans. For example, now in place are advanced regulations that attempt to make information more salient to help consumers make better choices, whether by changing the USDA's food pyramid to the new "MyPlate" or by making fuel economy labels on vehicles express mileage in terms of gallons per mile instead of miles per gallon.[6]

In Policymaking, Prioritization Is Key

Nobel laureate Daniel Kahneman, a psychologist and expert in behavioral science, has described existing applications of behavioral science to economic policymaking as "achieving medium-sized gains by nano-sized investments."[7] Especially well-chosen behavioral policy interventions can have nano-sized costs and produce extremely high benefit-to-cost ratios.

An important limitation of this existing approach is that policymakers have a finite amount of time and attention, so every policy action taken has a cost in terms of other actions that they are unable to undertake as a result. In other words, implementing one policy initiative over another is sometimes a zero-sum situation in practice even if it is possible in theory to implement both. Thus, even a high benefit-to-cost ratio may not be sufficient justification for pursuing a policy if it crowds out the time and attention that might have gone into other policies with higher absolute net benefits.

Nudging People on Internalities Versus Addressing Externalities

A more fundamental issue is that much of the existing behavioral science tool kit aims to nudge people to make choices that benefit them as individuals yet can also move society as a whole toward the social optimum. For example, if folks load their plates in accordance with the MyPlate proportions of fruit and vegetables, not only will their weight and health likely benefit, but overall health care costs will also decline. That is, most of the current behavioral science tools are aimed at individual choice options, or *internalities*, which are likely to bring direct benefits to the person making the choice.

However, many economic problems do not meet these criteria. In fact, the classic motivation for economic policy—and the one that still applies to many of the largest problems society faces—is not that individuals make suboptimal decisions when judged from their own perspective but that people make choices that, although perhaps individually optimal, have positive or negative effects on others. One example of what economists call an *externality* is that although it may be perfectly rational from an individual's perspective to dump waste into a river, because he or she does not fully bear the costs associated with this pollution, the downstream effects can harm others.

> "Behavioral science can and should strive to play a larger role in helping to address both market and normative failures."

In addition to classic market failures, economic policy is also motivated by normative failures—for example, when individual decisions, whether optimal or not, lead to undesirable levels of inequality or rates of poverty. And some circumstances may have elements of both. For example, when healthy individuals forgo purchasing health insurance because premiums reflect the average cost of both the healthy and the sick, too few people have protection against high out-of-pocket costs (a classic market failure). This, in turn, causes much of the cost burden of illness to fall upon the sick (a normative failure).

Behavioral science can and should strive to play a larger role in helping to address both market and normative failures. But, as outlined above, doing so is more challenging than simply helping individuals make better decisions.[8,9]

Starting With Four Major Economic Policy Challenges & Looking for Tools

With these thoughts in mind, I want to discuss four important problems that we in the broader economic policy world are currently trying to address. Rather than starting with an available tool kit and then finding problems that it can solve, I want to use these problems to motivate exploration of possible answers to the following

questions: What does behavioral science have to contribute? If these are our goals, what tools do we have or should be developed to help achieve them?

All of the questions I set out in this article are genuinely open—I, at least, do not have the answers. In some cases, findings exist in the behavioral science literature that can guide our thinking on how to best tackle these problems. But in other cases, where no such findings exist, I hope that my presentation of these challenges will spur behavioral scientists to first start with the major economic challenges presented and then seek out new tools to help solve them.

Challenge 1: Ending Recessions

Recessions depend, in part, on objective economic circumstances—for example, abrupt spending reductions or interest rate increases that reduce aggregate demand. Additionally, economists have developed models of bank runs and bubbles by perfectly rational actors—basically if you think everyone else will be running to take their money from the bank then you should as well, a situation that *ex post* is rational for everyone involved.[10] But recessions also can have a large subjective or psychological component. For example, a complete understanding of the most recent economic downturn cannot be divorced from understanding the psychology of the housing price bubble or the run on safe forms of financing by investors that aggravated the crisis after the collapse of Lehman Brothers.

"Too often people substitute their own empirically and theoretically uninformed judgments about what would increase confidence."

Therefore, once the country is in a recession, behavioral scientists, with their psychological and behavioral insights, have a role to play in crafting the policies to get out of it. Boosting confidence in the economy, for example, would lead consumers to spend more and businesses to invest more, helping to lift aggregate demand. While increasing confidence is, of course, not a panacea—one need only look at Japan's tepid economic performance despite its recent policy changes intended to move confidence in the right direction—Lawrence Summers has remarked that confidence is the cheapest form of economic stimulus.[11]

The evidence on how to move confidence is very limited, and for good reason: It is nearly impossible to run a large number of randomized trials to answer this question. As a result, too often people substitute their own empirically and theoretically uninformed judgments about what would increase confidence.

As we in the Obama administration developed what would become the American Recovery and Reinvestment Act of 2009, we knew that putting money in the pockets of consumers was an important part of lifting the country out of the Great Recession—an analysis that stemmed from standard Keynesian macroeconomic theory. But we also knew that we needed consumers to spend that money rather than save it—and we knew much less about how to achieve that goal, because standard Keynesian macroeconomics has little to say about the issues of framing and salience, which can have a large effect on actual behavior.

When it came time to think about *how* we were going to put money into consumers' wallets as part of the Recovery Act, we considered two options. The first option was to mail Americans a onetime check, like the Bush administration did in 2008. We could have gone even further and attached a message saying something like, "Here is your stimulus check; we would be thrilled if you went out and spent it, because if you all went out and spent it, you would be helping your neighbors, too."

The second option was to provide the same level of stimulus but to implement it via reduced payroll tax withholding from Americans' paychecks. Those receiving the stimulus would see a slightly larger paycheck every other week, but they would not receive a message encouraging them to spend the additional funds.

In deciding between these two possibilities, we carefully considered an individual's psychology

to determine the better option. On the one hand, we worried that if an individual received a large check in the mail, he or she would head straight to the bank and deposit it in a savings account. Although that approach might create more political capital for President Obama, the primary goal of sending the check might not be achieved. On the other hand, if the person received a smaller amount of extra money every other week—knowing that this was not a one-off boost but would continue for some time into the future, or even if he or she simply had a growing checking account without even realizing the underlying cause—that individual might be more likely to spend the extra pay. Motivated in part by these beliefs, we decided on the tax-withholding option rather than the onetime-check option.

Even today, the literature is not clear about which of those two routes would have been more effective, especially over the multiyear time frame that ended up being relevant for the recession and its aftermath.

Although there is no specific reason to predict a recession in the near term, now is as good a time as any to plan for future contingencies. Behavioral insights alone will not be sufficient to get out of a recession; no amount of confidence that is detached from other policies boosting economic growth would accomplish that goal. But knowing how best to combine non-behavioral interventions (providing the stimulus to consumers) with behavioral insights (how to deliver the stimulus in such a way that consumers spend it) would be helpful in combating the next recession.

Challenge 2: Mitigating & Adapting to Climate Change

Behavioral science clearly has a role to play in addressing climate change, an enormous economic and social challenge. Strong and compelling evidence shows that carbon emissions—and thus climate change—are exacerbated by individuals' decisions, such as the choice of a particular vehicle or refrigerator.[12] In making these decisions, individuals are often affected by many of the behavioral biases I discussed earlier—for example, overly discounting future benefits against up-front costs. A number of existing behavioral interventions can help address such biases. Providing clear information about the fuel efficiency of refrigerators and vehicles, showing consumers how their power use compares with that of other households in their neighborhoods,[13] or simply increasing the salience of information about individuals' energy usage via meters and monitoring are just a few.

Each of these behavioral interventions would both reduce emissions (thereby improving social welfare) and save consumers and businesses money (through smaller electricity or fuel bills). But even if policymakers put into place the full set of such "no-regrets" behavioral policies—and there may be many such interventions yet to be implemented—their effect on climate change may be appreciable yet insufficient to solve the problem. This is because many individuals, even when making perfectly rational decisions, will fail to take into account that the carbon emitted as a result of their activities has costs for society as a whole—in other words, that carbon emissions constitute an externality.

To buttress behavioral interventions that aim to reduce emissions, legislation is needed that puts a price on carbon to make sure that those social costs—estimated to be about $40 a ton—are internalized in the decisionmaking processes of individuals and businesses. There are a number of ways to ensure these costs are taken into account. As Cass Sunstein and Richard Thaler have noted, rather than thinking of this as an either-or choice between behavioral nudges and a more traditional mandate, it is important to consider how regulatory and other policy vehicles can be combined with the best behavioral insights to maximize the impact of environmental policies.[14]

Challenge 3: Reversing the Long-Run Decline in Prime-Age Male Labor Force Participation

In 1954, just 2% of men between the ages of 25 and 54 years—prime-age men—were out of the workforce. Today, that figure stands at more than 11%. This is not the result of the most recent recession: for about six decades, the percentage of prime-age men not working has risen (see Figure 1).

2009

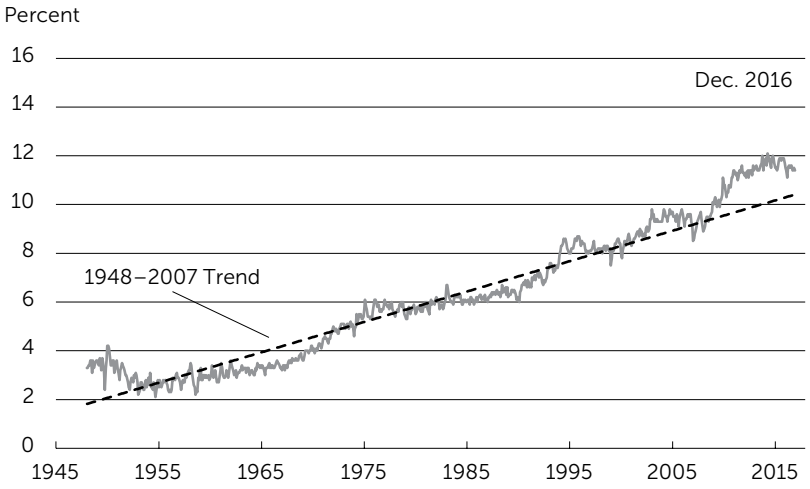
the year the anti-recessionary **American Recovery and Reinvestment Act** was passed to stimulate consumer spending

the estimated social cost of carbon emissions is $40/ton

11%

of men between the ages of 25 and 54 years out of the workforce

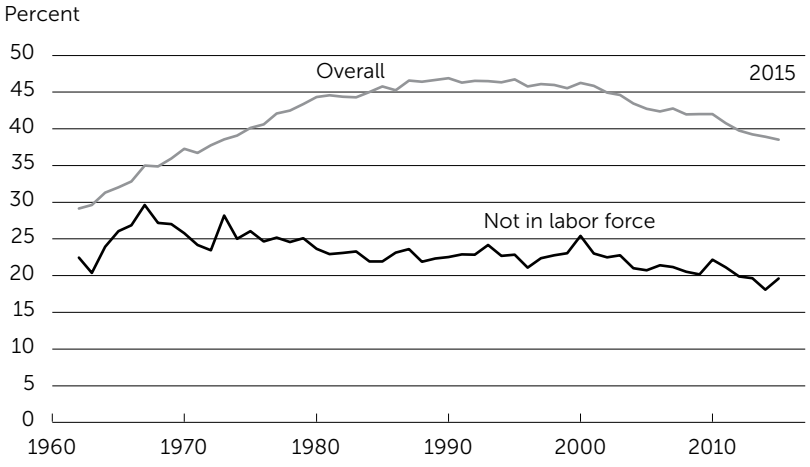
Figure 1. Share of prime-age men not in the labor force



Source: Bureau of Labor Statistics, Current Population Survey; Council of Economic Advisers' calculations.

Economists have been unable to uncover a simple explanation for this disturbing trend. Somewhat surprisingly, given the entry of women into the US workforce in the second half of the 20th century, the decline in prime-age male labor force participation is not the result of men now being more likely to be married to a working spouse. In fact, a smaller fraction of nonworking men are married to a working woman today than was the case in the 1950s (see Figure 2). It is also not explained by increasing generosity of government benefits—if anything, welfare benefits have become less generous for those not working—or by increases in disability insurance enrollment.[15]

Figure 2. Share of prime-age men with spouse in the labor force



Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); Council of Economic Advisers' calculations.

Standard neoclassical economics is ill-equipped to understand this troubling phenomenon. In a neoclassical model, work is a disutility: an agent would prefer to not work and to consume leisure but must work to receive income to pay for other consumption goods. But researchers have found, even after controlling for income, that those involuntarily out of work have lower self-esteem and are more likely to experience a range of psychological problems, including depression, than are those with jobs. Research has also found that those who lose their jobs can become demoralized, making it more difficult for them to find a job even when economic conditions improve.[16–18]

Moreover, in standard economic models of the labor market, supply matches demand, and anyone who wants to work is able to find work. Even in Keynesian models, where in the short run there can be insufficient demand and thus involuntary unemployment, there are no individuals who are unwillingly out of work in the long run. But the market for human labor turns out to be very different than the market for, say, wheat.

The long-run increase in prime-age male work nonparticipation is one challenge for which economists have neither a satisfactory explanation nor comprehensive solutions. We have some clues—a reduction in demand for low-skill workers seems to be playing a role, as is the increase in mass incarceration and its impact on those returning to society. But no fully adequate model of the labor market includes ways in which a mismatch of expectations for job quality and wages affects employment or ways in which an extended period of unemployment can affect a person's likelihood of ever becoming reemployed.[19]

Because many of the unanswered questions about how to increase workforce participation have behavioral underpinnings, behavioral research can shed much-needed light on why

nonemployment has risen and what can be done to combat the problem. Recently, SBST has partnered with unemployment insurance systems in Utah and Oregon to pilot a number of interventions—such as reducing some of the stigma associated with joblessness and helping recipients fulfill their goals of finding a job by calling them "job seekers" rather than "claimants" and changing the timing of benefits to encourage job-seeking behavior—that show promise in this area.[20] Behavioral science can also assist policymakers in understanding and proactively responding to future changes to the workforce stemming from automation and artificial intelligence (AI), helping to mitigate some of their potential costs.[21]

Challenge 4: Reducing Inequality

The final challenge I briefly discuss is economic inequality. At first blush, an increase in inequality may not appear to be the sort of problem that lends itself easily to solutions from the behavioral tool kit. After all, it is implausible that small-scale behavioral nudges toward better decisionmaking can lead to massive changes in the distribution of income in the aggregate economy. Nevertheless, the sheer magnitude of the problem of inequality requires a no-stone-unturned approach when considering solutions.

Designing antipoverty programs that increase incentives for work while avoiding incentives to reduce work hours requires understanding how individuals weigh such incentives when deciding whether to enter the labor force. Behavioral science also has much to offer in helping policymakers and program administrators understand the take-up rate for antipoverty programs. In many cases, such rates can be quite low, and understanding the relative roles of informational failures, stigma, compliance burdens, and other factors could help policymakers improve the design and administration of programs like the Earned Income Tax Credit and the Supplemental Nutrition Assistance Program (SNAP).

Behavioral insights can also provide a better understanding of the impact of the minimum wage and other antipoverty policies on worker productivity, motivation, and retention, as well as their potential role in alleviating some of the stress and psychological burden of poverty that Sendhil Mullainathan and Eldar Shafir, among others, have discussed.[22]

"At first blush, an increase in inequality may not appear to be the sort of problem that lends itself easily to solutions from the behavioral tool kit."

Behavioral insights may also help policymakers understand and craft policies aimed at the upper tail of the income distribution. Some of these issues include understanding the motivations for seeking higher pay—for example, whether absolute well-being or relative status matters more when developing optimal tax policy. In addition, much of the increase in inequality has been the result of increasing compensation for managers. This compensation is usually set by corporate boards or other managers, so understanding the interpersonal dynamics at work in these pay decisions could be relevant in designing corporate governance policies. Requiring greater transparency surrounding CEO pay could also possibly induce favorable behavioral responses in pay setting that ultimately result in a decrease in inequality.

Finally, changes in economic inequality stem, in part, from the full complement of government policies. Therefore, much of what I have discussed above, such as combating recessions, improving health, and improving work incentives, would potentially have a positive impact on inequality reduction as well.

Conclusion: Toward Higher-Hanging Fruit

These are exciting times when it comes to integrating behavioral insights into public policy. The tool kit that behavioral science has developed is both expansive and powerful, but policymakers have yet to fully deploy these tools to solve a

number of pressing policy issues. In other words, a great deal of low-hanging fruit remains for behavioral science and public policy.

At the same time, I encourage behavioral scientists to look further up in the branches toward higher-hanging and potentially better fruit. That entails starting from the big questions, such as those outlined above—recessions, climate change, employment, and inequality—and then determining what behavioral insights and research, often as complements to more traditional policy tools, are needed to help solve them.

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author note

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proposal

Identity traps: How to think about race & policing

Phillip Atiba Goff

abstract

Since the summer of 2014, Americans have seen more videos of violent interactions between police and non-Whites than ever before. While the interpretation of some specific incidents remains contentious and data on police use of force are scant, there is evidence that racial disparities in policing exist even when considering racial disparities in crime. The *traditional civil rights model* of institutional reform assumes that racial bigotry is the primary cause of these disparities; it attempts to address problems through adversarial litigation, protest, and education. This article offers an expansion of that model—one based on insights from behavioral science—that facilitates a less adversarial approach to reform and allows one to be agnostic about the role of racial bigotry. The new *behavioral insights model* focuses on identifying the contexts—called *identity traps*—that can escalate negative interactions between police and communities, as well as ways to interrupt them.

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Core Findings

What is the issue?
Implicit bias and self-threats are important identity traps that mediate the relationship between law enforcement and communities. The *traditional civil rights model* of reform should therefore be expanded to include these behavioral insights.

How can you act?
Selected interventions include:
1) Creating standards for law enforcement data capture to enable more robust studies
2) Increasing the Bureau of Justice Assistance budget and linking funding to evidence-based programs or practices
3) Disseminating best practices and guidance across law enforcement departments communities

Who should take the lead?
Policymakers and decision makers in law enforcement, behavioral science researchers

Recent disturbing videos depicting the deaths of unarmed Black citizens via police interactions continue to stoke protest and outrage among communities in Baltimore, Maryland; Oakland, California; and Ferguson, Missouri, to name a few. Many non-Whites believe that, because of their race, they routinely experience injustice at the hands of law enforcement. Indeed, people of all colors feel that racism is likely a fundamental problem in American law enforcement.[1]

To combat racism, many reform-minded citizens have depended on what I call the *traditional civil rights model* (TCRM), which relies on direct action, litigation, and legal sanction. In the case of policing, this model has meant that people have responded to racism with protests, lawsuits, and calls for federal oversight to address grievances. Although these remain valuable tactics, an adversarial approach can, at times, also have the unintended consequence of exacerbating tensions between police and the communities they are sworn to protect. In this article, I present an expanded—and less antagonistic—model, the *behavioral insight model* (BIM). It is based on behavioral science research, and I apply it to police reform.

Taking advantage of the insight that situations are more powerful than attitudes when predicting behavior (including racial attitudes such as prejudice),[2–4] the BIM approach involves attempting to determine which situations improve and which situations undermine interactions between police and civilians. A collateral benefit of this framework is that it allows researchers and advocates to remain agnostic about the intentions and character of police officers while developing a plan to promote equity. Similarly, with its focus on identifying the mechanisms that produce inequality, the BIM also communicates that doing the right thing merits significant resources. Taken together, these two messages can help defuse threats to the self-concept that arise when racism is discussed.[5,6] It is important to note that a BIM approach need not sublimate concerns with explicit bigotry nor absolve the need for direct action and litigation. Rather, it provides an expanded tool kit for addressing contexts where naked bigotry is insufficient to explain racial disparities.

What follows is an introduction to the BIM and its core scientific elements. The scientific research on BIM for racial reform revolves around *identity traps*, the universal psychological tendencies that can produce racial injustice or detriment for a group, and *procedural justice*, the consensus among behavioral scientists that compliance with the law is more readily facilitated by trust in the justice system than fear of it. (See *Glossary of Key Terms*.) Finally, having outlined the process and the science on which it is based, I conclude with examples of successful interventions (with caveats on their limitations) and recommendations for improving both the science and the practice of police reform.

A Model Based on Behavioral Science Insights

The founder of experimental social psychology, Kurt Lewin, is famous for saying, "There is nothing so practical as a good theory." Theories orient people to problems, guide strategic thinking, and shape decisionmaking. For instance, a theory that a sports team's losing record is the fault of a subpar defense will lead to very different hiring, practice, and salary decisions than will a theory that the subpar offense is at fault. And so too it is with theories of racial inequality. The belief that racial inequality stems from the immoral behaviors of Blacks and Latinos leads to different solutions to the problem than the theory that the racial prejudices of Whites cause racial inequality.

The theory that has tacitly undergirded much of the work around police reform and racial justice is the TCRM. This model assumes that racially disparate outcomes and bigotry are synonymous and that the solutions to racial inequality, therefore, must engage prejudice.[7] If the problem is racial bigotry, then the solution must be education, confrontation, litigation, or a combination of these strategies.

Think about what applying the TCRM might do to a police department that believes it is progressive despite what appear to be racial disparities.

Someone embracing a TCRM approach might accuse the department of not caring about those disparities or, worse, welcoming them. If these claims are inaccurate, then the TCRM may alienate an otherwise cooperative department—and likely provoke a powerful identity trap in police officers: the concern with appearing racist.[5,6,8] The accusation will also seem unfair—or illegitimate—in the minds of law enforcement, which in turn jeopardizes police participation in the reform process. And, as Figure 1 illustrates, when the TCRM fails, it can lead to further adversarial entrenchment. This is not to claim that a TCRM approach is never best or suitable. It often is. However, the BIM sees racial disparities through a different lens and adds to the variety of tools available. As no two situations are the same, having a diversity of tools is useful for fixing stubborn problems.

The BIM is an expansion of the TCRM, not an alternative. The BIM is rooted in certain facts: that racial disparities can arise from a variety of causes, that situations are often more powerful predictors of human behavior than attitudes, and that collaboration is usually preferable to combat. When the BIM is used in policing contexts, researchers and advocates take the time to look into the causes of disparities. This communicates that they take seriously a police department's desire to reduce racial inequality. By working backward from the disparity without an a priori theory about police officers' character, the BIM allows researchers to assume (either strategically or genuinely) that all actors involved intend to do the morally just thing. If the implementation of the BIM falls short of reformers' expectations, then the more tested TCRM approach is still available (see Figure 1). It is more challenging, however, to move in the other direction—from TCRM to BIM—because accusations of ignorance, apathy, and bigotry cannot be unsaid.

Identity Traps: Thinking, Fast & Slow, About Race

Social psychology research offers two main sets of literature regarding the mechanisms of racial bias. Both emphasize situations over attitudes or intentions in explaining racially disparate outcomes. And, it is important to note, both literatures demonstrate how racial inequality can arise even in the absence of racial bigotry. The first concept, *implicit bias*, refers to the human

Racial Inequity in Procedural Justice & Use of Force by Police

How much of a problem are racial disparities in policing? After all, if one group commits more crimes than another, we should expect that group to experience more negative consequences of the criminal justice system, right? This expectation, however, does not hold up in the light of several analyses of police stops,[A,B] use of force,[C,D] sentencing,[E,F] and subsequent employment prospects,[G] all demonstrating that the size of racial disparities across every phase of the criminal justice system cannot be fully explained by racial disparities in crime.

For instance, in a recent study that my colleagues and I conducted for the White House and the Austin, Texas, police department, we examined both the frequency and the severity of force used in that city by police. By controlling for the level of crime in a given census tract, as well as other factors such as income, graduation rate, percentage of owner-occupied homes, and employment, we were able to see the degree of racial disparities that persisted.[C] The results demonstrated that even though both neighborhood crime and poverty were strong predictors of police force, neither was sufficient to explain increased use of force in Black and Latino neighborhoods. This analysis was consistent with previous research my colleagues and I conducted across 12 departments that examined how racial disparities in arrest rates related to racial disparities in the number and severity of police force encounters.[C] There, again, we found that racial disparities in arrests predicted racial disparities in force, but they were not sufficient to explain them completely.

This is consistent with other research on use of force that shows a similar pattern nationwide at the state level.[D] So although there is still considerable research to be done on the nature of race and policing, the basic question of why racial disparities exist in police outcomes cannot be answered with a simple "because of racially disparate crime."

A. Fagan, J. A., Geller, A., Davies, G., & West, V. (2009). Street stops and broken windows revisited: The demography and logic of proactive policing in a safe and changing city. In S. Rice & M. White (Eds.), *Race, ethnicity, and policing: New and essential readings* (pp. 309–348). New York, NY: New York University Press.

B. Geller, A., & Fagan, J. (2010). Pot as pretext: Marijuana, race, and the new disorder in New York City street policing. *Journal of Empirical Legal Studies, 7,* 591–633.

C. Goff, P. A., Lloyd, T., Geller, A., Raphael, S., & Glaser, J. (2016). *The science of justice: Race, arrests, and police use of force.* Retrieved from Center for Policing Equity website: http://policingequity.org/wp-content/uploads/2016/07/CPE_SoJ_Race-Arrests-UoF_2016-07-08-1130.pdf

D. Ross, D. (2015, May 17). 5 ways to jumpstart the release of open data on policing [Blog post]. Retrieved from http://www.codeforamerica.org/blog/2015/05/17/5-ways-to-jumpstart-the-release-of-open-data-on-policing/

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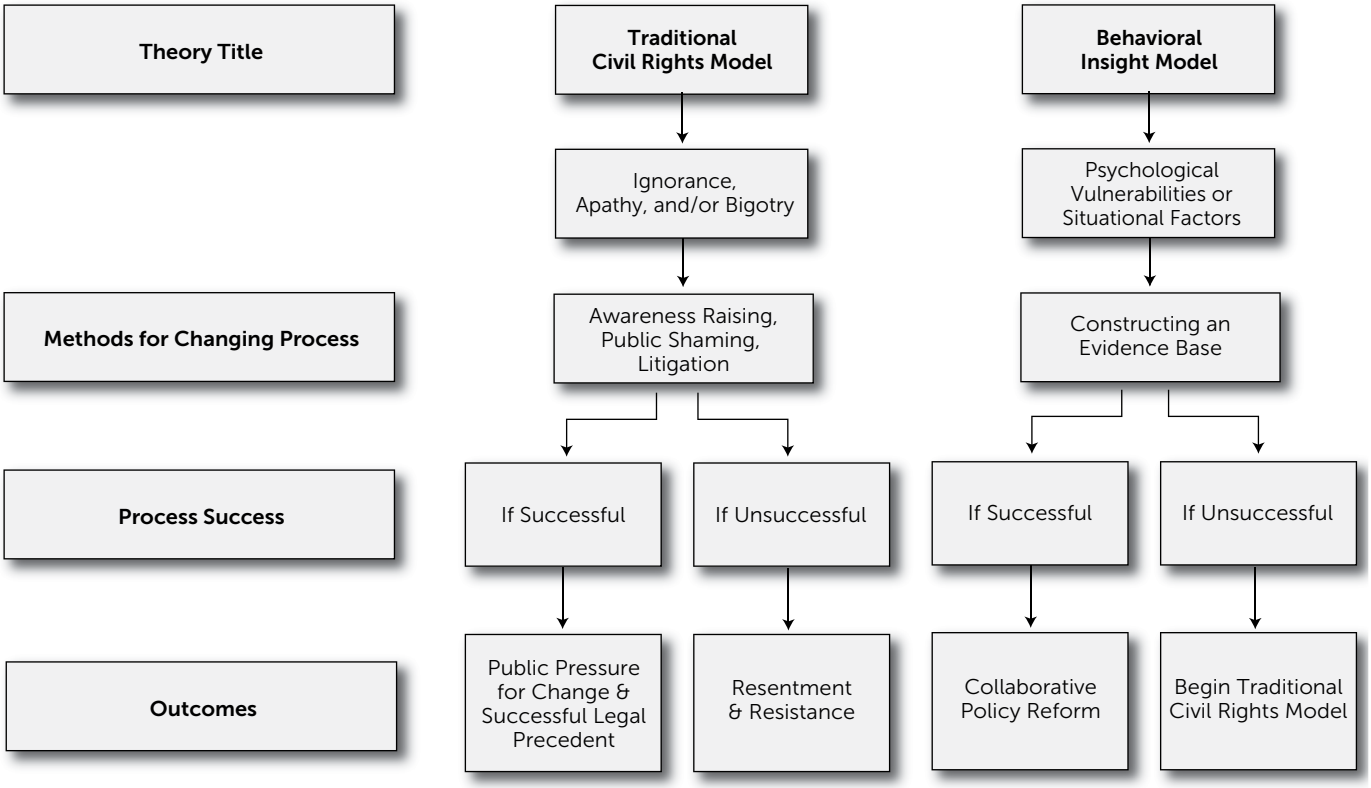
F. Sidanius, J., & Pratto, F. (2004). *Social dominance theory: A new synthesis.* New York, NY: Psychology Press.

G. Pager, D. (2003). The mark of a criminal record. *American Journal of Sociology, 108,* 937–975.

Figure 1. A conceptual flow chart comparing the traditional civil rights model & the behavioral insight model for addressing racial disparities



tendency to store and retrieve information about groups and group members in associated chunks.[9–14] Simply storing information in chunks is not, in itself, bias. If memories did not function this way, it would be difficult to recall lines for a school play, burdensome to navigate one's commute to work every day, and impossible to remember the name of anyone encountered at a cocktail party. The second concept, *self-threats*, refers to the social contexts that cause people to be concerned that they will be negatively stereotyped because of their identity, that their identity will not be valued, or that they will be denied membership in an important identity group.[15–18]

Because the literatures about these two concepts often overlap, "implicit biases and self-threats" is cumbersome to say, and I am often asked what to call the mechanisms of racial inequality that do not require prejudice, I refer to both literatures by one name: *identity traps*. Identity traps are robust human psychological tendencies triggered by someone's identity (our own or another's). They can cause people to act inconsistently with their beliefs and often in ways that disadvantage already stigmatized groups (again, either one's own group or another's). In addition to unifying two research literatures, this term has the advantage of simultaneously reducing the emphasis on individual attitudes and foregrounding the importance of the situation.

To distinguish between the two literatures, I borrowed from Daniel Kahneman's *Thinking, Fast and Slow*.[19] Because implicit bias works quickly and beneath conscious awareness, I refer to it as a *fast trap*. And, because people are often aware that they are experiencing self-threats, they seem the appropriate analog to a *slow trap*. Some examples may make the distinction more clear.

Fast Identity Traps

Here's an example of a fast identity trap. If we regularly see Norwegians playing handball, we would tend to think of handball as a Norwegian pastime. Because we store trait information (for

example, handball players) alongside category information (for example, Norwegian), we would tend to recall them together and make an automatic—implicit, or unconscious—association between the two. These automatic associations can influence behaviors ranging from when we look at a person[2] to what we see[14] and how we respond to her or him.[20,21] For instance, in research by Dovidio and colleagues, implicit anti-Black bias influenced the subtle elements of interpersonal communication. In one laboratory study, undergraduate students were brought in two at a time to have a conversation that researchers videotaped. Coders then counted the number of eye blinks, nervous fidgets, and gaze aversions (that is, times when one participant wasn't looking the other in the eye). What they found was that White students who were higher in implicit bias were less likely to make eye contact and more likely to look uncomfortable with Black students—regardless of their explicit values.[2]

Certain situations can promote fast traps, such as being in a bad mood or mentally taxed, feeling threatened, needing to make a quick decision, or experiencing unfamiliar circumstances.[10,12,22–25] In these situations, people tend to rely on overlearned associations—such as when, after a long, frustrating day at the office, you choose the tried-and-true restaurant rather than the new one around the corner. But fast identity traps happen much more quickly than a decision about where to eat.

Can training help? In a laboratory simulation study published in *Personality and Social Psychology Bulletin*, Sim and her colleagues found that, among people who were not used to making decisions about shooting, exposure to negative stereotypes about Blacks exacerbated the likelihood of "shooting" unarmed Black targets.[25] However, participants who were trained not to associate race with criminality (through exposure to a set of pictures in which race was uncorrelated with the likelihood of the person being armed) were not as easily influenced by stereotypes.

It is tempting to view these laboratory successes as promising evidence that fast traps can be trained out of people, yet it is important to resist that temptation. Analyses of hundreds of thousands of data points suggest that Americans hold automatic associations between Blacks and negative stereotypes (for example, criminal, dangerous, armed) at high rates and that these associations are difficult to eliminate.[26–28] The success of the Sim intervention, as well as successes experienced by others using similar methods,[29] are better viewed as interventions that target the situations within which officers encounter suspects. This is because, although researchers are able to alter behavior in the moment, there is not good evidence that those changes persist over significant periods of time, and the automatic associations that undergird them are often not materially altered.[29–32] Consequently, it may be more useful to focus racial equality interventions on defusing the traps that situations lay for one's automatic associations than on identifying who is or is not "implicitly biased."

Slow Identity Traps

Again, slow identity traps roughly correspond to self-threats, which are threats to a person's concept of him- or herself. How could a threat to one's self-concept lead to racially biased behavior? Here's one example.

In a series of studies on interactions, social psychologists found that Whites who were gearing up to have a conversation with someone of a different race sat farther away from that person when they feared that their racial attitudes might come up,[5] and they spontaneously worried that they would be stereotyped as racist.[5,8] Further, after having an introductory conversation with an individual of another racial group, both Whites and Blacks reported concerns with being stereotyped as prejudiced, and this concern was cognitively taxing.[33,34] This cognitive depletion can, in turn, lead to subtle forms of bias that disadvantage the stigmatized group by facilitating a reliance on stereotypes found in fast traps as well as a desire to avoid those situations altogether.[35]

"procedural justice constitutes a revolution"

The literature on self-threats suggests that they are most powerful when the threatened identity is salient (for example, when people are reminded of the identity),[36] when people care about the outcome,[16,37] and when people believe failure might reveal something about their character.[5,38–40] The problem is that some situations threaten many people to the detriment of vulnerable groups (for example, Blacks). For instance, worrying about being seen as racist can cause Whites to avoid looking at Blacks[41] and even harbor more racist attitudes.[42]

It is easy to imagine how these laboratory results could prove disastrous in police–community interactions. For instance, in the current climate of concern among many citizens regarding police legitimacy, officers patrolling majority Black neighborhoods—regardless of their own race—may fear being seen as racist. This could, in turn, provoke a relative retreat from proactive community engagement and an increased reliance on racial stereotypes through fast traps. Obviously, none of these possibilities bode well for police–community relations. Also notable, however, is that these can happen even when an individual officer is not bigoted.

Procedural Justice

Within the last three decades, behavioral science research on the concept of procedural justice has significantly advanced understanding of how the mind interprets fairness in policing contexts. The *Final Report of the President's Task Force on 21st Century Policing* asserts the following:

> Decades of research and practice support the premise that people are more likely to obey the law when they believe that those who are enforcing it have authority that is perceived as legitimate. . . . The public confers legitimacy only on those whom they believe are acting in procedurally just ways. In addition, law enforcement cannot build community trust if it is seen as an occupying force coming in from outside to impose control on the community.[43]

It may at first seem that the insights of procedural justice are obvious: Treat people fairly and they are more likely to comply with an officer's lawful request. Respect someone's dignity and she or he will return that respect. Threaten someone, on the other hand, and he or she will act to defend themselves against you. Yet, in a criminal justice system long governed by deterrence theory—the notion that threats of harsh punishments are the best way to deter crime[44–47]—procedural justice constitutes a revolution.

Indeed, for those who believe that force best protects communities, it may seem laughable to suggest that preserving citizens' dignity is more important. But research confirms that concerns about fair treatment trump the threat of sanction in producing compliance with the law.[48,49] Issues of procedural justice are more powerful than the fear of punishment in predicting criminal behavior,[50] compliance with police,[51–53] and reporting crime.[54,55] When officers are trained to communicate the reason for a contact, provide residents with a voice in their outcomes, and ensure equitable treatment, this actually improves outcomes.[54,56,57]

In two large surveys of New York City residents, Sunshine and Tyler of Yale Law School tested whether concerns with fair treatment were a bigger, a smaller, or an equal predictor of intentions to cooperate with the law. In samples taken before and after the events of September 11, 2001, and for both Black and White respondents, the perception that police treat people fairly rather than the fear of getting caught was the primary driver of an intention to cooperate with the police.[52]

Given that large and robust racial differences exist in the perceptions of procedural justice in policing,[58–61] it stands to reason that racially disparate gains can be made by improving a department's procedural fairness. Again, this need not implicate the racial attitudes of individual officers nor those of an entire department. Rather, where procedural justice

is a newly popular concept in the profession of policing, a cultural shift in police philosophy may accomplish a great deal to improve community trust.[62]

Identity Traps in Policing

The concepts of identity traps and procedural justice are highly relevant to officers' day-to-day experiences. Line officers frequently multitask.[63] They engage the neighborhoods most vulnerable to crime and violence.[64,65] They are often asked to do so while working odd hours[66,67] and being stereotyped as racist.[49,68] Their uniforms are a constant reminder of their police identity. And they are tasked with making high-stakes, split-second decisions—some that remove liberty and some that end life. A police officer's day seems to be the perfect context for promoting behavior influenced by fast and slow traps. So how can a police department defuse them? The Las Vegas Metropolitan Police Department (LVMPD), Queensland (Australia) Police Department, and the President's Task Force on 21st Century Policing provide promising examples and recommendations.

Case Study, Las Vegas, Nevada: Defusing the Fast Trap of Foot Pursuits

In 2010, the LVMPD reached out to the Center for Policing Equity (CPE), a nonprofit research and action think tank based at the John Jay College of Criminal Justice and the University of California, Los Angeles. The LVMPD asked CPE, where I serve as cofounder and president, to conduct research that would determine whether it showed a pattern of excessive use of force that would be considered racially disparate based on the distribution of force in the city. Before CPE's formal analyses began, it was discovered that a high percentage of use-of-force incidents occurred immediately after foot pursuits. Although good data on foot pursuits were lacking (the LVMPD did not begin collecting foot pursuit data until 2014), these chases were still deemed an ideal context in which to gather evidence because of the nature of the contact.

For anyone familiar with police serial dramas, it may seem as if foot pursuits are high-adrenaline chases that end when an officer springs on the suspect, tackling the runner to the ground (and, potentially, moaning that he or she is "getting too old for this"). However, although foot pursuits are indeed high-adrenaline events, they do not tend to end via police tackle. Rather, the bulk of foot pursuits stop when the suspect realizes he or she is surrounded and gives up. Yet, if asked, "How do most foot pursuits end?" a police officer's most likely response will be, "With the use of necessary force to subdue the subject."

Recall that depletion, time pressure, high stakes, and limited resources are all likely to exacerbate identity traps. Consequently, CPE used the BIM theory of change to recommend a revised policy to the LVMPD: whenever possible, the officer in the foot pursuit is not permitted to be the first person to lay hands on the subject if the subject has surrendered and is not deemed to be an immediate danger to him- or herself or others. Adjusting the situation so that the officers experiencing an adrenaline-pumping chase were not the ones to "go hands on" with a possible criminal should help prevent police from succumbing to identity traps.

The policy went into place at the end of 2011. Figure 2 reveals that the LVMPD experienced a 23% drop in use-of-force incidents and a further decline the following year. However, the data did not look at foot pursuits in particular. Because the department did not keep foot pursuit statistics and because of other simultaneous policy changes, it is unwise to make a strong causal statement about the effects of this intervention. Still, although this is far from a randomized experiment, both the LVMPD and Department of Justice (DOJ) believe the interventions were central enough to these declines in force that they feature prominently in the DOJ report on the progress the LVMPD has made in keeping the department out of a federal consent decree, the tool that the DOJ uses to compel departments to reform.[69] In addition, more than 10 major police departments, including those in Los Angeles, Seattle, and St. Louis County, have visited the LVMPD with the aim of adopting this program (among others). It is critical that additional rigorous research be run to test the potential benefits of this intervention.

23%

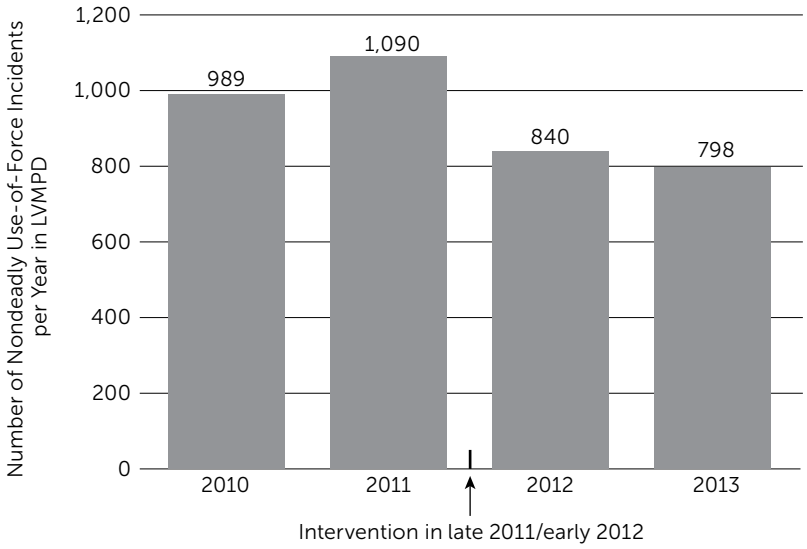
drop in use-of-force incidents experienced by the LVPD after piloting behavioral interventions

$14m

amount set aside by the Laura and John Arnold Foundation for randomized controlled experiments in policing

the **National Justice Database** is the largest US effort to collect, standardize, and analyse data on police behavior

Figure 2. Number of nondeadly use-of-force incidents per year in the Las Vegas Metropolitan Police Department (LVMPD), 2010–2013



Source: Data are from *Collaborative Reform Model: Final Assessment Report of the Las Vegas Metropolitan Police Department,* by G. Fachner and S. Carter, 2014, Washington, DC: Community Oriented Policing Services. Copyright 2014 by CAN.

Case Study, Queensland, Australia: Trust Breeds Compliance

To demonstrate the benefit of procedural justice in improving compliance with the law and the perceived legitimacy of a police action, Mazerolle and her colleagues convinced a police department in Queensland, Australia, to work with them on a randomized, controlled study.[70,71] Mazerolle, who is an Australian Research Council Laureate Fellow, and her research team randomly assigned officers at random breath tests (roadblocks to screen for intoxicated driving) to conduct business-as-usual stops or to read from a treatment script designed to communicate the tenets of procedural justice during a stop (community voice, respect, neutrality, and trustworthiness). Drivers were then given a survey about procedural justice and their intended compliance with police. Drivers who received the procedural justice script reported that the stop was more legitimate than did those subjected to the business-as-usual stop. Moreover, the procedural justice script drivers felt the police department itself was more legitimate and these factors, in turn, predicted their intended future compliance with police. In other words, fair treatment improved perceptions of a specific stop and of the police in general; it also promoted future police compliance.

Unfortunately, this study is among the few randomized field tests of procedural justice in policing. So, although research exists that supports the claim that procedural justice works in the field, both the laboratory and the survey studies would benefit from significantly more evidence on generalizability and boundary conditions. For instance, because Black Americans are far more likely to experience contact with police, would similar interventions be more or less powerful in improving perceptions of law enforcement in those communities?

The Intersection of Policy & Research

President Obama's Task Force on 21st Century Policing provided a series of recommendations designed to advance public safety. Although the recommendations are not binding and a change in administration likely means a pivot in the federal agencies' priorities, the task force recommendations still constitute a road map for reducing racial disparities. Many of those recommendations stem from research consistent with the BIM approach to racial inequality. For instance, Pillar One of the recommendations is an articulation of the need for procedural justice.[62] Similarly, there is a strong emphasis on training, policies, and officer wellness designed to reduce the influence of fast traps (for example, recommendation 5.9 that all states adopt training sessions on implicit bias) and slow traps (for example, recommendations 6.3 and 6.3.1 that encourage new standards for officer shift length and limits on hours worked based on evidence that sleep debt can produce suboptimal decisionmaking, including a sway toward racial bias).[62,71]

Both private and federal funders have turned their attention to building a pertinent evidence base. For instance, the Laura and John Arnold Foundation recently launched a $14 million initiative designed to promote randomized control experiments in policing. Additionally, the Obama administration launched the Police Data Initiative

in 2015[72] in an effort to aggregate successful police interventions.

In addition, researchers at CPE are involved in two initiatives that follow the BIM. The first is the creation of the National Justice Database,[73] the largest effort to collect, standardize, and analyze data on police behavior (for example, on stops and use of force). In so doing, the National Justice Database is an early attempt to overcome some of the methodological barriers to understanding if, where, and when racial disparities exist—a critical gap in the extant literature. The second involves a partnership with two other research bodies (the Yale Justice Collaboratory and John Jay College of Criminal Justice) to create a scalable set of interventions regarding police culture (http://trustandjustice.org). The goal of this project is to test the BIM interventions that have worked independently and try them together in the hopes of producing a collection of best practices for policing interventions to come.

Recommendations for Improving the Research

The BIM approach requires rigorous analytics in the field, which is difficult. Doing fieldwork in a context in which data are poorly managed makes most comparative or longitudinal projects impractical. And doing it in a context where randomization may put officers and residents at risk makes some projects infeasible. Following are some concrete suggestions for making research easier.

Create Standards for Data Capture. As was the case in the LVMPD example, the uneven variety of data captured by police often makes it difficult to answer fundamental questions about what is happening in a given police department. At other times, a researcher's frustration is that data are not comparable across departments. Consequently, creating standards for data capture, aggregation, and storage is a priority for improving policing equity. This could be done through state Peace Officer Standards and Training offices, state departments of justice, or governors' executive orders or with the collaborative consent of statewide professional organizations (for example, the California Police Chiefs Association).

Provide Assistance. One of the reasons for the lack of data capture is the monetary and staffing capacity limits of a given police department. Consequently, the Bureau of Justice

Glossary of Key Terms

Traditional civil rights model (TCRM): This model assumes that racially disparate outcomes and bigotry are synonymous and that the solutions to racial inequality, therefore, must engage prejudice.[A] If the problem is racial bigotry, then the solution must be education, confrontation, or litigation. The TCRM theory has tacitly undergirded much of the work around police reform and racial justice.

Behavioral insight model (BIM): The BIM is an expansion of the TCRM, not an alternative. It is rooted in several behavioral science findings: that racial disparities may arise from a variety of causes, that situations are often more powerful predictors of human behavior than character, and that collaboration is often preferable to combat. Consequently, the BIM lends itself to a process that foregrounds the importance of diagnosing the cause of observed disparities and, consequently, requires some degree of agnosticism about that cause.

Procedural justice: Procedural justice is the fair treatment of the public that renders a public institution legitimate in society. Recently, a consensus among behavioral scientists has emerged that compliance with the law is more readily facilitated by trust in the justice system than fear of it. That is, procedural justice discourages criminal activity more than fear of punishments or other negative consequences do.

Identity traps: Situations that increase the likelihood that an individual will behave in a way that disadvantages someone on the basis of his or her group membership. Identity traps operate independently of group-based prejudices and can even disadvantage a member of one's own group or oneself. That is, every member of society can fall into an identity trap regardless of his or her race, gender, ethnicity, or other identity group memberships.

Fast identity traps: A subcategory of identity traps, fast identity traps are situations that increase the likelihood that an individual's automatic associations will produce behaviors that disadvantage someone on the basis of his or her group membership.

Slow identity traps: A subcategory of identity traps, slow identity traps are situations that increase the likelihood that threats to an individual's self-concept will produce behaviors that disadvantage someone on the basis of his or her group membership.

Implicit bias: Referencing race or other social groups, implicit bias can best be understood as the automatic association between group categories and stereotypic traits about that group. This automatic association can shape thoughts, perceptions, and actions.

A. Goff, P. A. (2013). A measure of justice: What policing racial bias research reveals. In F.C. Harris & R.C. Lieberman (Eds.), *Beyond discrimination: Racial inequality in a postracist era* (pp. 157–185). New York, NY: Russell Sage Foundation.

"There is nothing so practical as a good theory"

Assistance budget for technical assistance to small and midsize departments should be greatly increased. Specifically, the Justice Assistance Grant Program could expand its funding of data capture as part of its emphasis on evidence-based programs or practices. States should also prioritize this as a budget issue.

Offer Guidance on Community & Research Engagement. CPE and other organizations have been using the BIM approach to broker productive collaborations between communities and the departments sworn to protect them, and these collaborations should be expanded.

Concluding Thoughts

The BIM theory of racial inequality and of racial justice activism may be a useful tool for moving the country closer to its ideals. Consequently, perhaps the greatest lesson learned in the field to date is that Lewin was as right about policing as he was about the world: There is nothing so practical as a good theory. And here, if the theory of the problem can expand from one that is exclusively about bigotry to one that includes the human need for fairness and recognizing every human's vulnerability to identity traps, then the solutions may become more effective.

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supplemental material

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review

Using identity-based motivation to improve the nation's health without breaking the bank

Neil A. Lewis, Jr., & Daphna Oyserman

abstract

For the first time in two decades, overall life expectancy in the United States is in decline. This unsettling increase in mortality is largely due to lifestyle-associated causes. It is in the national interest to address this decline. This article outlines *identity-based motivation* theory (IBM), an evidence-based behavioral science theory that provides insight and a behavioral toolset which together may help lower lifestyle-associated mortality and morbidity rates. A key place to start is the health aspiration-attainment gap: Most people aspire to live healthy lives yet often fail to sufficiently engage in behaviors necessary to achieve or maintain good health. This aspiration-attainment gap is particularly prevalent amongst people of lower socioeconomic status. We offer evidentiary insight into how IBM may be deployed by health-care providers, insurers and policymakers to help ameliorate the health aspiration-attainment gap and improve the health status of various demographic groups.

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Core Findings

What is the issue?
Healthcare interventions must address the reduction in overall life expectancy in the US. Research shows that designing behavioral nudges rooted in social and psychological identities is cost-effective and can stimulate individuals to adopt healthier behaviors.

How can you act?
Selected interventions include:
1) Reimbursing medical practitioners for talking about tailored health, and documenting how demographic category information is obtained and will be used
2) Crafting public health messages that create connections between healthy behavior and important social identities (for example, being 'American')

Who should take the lead?
Medical practitioners, public health policymakers, and health insurance providers

The state of our union is unhealthy. The life expectancy of Americans has declined, largely because of diseases associated with unhealthy lifestyle choices.[1–3] The health of the U.S. population is not only worse than it used to be, it is also worse than that of the populations of other developed countries. The United States is the only developed nation to experience a decrease in life expectancy during the 21st century.[1] Compared with the other 36 developed nations, the United States ranks a lowly 26th for expected lifespan.[4] What is killing Americans? Obesity is a problem. Heart disease, diabetes, and stroke-related deaths increased from 2014 to 2015.[5] However obesity is only one part of the story; among White Americans, deaths from suicide, drug poisoning, liver cirrhosis (alcohol), and traffic fatalities have all been increasing since 1998.[1] Deaths from these causes have lowered the life expectancy of white Americans.[1]

Not all Americans are equally at risk; life expectancy among Americans differs dramatically by position in the social hierarchy.[6,7] People at the lower rungs of the hierarchy ladder are dying younger whether the rungs are defined by socioeconomic status (e.g., education, income), race or ethnicity, geographic location, national origin, or the intersections of these categories.[1,6–8] Consider education: since 1998, White Americans with low education levels (high school education or less) have had such large increases in their rates of death from suicide, liver cirrhosis, drug poisoning, and traffic fatalities that their life expectancy overall has declined.[1] Most adult Americans have low education levels so what effects life expectancy in this group influences the country at large.[1] A quarter of Americans without a high school diploma, compared with only three in 100 Americans with a graduate degree, smoke cigarettes.[9] Poverty and race matter as well. People living in poorer communities have higher death rates,[10] and Black males have the highest all-cause death rates in the United States.[3]

What is it about low social position that it is so corrosive to health? One possibility is that it reduces access to health care.[11–13] The Affordable Care Act, which vastly expanded Medicaid coverage, partly addressed the access-to-care issue, especially for working-age men, who were the least likely to be insured and were largely excluded from this benefit program in the past.[14] The importance of access to health care is not to be minimized, as it surely matters. However, access to health care is likely insufficient in and of itself to explain the full extent of health disparities; social position–linked health disparities persist even in countries with national health insurance.[15] Even after controlling for health insurance, people at the bottom of social hierarchies are still more likely than those with higher social position to experience poor health outcomes and live shorter lives.[16–19] Indeed, being at the bottom of the social hierarchy is associated with more health-undermining behaviors (for example, smoking, excessive alcohol consumption, taking illicit drugs) and fewer health-promoting behaviors (for example, keeping a regular schedule, getting enough sleep and exercise, starting preventive treatment, following treatment advice, eating a healthy diet). As we will show, each of these behaviors is identity infused. That is, people's understanding of their identities—who they are and who they might become in modern America—is an underexamined but potentially large source of social-position-linked disparities in health outcomes. We present empirical evidence for this idea, using as our organizing framework identity-based motivation theory, which articulates how the place one occupies in the social hierarchy can shape one's identity and produce health consequences over time.

Take, for example, smoking, which often begins with experimentation in adolescence.[20,21] Longitudinal analyses show that smoking, although clearly an individual action, is clustered, spreading within social networks, with adolescents both choosing friends on the basis of smoking status and being influenced by their friends to take up, refrain from, or quit smoking.[21–23] Because nicotine is addictive, teens are more "successful" at prompting their friends to take up smoking than getting them to quit.[23] Quitting smoking also moves through social networks in adulthood.[24] Currently, smoking is much more likely among the less educated and more stigmatized among the highly educated.[20] It is interesting that the overall smoking rate is lower for Black youth

than for White youth. Pricing may account for this effect, as Black and White teens are equally influenced by their friendships.[22]

Identity-Based Motivation Theory

Mirror, Mirror, on the Wall, Who's the Healthiest/Unhealthiest of Them All?

When you look in the mirror, do you see a healthy eater? A risk-taker? The person you see affects your health behaviors—whether you smoke, drink, or use drugs; what you eat; how often you exercise; and what you teach your children. But at the same time, the person you see in the mirror is not a fixed set of traits: quite the contrary. A simple way to summarize identity-based motivation theory is to say that deceptively small changes in context can change who that person seems to be, want, and care about.

Identity-based motivation theory is a social psychological theory of motivation and goal pursuit that explains when and in which situations people's identities motivate them to take action toward their goals.[25,26] Throughout this article, we use the term *identity* to refer to the traits and characteristics, social relationships, roles, and group memberships that define who a person is or might become, the combination of which defines his/her sense of self.[27] Identity-based motivation theory starts with the assumption that people prefer to act and make sense of situations in identity-congruent ways—ways consistent with what people "like me" do. Yet, at the same time, which particular identity comes to mind and what that identity implies for action and meaning is not fixed but is instead malleable. That is, the influence a salient identity has on which actions feel right depends on features of the immediate situation. The thing of interest here is not that people can change how they regard themselves after putting in sustained and conscious effort but rather that small shifts in context can have surprisingly large effects by changing how people regard themselves.

The ability to see different versions of oneself depending on contextual cues is called dynamic construction and is central to the theory of identity-based motivation. That is, how people view their identity shifts depending on circumstances and environmental cues. People's tendencies to act and understand the world in ways that fit current identities are called *action readiness* and *procedural readiness*, respectively.

Action readiness is being prepared to act in ways consistent with what "I" and "we" (my ingroup) seem to be doing. It feels right to act as "we" act; it feels like a "me" thing to do. As noted, in adolescence, smokers are not only more likely to choose other smokers as friends; they are also more likely to start smoking if their friends smoke.[20–23] Readiness to act in ways that fit an identity that is on one's mind does not fade after adolescence. For example, adults gain significant advantages when they consider themselves dieters rather than just wanting to diet.[28] Sticking to a diet or starting again after lapsing is hard. Self-considered dieters are more likely to stick to or start a lapsed diet compared with people who simply want to diet.

Procedural readiness is being prepared to make sense of situations using the lens of identity. It is a "my" or "our" group mentality. That is, it feels right to see the world as "I" and people like me ("we") see the world. Because of this, in ambiguous situations, when a particular social identity such as *friend*, *dieter*, or *mother* is cued, people use that identity to understand why something might feel easy or difficult to do. Consider a young mother whose pregnancy weight gain lingers after childbirth. She has tried to lose weight and wonders, "Why is dieting difficult for me? Does it mean that my odds of losing the weight are low so I might as well get used to the extra weight, or does the difficulty just underscore how valuable the goal of weight loss is to me?" If most mothers in her community are overweight, she might conclude that her own difficulty is a signal that the odds of losing weight are low for her. That is, just like for the other mothers she sees, weight loss is impossible for her to achieve. But if most mothers in her community are not permanently carrying their pregnancy weight gain after childbirth, she might conclude instead that her difficulty is a signal that the value of losing weight is high for her; it is important and hence worth

the effort. After all, other mothers managed to do it, so she can, too.

The three components of identity-based motivation theory—dynamic construction, action readiness, and procedural readiness—operate in tandem: activating one process activates the others. For example, getting people to act in the moment can produce effects over time if the action they took is then understood to be relevant to identity. Small nudges, like putting the salad first in a buffet, can change action: people are more likely to put salad on their plate when presented with it immediately.[29] Of course, eating the salad in one situation is not enough to change behavior in another situation. Salad eating will only occur when the nudge is repeated, and any impediment is likely to undermine the healthy choice. However, if an identity link is made, then the behavior should be more sustainable, and impediments are likely to be perceived as signals of value. So how might a nudge-induced behavior become linked to identity? This happens if the behavior (eating salad at the buffet) is perceived as a choice ("I chose salad among the various offerings") and one infers from that choice that one has a "healthy eater" identity.[30] Once one considers oneself a healthy eater, then difficulties become signals of the importance of the identity. To clarify how this works, in the next three sections, we provide a detailed outline of each component of identity-based motivation, detail what each component of identity-based motivation implies for health behavior, and how policymakers can use identity-based motivation to reduce health disparities. We end with a summarizing table linking each component of identity-based motivation to a health disparity issue and to policy recommendations targeting health care providers, public health campaigns, and health insurance providers.

The Dynamic Construction of Identity & Implications for Health & Health Policy

People often say that this or that person has not yet found himself. But the self is not something one finds, it is something one creates.
—Thomas Szasz

People think of their identities as fixed entities, something that they are. (Hence the common phrases, "That's just not who I am" or "That's just not who we are.") But contrary to this popular belief, as noted by Szasz,[31] identities are neither fixed nor found; identities are created.[32] Indeed, identities can be recreated with each new circumstance.[25,33,34]

For example, a study of middle schoolers published in the journal *Contemporary Educational Psychology* demonstrated that boys can be cued to succeed in school simply by showing them data that men in their state earn more than women do. Research shows that boys across all grades underperform academically compared with girls, whether underperformance is assessed by desire to go to college, grade point average, or enrollment in advanced classes.[35,36] To determine if dynamic construction of gender identity might account for some of this underperformance, researchers randomly assigned students to one of four groups, with each group shown a graph of accurate statewide census information.[35] Groups 1 and 2 served as controls, with gender information stripped from their graphs. Group 1 saw a graph of statewide high school graduation rates and Group 2 saw a graph of average statewide earnings.

Groups 3 and 4 formed the experimental conditions with gender data included in the graphs. Group 3 saw a graph of statewide high school graduation rates for women and men (women had higher graduation rates). Group 4 saw a graph of statewide earnings for women and men (women earned less than men). All students were then asked about their expectations for themselves in the coming year and their strategies to accomplish those expectations. Additionally, each student was tasked with solving a novel math problem.[35]

Unsurprisingly,[36] the boys' responses showed that they were generally less focused on school—they were less likely to describe doing well in school as a next-year expectation, had fewer strategies to improve academically, and underperformed girls on the math task. This finding was consistent among boys who saw graphs depicting census data on income or

"In real-world settings, shifts in what an identity implies for health often occur inadvertently."

education that did not include gender-specific information (Groups 1 and 2) and among boys who saw a graph showing higher high school graduation rates for women (Group 3). Whether or not boys were subtly reminded that education is a "girl" thing, they seemed ready to act that way. Yet the boys in Group 4 who saw the graph showing men earned more than women in the workplace defied this pattern: Group 4 boys primed with "men succeed" information focused just as much on school success and came up with as many strategies to succeed in school and beyond as the girls did. Group 4 boys also performed just as well as the girls did on the math task.[35] This experiment demonstrates that what an identity such as being a boy implies for action depends on the context in which that identity is constructed—in this case, whether school appears to be a "boy" thing to focus on.

Why Does This Matter for Health?

We did not find research directly testing dynamic construction of health-related identities. However, research demonstrates that small shifts in self-perceived identity can change students' understanding of whether healthy choices are congruent with their identity, which, in turn, affects their plans for healthy action. For example, Tarrant and Butler[37] of Keele University conducted two studies. In the first study, British students were randomly assigned to focus on either their British identity or their student identity. When asked about their plans for reducing alcohol and salt intake, students focusing on their British identity were more likely to endorse healthy consumption of salt and alcohol than were those focusing on their student identity. However, the relation of being healthy to the British identity seems dependent on context. In a second study, students were assigned to focus on either their British identity in comparison to an outgroup they considered healthier (Japanese) or their British identity in comparison to an outgroup they considered less healthy (Americans). Students who compared themselves with Japanese were less likely to endorse healthy plans for salt and alcohol consumption than were students who compared themselves with Americans.

This research focused on comparison between groups as a cue that shapes how national identity is understood in terms of which health actions feel congruent with a particular identity. In health care settings. As detailed next, health care providers can create the cues that shape how a variety of social identities are understood. In real-world settings, shifts in what an identity implies for health often occur inadvertently. For example, health care providers may ask about or focus on national, religious, racial, or ethnic origins; gender; education; and other markers of position, because these help to identify certain health risks.[38,39] However, they may also do so because, like other people, health care providers may subscribe to stereotypes about national, religious, racial, or ethnic origin groups and people on the lower rungs of the socioeconomic ladder. In medical settings, these stereotypes include being unintelligent, unmotivated, and noncompliant with instructions and treatment protocols.[10,40,41] Indeed, those lower in the social hierarchy are more likely to be given simple treatment regimens rather than the most efficacious ones and to report feeling that they have been treated unfairly, disrespected, devalued, and discriminated against when interacting with physicians.[42,43] Such feelings of unfair treatment and discrimination are associated with a lower likelihood of proper follow-up with treatment and lower adherence to physician recommendations. Lack of follow-up and adherence produces a vicious cycle: lower compliance rates may lead health care providers to feel vindicated for their choice not to offer anything more than simple treatment options.[10]

What Can Be Done?

Often health care providers ask questions pertaining to race, ethnicity, family history, or other identity markers without explanation. Health care providers should understand that questions focusing on these identity markers

26th

america's rank for life expectancy out of 36 developed nations

Who smokes?

25% of Americans without high school diplomas
3% of Americans with graduate degrees

8-11

average number of attempts to quit smoking before succeeding

might cue stereotypes and expectations in both themselves and their patients that may, in turn, undermine the quality of the interaction and affect health outcomes. This may be particularly true for historically stigmatized identity markers, including race, sex, and socioeconomic status.[10,40,41,44] When a patient is not told why a health care provider is, for example, asking about race or focusing on gender, she or he may simply assume bias is the reason and become skeptical of the interaction. The provider, noticing the patient's response, may assume that the patient will be noncompliant and devote less effort to treatment, implicitly or explicitly thinking, "Why bother, they are ____ [fill in the blank with the relevant stereotype], so this patient won't listen to me, anyway." This unfortunate cycle can lead to worse health outcomes and increased health care costs associated with noncompliance bred by lack of trust.[40,42] To avert this problem, health care providers should be clear that social category information is elicited to individuate patients, that is, to tailor the search for potential problems and courses of treatment rather than to aggregate or lump patients into an undifferentiated group.[45,46]

For example, consider diabetes. Latinos have a genetic tendency to develop insulin resistance and abdominal obesity.[47] In cardiovascular disease, the sensitivity of biological markers in predicting outcomes differs for Latino and African American patients compared with White and Chinese patients.[48] In each case, providers have to ask about racial, ethnic, and national origins because testing, test interpretation, and treatment should differ on the basis of these factors.

Sometimes important identity markers are ignored, such as education or income. Because lower educational attainment and lower income are associated with a higher rate of death from suicide, smoking, and drug and alcohol complications, health care providers should consider moving beyond questions of racial, ethnic, and national origin and also ask about high school or college graduation status.[1,49] Gender is also a factor in the health care setting. Women, as compared with men, are stereotyped as being more demanding of physician time, more fragile, and more likely to have psychosomatic complaints not based in disease.[44] Perhaps for these reasons, they are less likely to receive kidney transplants and heart surgery than men are, even though they are actually more likely to comply with treatment.[50]

Compared to moderate income and higher education, low income and education are associated with more experiences of "unfair" treatment.[51] In addition to asking, which as noted is important, explaining why seemingly stereotype-evoking questions are asked and how the answers help care providers tailor treatment can help patients by:

- reducing the odds that a patient becomes concerned about being negatively stereotyped by the caregiver, thus avoiding the negative consequences of those concerns (for example, disengagement and lowered motivation);

- increasing the chances that a patient sees herself or himself as an active partner in care when identity risk and best options for ingroup treatment are outlined in open, honest dialogue between the patient and caregiver;

- increasing the chances that experienced difficulty maintaining healthy behaviors serves as a reminder of identity-congruent values, that is, the importance of these behaviors; and

- raising awareness among providers of their own biases, conscious or not.

If individuating and educating about individuating are helpful for reducing disparities in health outcomes, then insurance billing codes should reflect this. Providers should be reimbursed for talking about tailored health, documenting why demographic category membership information is obtained, and how it will be used. This should not take much time and could reap significant benefits. Continuing medical education (CME) courses might be offered to assist providers in appropriate conveyance methods that are likely to be successful.

Action Readiness & Implications for Health & Health Policy

People prefer to act and make sense of the world in ways that fit the identities that are on their mind. Once an identity comes to mind, actions perceived as appropriate seem to inherently follow. This action readiness is illustrated by the study showing that once boys were led to consider the possibility that men succeed, they not only had more school-focused identities, they also worked harder at the math problem they were then given.[35]

This implies that people will be more likely to pay attention to health-promoting information, adhere to recommended treatments, and reap the benefits of treatments and health messages or prompts if these actions feel congruent with important aspects of their identity. Conversely, if health prompts or treatments do not feel congruent with important aspects of identity, people may ignore the prompts, disregard treatment advice, or become nonadherent.[52] In the same way, if health-undermining behaviors feel congruent with things "people like me do," people are more likely to engage in unhealthy behaviors.[33,34,52]

What Does This Imply for Health?

Health care practitioners frequently assume that providing people with information targeted to their needs will persuade them to adopt healthy behaviors.[53] This assumption requires reconsideration.[54] Research suggests that people are less likely to pay attention to messages that advocate changing what they are currently doing than to messages that advocate staying the course.[54] This makes sense from an identity-based motivation perspective. Being asked to change current behavior implies that what one is doing now is not identity congruent and therefore should feel wrong, whereas the action-readiness component of identity-based motivation implies that whatever one is doing now must be identity congruent, the kind of thing "people like me" do—it is the "right" behavior.[10,18]

Recent experiments illustrate the connection between action readiness and health disparities. For example, guiding Latinos and African Americans to consider stereotypes about their ingroups as self-defining increased their preference for the unhealthy foods they perceived as being congruent with their cultural norms and decreased their preference for healthy foods that were not culturally normative.[55,56] The influence of identity congruence on health behavior is not, however, limited to food choice. Health conditions themselves can be identity incongruent if they imply membership in a stigmatized (negatively stereotyped) group.[10] Consider the case of HIV in the African-American community. HIV risk is higher among African Americans, substance users, and bisexual or gay individuals.[2] Yet African Americans often fail to pay attention to publicly presented HIV information unless other African Americans are also paying attention to the HIV information. When the latter situation occurs, the negative identity implication is undermined and reframed as health being something "we" attend to.[53,57–59]

> "... messaging differences can lead minorities to disengage from healthy behaviors"

What Can Be Done?

Because identity can be used to good effect (for example, information is recalled accurately when it is given in an identity-congruent fashion),[18,60] health policy and public health campaigns can create health messages and interventions that focus on tailored inclusion of ingroups. This can be applied in broader American society as well, such as was done with Michelle Obama's Let's Move campaign, which highlighted exercise and healthy diet as staples for all Americans regardless of their other social category memberships. Indeed, evidence from prior intervention research demonstrates that health messages targeting broader social category frames (for example, American rather than African American) improve outcomes and reduce disparities in engagement with healthy behaviors.[52]

Conversely, messaging differences can lead minorities to disengage from healthy behaviors.[52,55,56] One caveat: campaigns using a tailored

inclusion approach must carefully consider which identities come to mind in the context of particular behaviors. This is important because in the context of food choice, for example, highlighting "eating healthy" may backfire because that behavior may not be identity congruent for some groups; healthy can imply boring, tasteless food that people like "me" do not eat.[61–63]

With regard to health policy, the framing of health messaging, disease prevention, and health promotion is important. Consider two examples, in-house annual blood pressure checkups and employer promotion of healthy activity norms. These can be experienced as coercive and identity incongruent or as supportive and identity congruent, depending on how they are presented and understood. For example, without a frame, employees may feel that company leadership is trying to obtain blood pressure information to control their behavior or to protect the company's bottom line rather than caring for workers' personal well-being. In contrast, the same blood pressure checkups take on different meaning if linked to important social identities—if they are framed as "we want you to be around for the long run," blood pressure checkups become part of being a responsible parent and family member. This could create greater buy-in from people who care about their family identities and responsibilities. The same is true for employer promotion of healthy activity norms. Norm development could be fostered by the employer providing wearable technology (for example, Fitbits) to the employees or hosting competitions for the greatest number of minutes of exercise or flights of stairs climbed during the day. People are sensitive to what others seem to be doing, which is why they end up eating doughnuts if that is what is in the break room, so if others are posting their stair count, then taking the stairs may suddenly seem like an "us" thing to do.

In sum, research on action readiness implies that to reduce health disparities, practitioners could take the following steps:

- Design health messages that create connections between health behaviors (for example, balanced diet, exercise) and important social identities (for example, American).
- Normalize engaging in health behaviors as being part of good citizenship.
- Set policies that incentivize these practices.

Procedural Readiness & Implications for Health & Health Policy

The greater the difficulty, the greater the glory.
—Marcus Tullius Cicero

When considering a change in health behavior, it's reasonable to question the odds of success. If the behavior change is perceived as highly difficult, then the odds of success are likely seen as low. If the odds are low, one might ask, why try at all?

In contrast, if something seems easy, the perceived odds of a successful behavior change rise. That is, this change is possible for a person like "me." Marketers use this "easy versus difficult" concept often, offering seemingly easy solutions to health problems—easy because they do not require much effort or because they are not particularly costly in other ways. However, solely focusing on experienced ease and difficulty is insufficient, because ease and difficulty can also provide information about value and importance.[64] A modern version of the Cicero quote above is the popular meme, "No pain, no gain." That is, worthwhile goals are rarely easy to attain. It is not that experienced ease or difficulty is more accurately interpreted as odds or as value but rather that which interpretation comes to mind has implications for whether the task feels like a "me" or an "us" thing to do and affects whether people will accomplish the task or make a behavior change.

Empirical evidence supports this intuition. People do think in both ways.[64,65] That is, the same person can interpret difficulty experienced while engaging in a task as implying importance (the goal is something worth fighting for) or impossibility (the goal is not attainable), although not both at the same time. For example, in one study, students were divided into two groups. One group read statements implying that difficulty represents importance. The other group read

statements implying that difficulty represents impossibility. After each statement, students were asked how much they agreed or disagreed with the statements. Then all were immediately given a set of 12 puzzles to complete, each more difficult than the preceding one. Students primed to consider difficulty to imply importance outperformed students primed to consider difficulty to imply impossibility. As the puzzles got harder, the interpretation of difficulty they were guided to consider formed the lens they used to make sense of their experience, influencing their performance. Whether they agreed with the statements they had just read did not matter for their performance. Overall, both groups tended to agree that experienced difficulty implies task importance and tended to not agree that experienced difficulty implies impossibility of success.[65] Another study showed that the positive effect of interpreting difficulty as importance was activated when this interpretation was cued. Lacking that cue, students performed as though they believed that difficulty meant impossibility.[65]

What Does This Imply for Health?

Because experienced difficulty in starting, maintaining, and returning to health regimens after failures is normal, how people interpret their experienced difficulty matters. Experienced difficulty can bolster or undermine engagement, depending on whether such difficulty implies that the regimen is identity congruent and hence important to start, sustain, and return to after failure or identity incongruent and therefore impossible to sustain. The default interpretation of experienced difficulty is often that the odds of success are low and hence success is all but impossible.[66,67] This results in procrastination in starting a healthy behavior or abandonment of goals after initial failures.[68] This also explains, in part, why losing weight and getting fit, quitting smoking, and eating a healthier diet are among the most commonly stated and most commonly broken New Year's resolutions.[69]

Important or Impossible? Thoughts Matter

Interpretation of experienced difficulty matters for health. In one study, researchers at the University of Michigan guided dieters to interpret the experienced difficulty of healthy eating as implying importance or impossibility. They found that dieters guided to interpret experienced difficulty as importance planned to eat less than did those guided to interpret experienced difficulty as impossibility.[67] In addition to researcher nudges such as these, features of people's chronic social contexts also influence their interpretations of experienced difficulty.[70] For example, less education is associated with less belief that pain means gain.[70] Being on a lower rung of the social status hierarchy, whether status is assessed by occupation, education, income, or other group memberships, may increase the chance that a task perceived as difficult is "not worth my time." This can, in turn, lower the likelihood of starting or maintaining a healthy behavior or increase the likelihood of engaging in unhealthy ones.[18]

This association of position in social hierarchy and interpretation of experienced difficulty is particularly problematic because self-control failures are moralized[71] and seen as personal failures.[72] For example, rather than consider genetic underpinnings, people often see obesity as being the result of poor self-control and blatant disregard for one's health.[73] Moralization of self-control failures is particularly likely once people are guided to consider group memberships.[71] The implication for health policy is that once social class or racial or ethnic identities are on one's mind, obesity is more likely to be stigmatized as a personal failing in oneself as well as in others.

What Can Be Done?

A number of policy solutions can combat self-undermining interpretations of experienced difficulty. Because interpreting experienced difficulty as signaling importance (high value) rather than impossibility (low odds of success and hence a hopeless endeavor) often has positive effects, one policy strategy might focus on developing public health campaigns and interventions for health care practitioners to nudge them to highlight to patients that experienced difficulty is a natural concomitant of any important health goal. In fact, they can frame experienced difficulty as a badge of honor, such as in the "no pain, no gain" meme. The U.S. Marine Corps has done this by describing pain experienced during boot camp as the feeling of "weakness leaving the body." This illustration highlights the critical

"health should be framed as a difficult but important journey full of roadblocks (obstacles) and forks in the road (choices), not as a destination attained with ease"

lesson that making progress toward an important goal likely will involve experiencing difficulty. In the domain of health, patients and practitioners should endorse the notion that setbacks and difficulties, far from being moral indictments, are evidence of task importance.

A Practitioner's Guide to Positive Messaging of Hard = Worth

Using this formulation for health care settings requires a multipronged approach—one with documented success.[33,66] Experienced difficulty itself should be framed as implying importance and portrayed as identity congruent. It should also be stressed that difficulties, roadblocks, and failures experienced along the way to a worthy goal are normal and can be overcome.[33,66] Health should be framed as a difficult but important journey full of roadblocks (obstacles) and forks in the road (choices), not as a destination attained with ease.[52,66] Inevitably, everyone will stumble at times on this journey. Stumbles are not failures but opportunities for a fresh start.[74,75]

Additionally, poor habits and health regime failures should not be misinterpreted as implying a lack of moral character. To avoid this misinterpretation, health care providers and patients alike can be educated about the implicit and explicit connection of poor health to morality, in such a way as to reduce the invidious results of the stereotypes. The methods outlined above can be useful tools for reducing the negative health impact of stereotypes and for promoting healthy and health partnership identities. Insurance providers should incentivize not only outcomes (such as weight loss or smoking cessation) but also starts and restarts of healthy behaviors. Failures are steps toward progress. Most people who succeed at adopting a healthy behavior change failed on their first attempt; for example, smokers average between eight and 11 attempts before successfully quitting.[76]

Implications for Policymakers & Health Care Providers

This article highlights the need for health practitioners and policymakers to take the dynamic construction of identity, particularly social identity, into account to understand the policy implications of health disparities that undermine the whole of the nation's health. We used identity-based motivation theory to articulate how dynamic construction of identity works to influence action readiness and procedural readiness. We highlighted challenges to assumptions about the stability of identities and outlined underconsidered sources of failures to attain health goals. We offered policy initiatives that would address problems and advance solutions. Given the drop in American longevity, there is an urgency to take up the low-cost social science recommendations suggested by identity-based motivation theory. Pretending that these problems do not exist will not make them go away.

Table 1, next page, summarizes each element; describes concrete links to health outcomes; and provides policy recommendations for health care providers, public health initiatives, and insurance providers. These are recommendations, not foolproof solutions. Instead, they offer specific, testable intervention strategies and a useful lens through which to consider how policymakers can improve overall U.S. health with relatively small and likely inexpensive solutions. We welcome the possibility of future researchers testing each element in real-world health contexts so that progress can be made both in real-world population health and in the understanding of how contexts shape identities and identities shape health outcomes. As a final note, health disparities linked to one's place in the social hierarchy exist in all countries, and identity-based motivation is not a culture-specific theoretical frame. Hence, although we focused on the American context, we expect that our recommendations are broadly useful.

Table 1. Translating identity-based motivation to policy solutions				
Identity-based motivation principle	**Connection to health disparities**	**Example policy recommendation for health care providers**	**Example policy recommendation for public health initiatives**	**Example policy recommendation for insurance providers**
People experience identity as stable, but it is dynamically constructed in context.	Health care settings cue identity-relevant social category information (for example, stereotypes).	Teach practitioners to explain to patients why category information is being obtained and what this implies for treatment. Make practitioners aware of the potential for their own biases about category information to influence treatment.	Inform the public about how stereotypes can have consequences in two ways. Inform and reframe. For example, use irony so that what was once a threat is now funny, as in the "throw like a girl" advertising campaign.	Include billing codes for provider communications about why category information is obtained and what it implies for treatment. Incentivize patients to participate in activities that decouple stereotypes about their identities from health-undermining activities (in the way smoking cessation is incentivized).
People are motivated to engage in identity-congruent behaviors.	Healthy and risky health behaviors may cue unwanted identities.	Make practitioners aware of the potential for their own biases about category information to influence treatment.	Create public health campaigns that tailor inclusion in the broader category *American*.	Incentivize ingroup-based health (for example, public annual health screenings) to create the belief that being healthy is normative.
People can interpret experienced difficulty starting or sustaining goal engagement as implying importance ("this is for me") or impossibility ("who was I kidding?").	Low position in the social hierarchy increases everyday experiences of difficulty, implying that the odds of success are low.	Educate health care providers about implicit and explicit connections between poor health and morality so that poor health is not seen as an indicator of lack of moral character.	Design health messages that normalize the experience of difficulty and highlight its value as a signal of importance.	Incentivize not only outcomes (for example, smoking cessation) but also starts and restarts, explaining that these are a normal part of goal attainment.

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finding

Default clinic appointments promote influenza vaccination uptake without a displacement effect

Gretchen B. Chapman, Meng Li, Howard Leventhal, & Elaine A. Leventhal

abstract

The majority of U.S. adults do not receive an annual influenza vaccination. Behavioral economics tools can be harnessed to encourage health behaviors. Specifically, scheduling patients by default for a flu shot appointment leads to higher vaccination rates at a medical practice than does merely encouraging flu shot appointments. It is not known, however, whether default appointments actually increase net vaccination or merely displace vaccinations from other venues. In the current field experiment, we examined the use of default appointments in a large medical practice and established that automatically scheduled appointments increased the total vaccination rate by 10 percentage points within the practice without displacing vaccinations that patients would otherwise have received in other settings. This increased vaccination rate came at the cost of a high no-show rate. These findings point to an effective way to increase vaccination rates and may offer a cost-saving measure in the scope of accountable care organizations.

Chapman, G. B., Li, M., Leventhal, H., & Leventhal, E. A. (2016). Default clinic appointments promote influenza vaccination uptake without a displacement effect. *Behavioral Science & Policy, 2*(2), pp. 41–50.

Core Findings

What is the issue?
New evidence suggests that scheduling patients by default for flu vaccinations does increase the *net* vaccination rate. In particular, there is no evidence that vaccinations are being displaced from one setting to another. Consequently, default scheduling can help reduce the $5.8 bn annual economic cost of flu, once higher no-show rates are controlled.

How can you act?
Selected interventions include:
1) Rolling out default scheduling into other preventative care services such as dental appointments and pediatric HPV vaccinations
2) Investing in research, and patient-scheduling infrastructure to reduce no-show rates

Who should take the lead?
Medical practitioners, public health policymakers, and behavioral science researchers

Imagine Amy and Beth. Both receive letters from their doctor's office about flu shots. Amy's letter simply explains that flu shots are available and that if she would like an appointment for one, she should please call the office. Beth's letter also states that flu shots are available but adds that she has been given a flu shot appointment for next Thursday at 7:30 a.m., although she can cancel or reschedule if she wishes. Which of these two women is more likely to receive a flu shot at her doctor's office?

The answer matters because, in the 2015–2016 flu season, only 42% of U.S. adults received an annual influenza vaccine (flu shot),[1,2] even though the shots are conveniently available at many workplaces, doctors' offices, drugstores, and walk-in clinics, often at no out-of-pocket cost. The low vaccination rate resulted in an annual economic burden estimated at $5.8 billion, a figure that includes the costs of hospitalizations, doctors' visits, deaths, and lost workdays (see the sidebar *Selected Recent Flu Vaccination Statistics*). That raises an urgent question for behavioral and social scientists: Can we nudge people to get a flu shot just as we have nudged people to sign up for organ donation and retirement savings?[3,4]

In the example above, Beth has a flu shot appointment by default. The default effect—meaning the tendency for people to stick with the default option, as outlined by Thaler and Sunstein in their 2008 book *Nudge*[5]—implies that she is unlikely to cancel her appointment, whereas Amy is unlikely to make an appointment. The default or *opt-out* effect explains, among other health-related behaviors, why European countries with a presumed consent policy that assumes citizens are willing organ donors—requiring people to explicitly opt out if they choose not to be a donor—have organ donation rates exceeding 85%, compared with organ donation rates of less than 28% among countries that use an explicit consent policy—requiring people to explicitly opt in if they choose to be a donor.[3] In the hypothetical case of Beth and Amy, on the basis of prior research (see the online Supplemental Material) demonstrating that default appointments for flu shots increase uptake at single sites such as the workplace, Beth, with her default appointment, is more likely than Amy to receive a flu vaccine at her doctor's office. Indeed, a 2010 study led by Gretchen B. Chapman[6] found that such a default intervention increased flu shot uptake by 36%, from 33% among 239 university employees in the opt-in condition to 45% among the 239 in the opt-out condition. That study focused on vaccinations obtained at a single on-campus occupational health clinic.

The fact that default appointments increase flu vaccination is encouraging news[6,7] (see the online Supplemental Material): Scheduling default appointments costs very little compared with large-scale educational campaigns on flu vaccination. However, before recommendations for effective policy are made, it is imperative to determine if the default appointment intervention actually increases the rate of flu vaccination and does not simply displace vaccination from one setting to another. For instance, if Beth responds to the nudge by keeping her prescheduled clinic appointment and cancels the plan she had made to get her flu shot at a neighborhood pharmacy, then the letter would not be increasing the overall vaccination rate but, instead, moving flu shots from one site to another.

Such a *displacement effect* has been examined in studies of the effect of menu labeling laws, which require chain restaurants to list the number of calories in each of their menu items. In a 2010 study, researchers at Yale University found that participants assigned to order from a dinner menu that both listed calories and stated the daily recommended caloric intake chose items with fewer calories than did participants who ordered from a menu containing the same items but lacking the calorie information. The researchers assessed whether the former group made up those averted calories by eating more after dinner. The total caloric intake was indeed lower when participants received both calorie labels and recommended daily caloric intake—that is, the intervention did not simply displace caloric intake until later in the day. When participants received only calorie labels and not recommended daily caloric intake, however, then the calorie savings at the meal were offset by snacking later in the day, a displacement

effect.[8] Researchers often cannot assess this type of displacement effect because they do not know what individuals do outside of the time frame and location of the study. Despite this difficulty, it is critical to analyze displacement effects as fully as possible to gauge the real-world impact of default interventions on behavior. In the current study, we do just that. In addition to finding an increase in vaccination rates at the medical practice as a result of scheduling default flu shot appointments, we determined that this increase did not come about merely because we displaced vaccinations from other venues.

Testing for Displacement Effects in Default Flu Shot Appointments

In the current study, we examined whether scheduling flu shot appointments by default actually increased the vaccination rate or merely displaced vaccination from other settings, such as the pharmacy or workplace, to the appointment site—in the case of our field study, a suburban New Jersey medical school faculty medical practice with a middle-class patient base diverse in terms of age and health status. We explored this issue in two ways. First, we collected records of vaccination in two settings within the medical practice: at the "flu clinic" (the target of our default manipulation), which was simply the block of time set aside four days per week during the early morning in September and October when the medical practice did nothing but flu shots, and regular doctor's office visits that patients scheduled for another reason, such as checkups or medication checks. We examined the net effect the default manipulation had in terms of vaccinations occurring both as part of regularly scheduled doctor's office visits and during early morning flu clinic appointments.

Second, we invited patients to complete a questionnaire on which they self-reported the site where they received a flu shot, be it at the suburban medical practice or an outside provider such as pharmacy or workplace. We examined whether the default manipulation increased the total vaccination rate or simply moved vaccinations from off-site venues to the flu clinic via the default vaccination appointments.

Selected Recent Flu Vaccination Statistics

42
Percentage of U.S. adults who were vaccinated against influenza in 2015–2016[A]

31
Outpatient visits per year in the United States as a result of influenza infections, in millions[B]

3.1
Days spent in the hospital per year in the United States as a result of influenza infections, in millions[B]

611
Life-years lost per year in the United States as a result of influenza infections, in thousands[B]

59%
Average efficacy of the influenza vaccine,[i] in relative risk reduction[C]

5.8
Annual cost of illness from influenza, including inpatient, outpatient, and medication costs as well as productivity losses, in billions of dollars[D]

13/18
Number of cost-effectiveness analyses in a review that found influenza vaccination[i] to be cost saving—that is, flu shots save both lives and money[E]

A. Centers for Disease Control and Prevention. (2016). Flu vaccination coverage, United States, 2015–16 influenza season. Retrieved from http://www.cdc.gov/flu/fluvaxview/coverage-1516estimates.htm

B. Molinari, N.-A. M., Ortega-Sanchez, I. R., Messonnier, M. L., Thompson, W. W., Wortley, P. M., Weintraub, E., & Bridges, C. B. (2007). The annual impact of seasonal influenza in the US: Measuring disease burden and costs. *Vaccine, 25,* 5086–5096. doi:10.1016/j.vaccine.2007.03.046

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E. Nichol, K. L. (2003). The efficacy, effectiveness and cost-effectiveness of inactivated influenza virus vaccines. *Vaccine, 21,* 1769–1775. doi:10.1016/S0264-410X(03)00070-7

i. Trivalent inactivated influenza vaccine given to adults aged 18–64 years.

"The effectiveness of the default opt-out intervention did not vary with patient age, with whether the patient had been vaccinated in previous years, or with the presence of comorbidities."

We randomly assigned patients who had visited the medical practice in the past 18 months (N = 886) to one of three conditions: *opt in*, *opt out*, or *no information*. We initiated the study at the beginning of the flu shot season (that is, the beginning of September). Patients in the opt-out condition received a letter informing them that the medical practice had prescheduled them for a flu shot during flu clinic hours at a specific early morning time and on a date sometime from late September to late October, but they could reschedule or cancel the appointment if they chose. Patients in the opt-in condition received a letter informing them that they could make an appointment during flu clinic hours if they wished. Those in the no-information condition received neither letter, but as with patients outside the study, they could, of course, make an appointment for a flu shot of their own accord during early morning flu clinic hours or receive one as part of a doctor's office visit scheduled for another purpose. During the study, on the day before the scheduled appointment, the medical practice provided automatic reminder phone calls to all patients who had either self-made or default appointments. We tracked vaccination status through the consent forms that patients signed when they received a flu shot at the early morning flu clinic or during regular doctor's office visits.

For all 886 patients in the study, we had data on whether they received an on-site (flu shot clinic) flu shot or a flu shot at a regular doctor's office visit in the same practice up until March of the following year. To track flu shots received at other sites, we sent out a follow-up survey to all patients in mid-November asking them whether they had received a flu shot and, if so, where. (At the medical practice, 79% of all flu shots dispensed were given prior to mid-November, so our questionnaire responses likely miss only a small percentage of off-site vaccinations—that is, those received after the questionnaire date.) In all, 300 patients completed the follow-up survey. In addition, 278 of them consented to a medical chart review, allowing us to extract information on other health conditions they might have had.

Analyzing Default & Displacement Effects

A detailed description of analyses and results can be found in the online Supplemental Material. Here, we briefly report the main findings.

Flu Vaccination Behavior Data From Clinical Records

Because the medical practice required all patients to fill out a consent form immediately prior to receiving a flu vaccine, we had an accurate record of which participants were vaccinated at the medical practice, either during a stand-alone appointment at the special early morning flu shot clinic or during a doctor's office visit. At the flu clinic (see Figure 1), the default opt-out intervention—giving people appointments without their asking for one—substantially increased the vaccination rate: 16% (47 out of 295) of those in the opt-out condition received a flu shot, compared with 5% (15 out of 296) in the opt-in condition and 2% (7 out of 295) in the no-letter condition. This represents a tripling of the vaccination rate or an 11% absolute increase.

The size of this default effect compares favorably to the effect of offering a financial incentive for flu vaccination. In a 2016 study,[9] researchers at Swarthmore College found that offering a $30 incentive to college students doubled vaccination rates from 9% to 19%, and a 2014 meta-analysis[10] of the effect of patient financial incentives included two studies on vaccination, showing that incentives result in a relative increase in vaccination of approximately 32%.

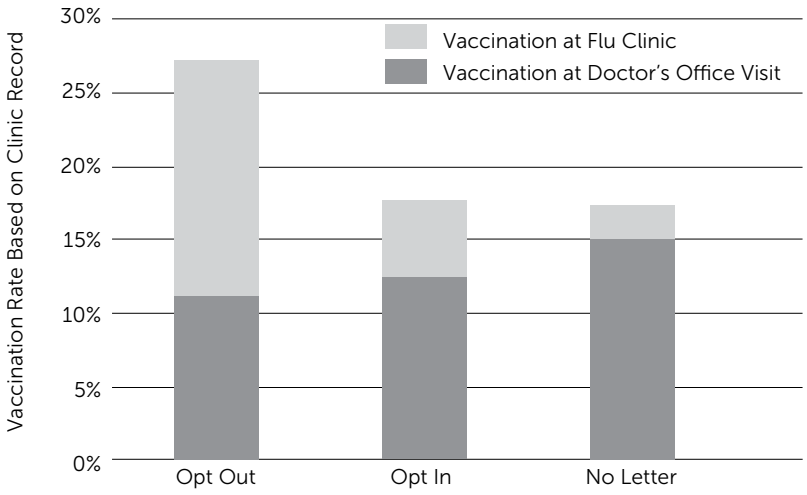
It is notable that the increase in flu clinic vaccinations in the default opt-out condition did not come at the expense of doctor's office visit vaccinations. The vaccination rate at doctor's office visits (see dark gray section of bars in Figure 1) was 11% (33 out of 295), 13% (37 out of 296), and 15% (44 out of 295) in the opt-out, opt-in, and no-letter conditions, respectively. Although the vaccination rate in the opt-out condition seems slightly lower than the rate in the other conditions, this difference was not statistically significant, as one would expect if the opt-out condition were indeed shifting flu shots from office visits to the flu clinic.

Furthermore, as shown by the height of each bar in Figure 1, the total vaccination rate—that is, vaccinations at the flu clinic and regular doctor's office visits—was higher in the opt-out condition than in the other two conditions: 27% of those in the opt-out condition were vaccinated at either site, compared with only 18% in the opt-in condition and 17% in the no-letter condition (see Figure 1). This suggests that the manipulation did not displace vaccinations from regular office visits to the flu clinic: it caused people who would not otherwise have received a flu shot to do so. This represents a 54% relative increase and a 10% absolute increase in vaccinations within the medical practice. The effectiveness of the default opt-out intervention did not vary with patient age, with whether the patient had been vaccinated in previous years, or with the presence of comorbidities (see the online Supplemental Material).

As shown in Figure 2A, only 44%, or 131 out of 295, opt-out patients cancelled their prescheduled appointments. The other 56% either rescheduled (n = 10) or did nothing (n = 154), meaning that they still had an appointment scheduled. In contrast, very few of the patients in the opt-in (5%, or 15 out of 296) and no-letter conditions (2%, or 7 out of 295) scheduled flu clinic appointments. Consequently, the percentage of patients who had a flu clinic appointment varied markedly across conditions.

Although participants in the opt-out condition were unlikely to cancel their appointments, more than two-thirds (71%) of them were no-shows for their default flu shot appointments, compared with a 0% no-show rate in the opt-in and no letter conditions. This very high no-show rate could place a heavy burden on a medical practice unless the practice is willing to overbook appointments.

Figure 1. Percentage of patient participants who received a flu shot during early morning flu clinic appointments at the medical practice or at regular doctor's office visits in the same medical practice



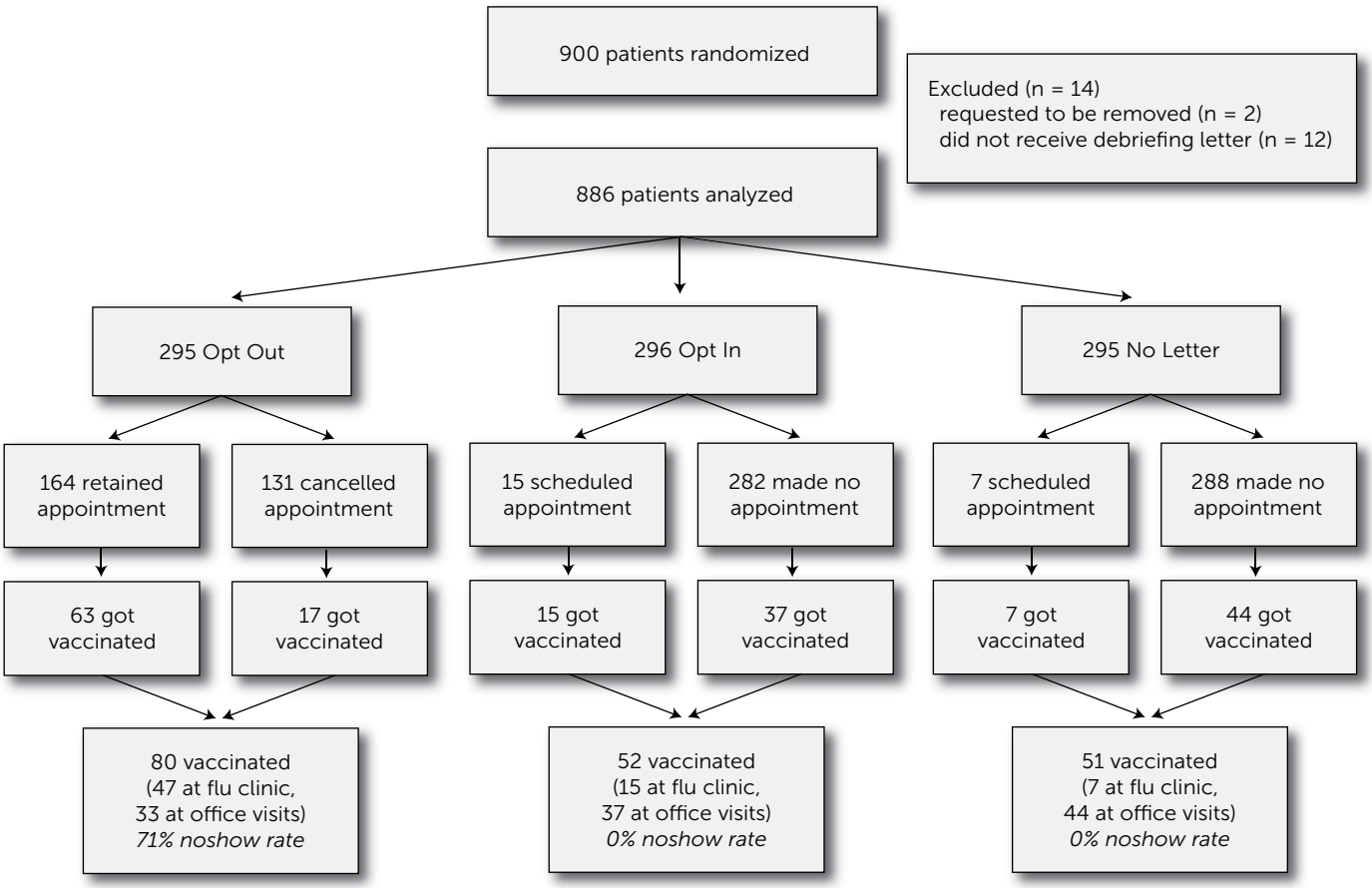
Vaccination data were based on the consent forms patients needed to fill out before receiving a flu shot at either site.

Flu Vaccination Behavior Data From Self-Reports

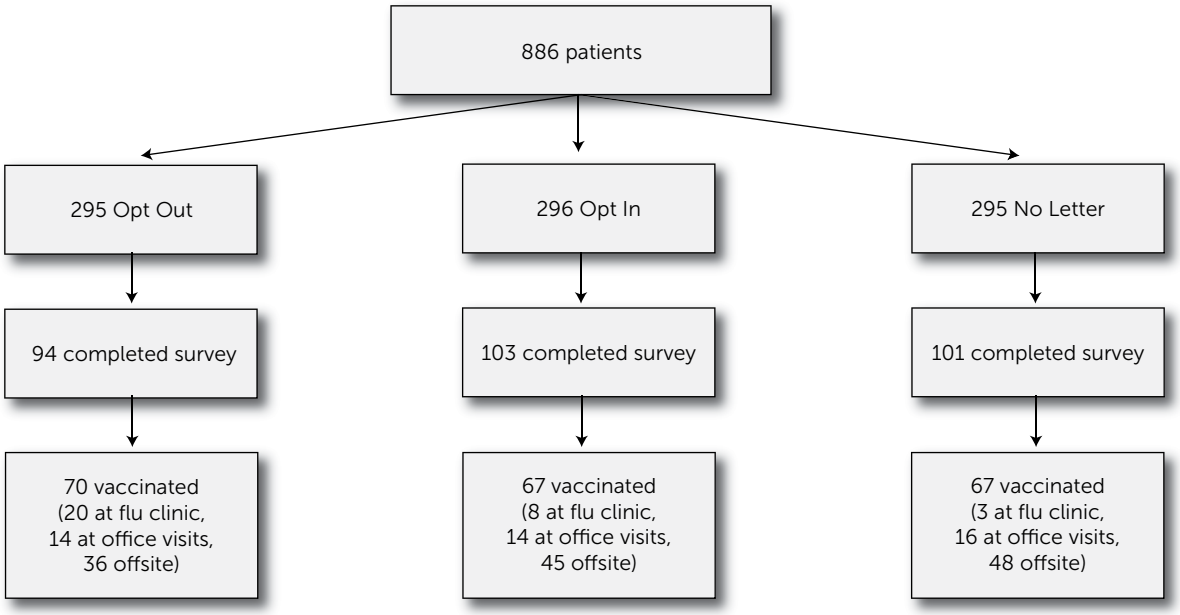
On the follow-up questionnaire sent at the end of the flu shot season, 25% of participants reported receiving a flu shot at the medical practice (during either a flu clinic appointment or a doctor's office visit) and another 43% reported receiving a flu shot elsewhere (such as in their workplace or at a pharmacy). The responses did not distinguish between vaccinations received at the early morning flu clinic and those received at a doctor's office visit, but we were able to infer that distinction from clinic records (see the online Supplemental Material). Figure 3 shows the reported vaccination at the early morning flu clinic, doctor's office visits at the medical practice, or elsewhere (see also Figure 2B).

Figure 2. Flow of participants through the field experiment

A. Appointment and vaccination status of participants in each study condition.



B. Self-reported vaccination status among participants in each study condition who completed the questionnaire.



Default Appointments Do Not Displace Off-Site Vaccinations

Through the self-reports, we found that the default opt-out manipulation affected vaccinations received at the medical practice flu clinic: 21% (20 out of 94) of participants in the opt-out condition were vaccinated, whereas 8% (8 out of 103) and 3% (3 out of 101) in the opt-in and no-letter conditions were vaccinated, respectively.

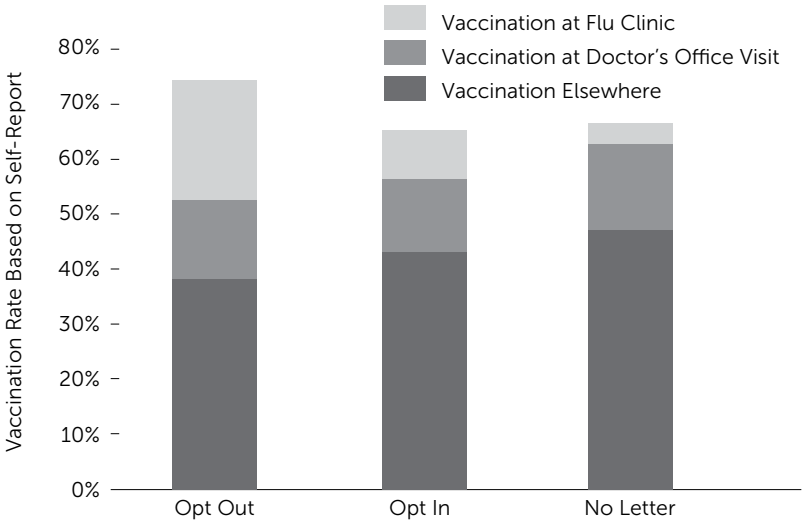
If giving people default appointments for flu shots merely displaced vaccinations that they would have gotten somewhere else rather than increasing vaccination rates overall, then self-reports of vaccination elsewhere would decline. However, vaccination rates during doctor visits or elsewhere were similar across all three conditions (opt out, opt in and no letter): the slightly lower off-site vaccination rate in the opt-out condition as compared with the other two conditions was not statistically significant, suggesting that default opt-out appointments did not increase flu clinic vaccination rates at the expense of vaccinations elsewhere. That is, we did not find evidence of displacement.

After adding up the number of participants who reported receiving a vaccination at any location, we found a slightly higher net vaccination rate in the opt-out condition than in the other two conditions (see the online Supplemental Material for details), but the effect is not statistically significant (p = .13). The overall effect becomes significant when age and previous-year vaccination are controlled for (p = .04). Thus, we have no reliable evidence for displacement—that is, it does not appear that the opt-out intervention simply shifted vaccinations from one venue to another. In addition, the self-report questionnaire data give some indication that the opt-out intervention raised total vaccination rates.

Policy Implications

Notifying people about default flu clinic appointments that they could opt out of raised the vaccination rates at the clinic: patients in this condition, compared with patients in the opt-in and no-letter conditions, were more likely to have an appointment for a flu shot and more likely to get a flu shot at all locations. This benefit

Figure 3. Percentage of patient participants completing the questionnaire (N = 298) who reported receiving a flu shot at the medical practice flu clinic, at regular doctor's visits in the medical practice, or elsewhere



was equally likely to occur regardless of patient age, comorbidities, and previous vaccination history. It is important to note that this increase in vaccination rates was not the result of people simply getting flu shots at the flu clinic that they would otherwise have gotten at regular doctor's office visits in the medical practice or elsewhere. If such displacement had occurred, we would have expected to see a lower rate of vaccination off-site and at doctor's office visits in the opt-out condition than in the opt-in condition, but we found no such pattern.

Our results suggest that giving people opt-out appointments (that is, ones that they did not request but that they can cancel) is an effective way to increase vaccination rates, and this strategy does not merely shift vaccination from one venue to another. Although automatic appointments might be particularly useful for flu vaccinations, which are given each year during the same season, this policy tool might be used to encourage adherence with other types of vaccinations and other health behaviors that require an appointment. For example, pediatricians could encourage HPV vaccination (a pediatric vaccine with low uptake) by giving adolescents automatic appointments on the

"Vaccination appointment defaults alter what constitutes the course of least resistance, facilitating vaccination behavior without necessarily changing attitudes or perceived norms about vaccination."

$5.8bn

estimated annual economic burden of flu in the US

10%

the absolute increase in vaccinated patients owing default scheduling

71%

of no-shows amongst patients with default appointments

first available date following their 9th birthday. Dentists could automatically schedule patients for cleanings/check-ups six months after the previous cleaning/check-up, while radiology centers could automatically schedule women in their 50s for mammograms on dates two years after their previous mammogram.

It is important to point out that the benefits of default appointments that we found come with caveats. First, all patients with an appointment that they did not cancel received a phone call reminder the day before; that may have augmented the effectiveness of default appointments, which might be less effective at clinics that are unable to provide an automatic reminder call service. Another caveat is that there were many no-shows among opt-out patients: they neither cancelled nor kept the appointment they had been given. That could be quite burdensome for some clinics and pose a barrier to implementing automatically scheduled appointments. One solution could be to require that patients confirm prescheduled appointments if they wish to keep them.[11] (Despite the high no-show rate, the opt-out group nevertheless had a higher vaccination rate than did the opt-in and no-letter groups, although that came at the cost of the clinic holding appointments for patients who did not keep them.)

A second limitation is that the effect of default appointments was quite localized. They increased vaccination rates at the dedicated flu clinic, because that was where the appointments were for, but they had no effect on vaccinations received at regular doctor's office visits or off-site.

Practitioners can use these results by implementing opt-out appointments with a plan for how to handle the no-show rate. Policymakers can facilitate the use of these findings by supporting infrastructure (such as patient scheduling software) that makes automatic appointments easier to implement. Future researchers should address whether requiring patients to confirm an automatic appointment retains the benefits of automatic appointments while reducing the no-show rate as well as ascertaining the optimal confirmation time frame. If the no-show rate can be addressed, then automatically scheduled opt-out appointments may contribute to the expansion of accountable care organizations by offering a cost-saving measure that promotes preventive care and reduces the spread of disease.

Our results have implications for the psychological mechanisms underlying the default effect. The findings suggest that the opt-out condition does not promote an overall positive attitude toward flu shots: if it did, one would expect the manipulation to increase the likelihood of vaccination at any site, not merely at the flu clinic. One proposed mechanism for the default effect is that defaults convey a social norm or policy recommendation.[12] If such a mechanism underlies the current results, it must be very localized (for example, "my doctor wants me to get a flu shot at the clinic") rather than more general (for example, "my doctor wants me to get a flu shot"). A more plausible account of the current results is that defaults have their effects because they save effort. It is easier for a patient to stick with the default appointment rather than switch to a different option; as a result, patients who have been automatically scheduled for an appointment often do not go to the trouble of canceling the appointment, whereas those without an appointment seldom exert the effort to make an appointment. Once the appointment is in place, the reminder phone call the day before brings

attention to the appointment and may make many patients feel obligated to show up and get vaccinated.

Thus, we propose that vaccination appointment defaults alter what constitutes the course of least resistance, facilitating vaccination behavior without necessarily changing attitudes or perceived norms about vaccination. This type of intervention has the advantage of intervening on the behavior directly and thus being applicable to many types of patients. Such interventions that alter behavior without changing attitudes, however, also have the limitation of producing a localized effect. Sticking with the default saves effort, but the default only applies to the flu shot appointments. To be effective, the default manipulation would need to be implemented at the time and venue where the vaccination behavior was to occur. For example, a medical clinic would need to use automatically scheduled appointments every year rather than relying on an attitude change from a previous year to affect behavior in subsequent years. Making vaccination the easy course of action is an effective policy to increase vaccination rates. Automatic appointments and similarly aimed interventions, such as the recent increased availability of vaccines at retail pharmacies in the United States, likely target individuals who ordinarily would not get vaccinated because of inconvenience or complacency.[13] Individuals with ideological objections to vaccination can cancel their automatically scheduled appointment or, more simply, not show up. Thus, automatically scheduled appointments both make clear the clinic's preference for vaccination and maintain patient autonomy. Even though automatic appointments do not change attitudes, we believe their impact on increasing vaccination rates is critical to advancing public health, because vaccination protects not only the individuals immunized but also their social contacts, including those who refuse to be vaccinated.

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supplemental material

- http://behavioralpolicy.org/journal
- Supplemental Text

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report

Nudging by government: Progress, impact, & lessons learned

David Halpern & Michael Sanders

abstract

"Nudge units" within governments, most notably in the United Kingdom and the United States, seek to encourage people to behave a certain way by using insights gained from behavioral science. The aim is to influence people's choices through policies that offer the right incentive or hurdle so that people choose the more economically beneficial options. Getting people to save for retirement, eat more healthful foods, and pay their taxes on time are some examples of institutionally desirable activities. The 10-fold rise in "nudge" projects undertaken since 2010—more than 20 countries have deployed or expressed interest in them—have revealed many lessons for policymakers. Chief among these lessons: the necessity of obtaining buy-in from key political leaders and other stakeholders, and the benefits of testing multiple intervention strategies at once. Although detailed cost–benefit analyses are not yet available, we estimate that behaviorally inspired interventions can help government agencies save hundreds of millions of dollars per year.

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Core Findings

What is the issue?
The U.K. government's Behavioral Insights Team (BIT) is delivering monetary benefits in the region of hundreds of millions of dollars, if not billions. To replicate this success, other governments must first work to successfully embed behavioral interventions in the policy mix.

How can you act?
Selected best practices include:
1) Building strong relationships with academia through cross-disciplinary advisory panels
2) Starting with rapid, low-cost, multi-arm behavioral trials using existing administrative data
3) Investing in impact valuations to measure the return on investment from interventions

Who should take the lead?
Policymakers in government, academics working in behavioral science

"There is not enough money for retirement" is a common lament among workers and policymakers alike. As things stand now, the U.S. Social Security trust fund will run empty by 2035,[1] and about half of all Americans have saved less than $10,000 for their golden years.[2] In the past decade, policymakers have tackled this failure of people to act now for a better tomorrow by redirecting people's own natural inertia. Specifically, more and more organizations require employees to opt out of retirement plans rather than opt in, as in the past. In the United Kingdom alone, the opt-out approach has meant more than 5 million extra workers have started saving for their workplace pensions since 2012. By the end of 2016, the default rule change reached the entire population of United Kingdom workers, including small firms and even micro-employees (people who work only a few hours for a given employer, often a family) such as nannies and cleaners.

The success of increasing retirement savings shows the value of behavioral interventions. Since the publication of the book *Nudge: Improving Decisions About Health, Wealth, and Happiness* by Richard Thaler and Cass Sunstein in 2008[3] and especially over the last few years, governments have increasingly incorporated overtly behavioral approaches into policy. Of course, almost all government policy is a form of behavioral influence, insofar as it aims to influence the actions of human beings through either legislation, regulation, or the provision of information. However, policymakers have moved toward getting people to change their behavior. It is an overt acceptance, or even embracing, of behavioral science in the form of behavioral economics, psychology, and related fields, as a tool for adjusting people's behavior.

In this article, we review developments in and the expanded use of behavioral science by governments and other institutions. We also tentatively estimate the number of government-conducted randomized controlled trials (RCTs) that explicitly attempt to apply findings from these fields and offer the beginnings of a profile of their impacts. Finally, we reflect on early lessons learned, particularly for the benefit of policymakers and academics in the process of building this capability into their own governments. Our analysis is not a comprehensive overview but instead draws directly on our own experiences and knowledge, particularly of the U.K. government's Behavioural Insights Team (BIT), which serves as a model that many other governments have begun to follow.

A Brief History

Governments have long drawn on tacit knowledge of human behavior to shape how their citizens act. However, in the early 2000s, governments on both sides of the Atlantic began to more overtly incorporate psychological and behavioral factors into policy, regulation, and program delivery. Thaler and Sunstein's article[4] on libertarian paternalism attracted the attention of U.S. policymakers, while in the United Kingdom, the idea of applying behavioral science came to the attention of government officials after *Personal Responsibility and Changing Behaviour*[5] was published from within the Prime Minister's Strategy Unit, which existed during Tony Blair's administration to provide advice and policy analyses.

In the United States, the 2008 publication of *Nudge*[3] and the subsequent move of one of its authors, Cass Sunstein, into an influential position within the White House in 2009 gave a major boost to embedding behavioral approaches into policy. As head of the Office of Information and Regulatory Affairs and with the support of President Obama, Sunstein was able to intervene on a range of regulatory issues, particularly through the use of executive orders. For instance, these orders enabled the Environmental Protection Agency to regulate greenhouse gas emissions and set fuel economy standards without congressional approval. (Sunstein left the Obama administration in 2012.)

The United Kingdom soon followed the U.S. example. Although the 2004 Prime Minister's Strategy Unit paper sparked negative political and media reactions,[6] the newly elected coalition government in 2010, partly inspired by the perceived impact of *Nudge* on Barack Obama's presidential campaign and administration, created 10 Downing Street's BIT.

An important but subtle difference emerged between the British and American approaches at this time. Whereas Sunstein primarily relied on the use of executive orders to incorporate behavioral approaches into policies, the U.K. unit pursued a more experimental approach, one that resembled Lockheed Martin's Skunk Works programs, where engineers are not assigned to specific projects with a short-term goal but instead are given greater freedom to pursue innovative and novel ideas, the expectation being that even if most of these ideas fail, the successes will more than pay for the unit's costs.

The advantage of Sunstein's approach was that it offered the prospect of large and immediate effects by instantly or quickly transforming entire domains. The disadvantage, of course, is that executive orders often lack the legacy of congressional approval. Therefore, the orders may have only short lives and face dissolution by court challenges (such as rulings issued by the U.S. Supreme Court against President Obama's orders on immigration) or by new executive orders from a different administration (such as President Trump's first-day order to begin dismantling the Affordable Care Act). The United Kingdom's more modest approach often involves running small-scale trials to test interventions inspired by behavioral science. This more experimental approach brings with it other advantages, not least being that it builds up an evidence base that can ultimately prove highly persuasive to an otherwise skeptical audience of senior public servants and commentators. This approach has since been replicated overseas, notably in the White House Social and Behavioral Sciences Team (SBST).

Detailed accounts have recently documented the struggle to get the U.S. academic and policy communities to engage with behavioral science[7] and the history of the United Kingdom's BIT.[6] For now, we simply note that two linked strands of activity have emerged. First, policymakers using behavioral approaches have sought to incorporate a more realistic account of human behavior in their work, for example, in the way consumer energy markets must provide information about their tariffs. As recently highlighted by Stanford University economist Raj Chetty, this strategy can lead to new policy proposals, better predictions, and a different perspective on the relative efficacy of existing policy tools.[8] Second, behavioral approaches have brought in their wake, at least in their U.K. manifestation, a form of "hyper-empiricism," in that variations in interventions are constantly being tested and their causal impacts are continually estimated. Halpern has termed the approach *radical incrementalism*: although each intervention on its own may seem modest, when the approach is applied widely and persistently, it is transformative. The road to this stage has not been entirely smooth, and much has been learned en route. In the next section, we articulate a few of the keys to successfully applying behavioral science to policy and some of the lessons learned on the way.

Key to Successful Nudging: APPLES

Attempts over the last decade to bring behavioral science out of the laboratory and into the world of policy have produced many lessons. Policymakers seeking to create "nudge units" within their own government or other public bodies are advised to pay heed to the following necessary components that can be summarized in the simple mnemonic of APPLES: administrative support, political support, people, location, experimentation, and scholarship.[6] We outline APPLES in greater detail below.

Administrative Support

Ensure you have senior level buy-in inside the system. For BIT, it was key that we had the support of the cabinet secretary, the United Kingdom's most senior government official, and that he personally agreed to chair BIT's steering board. His backing and participation sent a powerful signal to the rest of government and gave us leverage when we needed it, especially because other permanent secretaries (a *permanent secretary* being a department's most senior-ranking civil servant) were more skeptical. For these doubters, showing them the early results of BIT's tax letter trials that upped tax payments by an estimated £20 million[9] was the first step in winning their support. (See Table 1 for more details on the tax letter intervention.)

Table 1: Examples of the United Kingdom's behaviorally based interventions & their reach

Intervention	Reach	Impact
Change to opt-out saving for workplace pensions (from 2012, starting with larger employers)	27 million employees	An increase of 9 million people newly saving or saving more in qualifying workplace pensions by 2018 is expected as a result of automatic enrollment.[A] 5.4 million extra savers enrolled by August 2015, before extension to smaller firms.
Tax prompts to encourage timely payment, such as adding the line "most people pay their tax on time" in letters to taxpayers	10.4 million eligible for self-assessment, and particularly those who are late to file or pay	An estimate from 2012 of early trials of Her Majesty's Revenue & Customs and the Behavioural Insights Team (BIT) was that $300 million was brought forward. The estimate has not been formally updated, although scale and reach have subsequently expanded substantially.[B]
Job search improvements to get people back to work faster, by revising processes and prompts targeting those out of work and on benefits (for example, advisers use an implementation intention intervention to prompt job seekers to set out what, when, and how they will be looking for work in the coming week)	Codified and rolled out to 25,000 Jobcentre advisers in 2014, reaching around 800,000 people at any one time on Jobseeker's Allowance or Universal Credit (the United Kingdom's working-age social security program)[C]	Days on benefits have been reduced by an estimated 5 million to 10 million,[D] based on effect sizes found in a regional stepped-wedge trial. This equates to state welfare cost savings of $75 million to $150 million per annum (excluding wider benefits to job seekers).
E-cigarette availability: BIT advice starting in 2011 led to the decision to ensure widespread availability of electronic cigarettes in the United Kingdom (although sales to those under 18 years of age were banned)	More than 9 million smokers in the United Kingdom[E]	2.8 million smokers, or ex-smokers, now use e-cigarettes in the United Kingdom. In 2015, Public Health England estimated e-cigarettes to be 60% more effective as a route to quitting than rival methods, and e-cigarettes have become the most dominant route to quitting smoking in the United Kingdom.[F]
Organ donation: prompts to encourage people to join the organ donor register, added at the end of car-tax payment bills, based on the result of an eight-arm BIT trial	20 million people a year	Some 96,000 extra donors joined the register per annum.
Reduction in unnecessary antibiotic prescriptions, through letters to 20% of the highest-prescribing general medical practitioners	12 million people, covered by 13,000 of the highest-prescribing general medical practitioners	A 3.3% reduction in antibiotic prescriptions in the target population was sustained at 6 months, equating to just under a 1% reduction in prescriptions nationally. Excess antibiotic prescriptions likely propel the rise of resistant bacterial strains, seen as the greatest medical threat to the current generation by the United Kingdom's chief medical officer.

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F. Public Health England. (2015). *E-cigarettes: A firm foundation for evidence-based policy and practice.* Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/454517/Ecigarettes_a_firm_foundation_for_evidence_based_policy_and_practice.pdf

Political Support

Consider how the approach fits with the political narrative and instincts of the governments concerned. Interest in behavioral approaches from Prime Minister David Cameron and Deputy Prime Minister Nick Clegg, as well as their close aides, facilitated BIT's launch in 2010.

People

Create a team with the right mix of skills and expertise. At least as important as subject experts are people with the battle-hardened experience of working in government and large organizations. Personal relationships with those whom you will need as allies are equally important. As a result, there is no single type of person that BIT has recruited. BIT could not function well if it did not have team members who each possessed at least one of six key skill sets: understanding of government, knowledge of behavioral science, knowledge of policy and intervention design, analytical skills, interpersonal communication skills, and management skills.

We endeavor to create project teams comprising individuals who, through their academic training and professional experience, have a combination of these skills. For example, many BIT employees came from the U.K. Civil Service or had careers in other governments or international organizations such the United Nations; these individuals have extensive knowledge of how governments work and how policy is designed. Other employees have come straight from academia and typically are at the doctoral or postdoctoral level. They provide the analytical expertise as well as knowledge of behavioral science and intervention design. Our colleagues who are former practitioners, such as National Health Service managers, teachers, and coaches from Jobcentre Plus (the main U.K. government service that maintains direct contact with unemployed job seekers and administers out-of-work benefits), provide further understanding of intervention design and public service delivery. Finally, we have many employees who have come from management consulting and other professional-services firms and whose strengths lie in management, delivery of public services, and communication. The combination of skills makes individual project teams greater than the sum of their parts.

"Embrace empirical methods."

Location

Choose a location close to the institutions and people with whom you wish to work rather than a fancy office 20 minutes away. So much of government, as of life, is about being in the right place at the right time. In certain places, people regularly bump into each other and conduct impromptu business. In the United Kingdom, such well-trafficked places include the lobby of 10 Downing Street, Parliament, and even on the street of Whitehall, a U.K. government thoroughfare.

Experimentation

Embrace empirical methods. You'll need to demonstrate to skeptics and fence sitters that your new approach works, and you will need to quantify its impact. But, more fundamentally, you should follow the logical progression of test, learn, adapt. Behavioral science is especially well suited to experimental approaches, as they often involve minor changes to existing processes rather than the initiation of new processes.

Scholarship

Know the behavioral literature and details of the challenges you will face. Most everybody has some everyday knowledge of psychology, but you need a team that contains people with detailed, expert-level knowledge of the field—either through professional experience and practice or advanced study—who are plugged in to the latest thinking and results. Identify your local and relevant academic experts and form an advisory group.

Seven Specific Lessons

We also learned more specific lessons. Although APPLES provides a high-level framework, the following seven lessons offer more practical, day-to-day advice, gleaned from our experiences of developing, implementing, and scaling behaviorally informed trials within the U.K. government.

1. Use Rapid, Low-Cost Trials That Apply Existing Administrative Data Gathered by the Government. BIT's work on tax collection and payments of fines[9,10] provides good examples of this approach. Over the course of several years, BIT conducted a series of trials,[9,11,12] both large and small, in which late-paying taxpayers were sent notices from the tax authority. They received modified versions of the standard letters, each applying a different insight from behavioral science. Tax collectors routinely and automatically send out millions of letters each year, so modifying the content of the letters is inexpensive, and the outcome—whether people pay their tax and how much—is something that the administration already records. Trials are much easier to conduct and attract more administrative support when they are targeted on an outcome or objective that a government department already has. This also makes it more likely that a positive result will be adopted and scaled up. It can be a sensible trade-off to make a few methodological and measurement compromises on such exploratory trials if the compromises make the trials less burdensome to administrators, with promising results then leading to larger, more robust trials. For example, a small pilot study was run to evaluate a new behaviorally informed process in Jobcentre Plus. Although imperfect, the pilot offered strong enough evidence of effectiveness to convince key decisionmakers to invest in a larger, more robust trial.[13]

2. Get Field-Worker Input. User-centered design principles and qualitative research are important tools that can be used to develop hypotheses and iron out problems in prototype interventions before a full trial is begun. When working with Jobcentre Plus to redesign the experience of new out-of-work benefit claimants, BIT conducted extensive qualitative fieldwork prior to designing the intervention. In doing so, BIT staff experienced firsthand both the claimant's journey and the challenges faced by the Jobcentre Plus coaches who help people get back to work. Through this experience, they found that initial Jobcentre Plus meetings looked backward, focusing on what the job seeker had done in the last two weeks rather than on what the job seeker was going to do. Moreover, job seekers had to sign 14 documents on their first visit, leaving almost no time to discuss employment. The intervention that was ultimately tested[13] drew heavily on that fieldwork, which revealed processes that could not have been properly observed or understood from behind a desk in Whitehall.

An example of the counterfactual can be found in an unpublished study that Michael Sanders conducted in 2012. The goal was to replicate a 2004 study by Thaler and Benartzi,[14] which found that employees much prefer a gradual increase in their charitable donation rate over an ultimately smaller, one-time increase in their donation. The intervention design suffered from what we call *theory-induced blindness*, where testing a specific theory is the sole concern of the researcher, who becomes unable to see anything else. In the end, the intervention was a failure, significantly reducing the number of donations made. In hindsight, this result was obvious. The intervention was delivered via e-mail, a medium ill-suited for conveying an idea as complicated as precommitting to escalating giving rates. Because the intervention design considered only the theory and not the end users or the context, it was fatally flawed.

3. Prepare Yourself for Failure. Often an idea that looks good in theory or seems like it will be effective when conceived within a central government office does not succeed as expected when it is implemented in the messiness of the real world. This may be a result of optimism among policymakers themselves.[15] As Sunstein noted in his 2014 book *Why Nudge? The Politics of Libertarian Paternalism*, for every bias identified for individuals, there is an accompanying bias in the public sphere.[16] Recognizing this fact and attempting to identify and overcome our own biases and preconceptions through extensive fieldwork and challenging ideas within the BIT has, in our view, helped us to generate better interventions. Just as important, practitioners who work in a field every day will rarely hesitate to tell you when they think that an intervention will fail; their opinions should be taken seriously.

4. Consider the Ease of Scalability in Intervention Design. Interventions that are simple and inexpensive to implement, even if they have small absolute effects, may be more cost-effective than

impressive but complex interventions. Adding one line to a tax letter that raises payment rates by 5 percentage points, or 15%, may seem modest compared with redesigning the tax system, but the cost-effectiveness is very great. Similarly, BIT's work on voter registration[17] found that offering a £5,000 lottery incentive to register to vote was only slightly more effective than a £1,000 lottery incentive. Offering a smaller prize was therefore more cost-effective and wrought less political controversy, and the monetary savings allowed agencies to deploy the strategy more widely. Similarly, small-scale interventions, such as the use of implementation intention booklets for job seekers, are much easier and cheaper to scale than more intensive programs that involve more active employment support, even if the absolute effect per person may be modest.

5. Be Pragmatic & Err on the Side of Multi-faceted or Bundled Interventions in Early Trials. If a positive impact is found, subsequent RCTs can disentangle the effects of individual elements of the intervention. For example, when working on improving attendance in community colleges, BIT tested a suite of text messages, which were delivered at regular intervals.[18] The results were impressive: the text-message interventions reduced dropout numbers at the end of the first semester by one third. But the design of the experiment meant that it was not possible to isolate the active ingredient in the success.

6. Choose Multi-Arm Trials Over Single-Arm Trials. Comparing more than one intervention with a control tends to be preferable on both methodological and political grounds to single-arm trials. From a policy perspective, behavioral scientists should be concerned with not just whether a given intervention changes an outcome in the desired way but whether it works better than other possible interventions. In our 2016 study,[19] we found that charitable donations by staff at an investment bank increased if the bank requested that their manager ask the staff to donate. In the multi-arm trial, we could test the best way for the manager to make the request. The best prompt increased the proportion donating from 5% to 35%; the worst prompt only increased the rate to 8%. Without testing multiple arms simultaneously, we would not have made this discovery. Politically, it is also much easier to make the case for a multi-arm trial. It's much easier to sell the definitive message: "Minister, we'll find out which version works best at producing a desired result" (multi-arm trial), as opposed to chin-down message of, "Minister, we'll be able to conclusively show if the program flopped" (single-arm trial).

7. Walk Before You Run, Even if That Means Leaving Your Passion Project for a Later Date. It is often better to start with modest interventions (or combinations of interventions) or, at least, those that have been rigorously tested elsewhere to establish your expertise and a baseline of trust with the administration. Your dream intervention will probably involve a lot more than sending a text message or a letter, and you'll likely struggle to get a complex trial off the ground without establishing an initial trust bank with policymakers. We quite often take a long list of interventions to policymakers at the first meeting. Many times, our top-priority interventions are tossed out almost immediately, because they either are too complicated to implement, deviate too much from established practice, or are deemed "too wacky."

Together, these seven lessons embody a pragmatic approach to using behavioral science trials in government policymaking, and these recommendations arguably stand in some contrast to the more purist approach of conducting randomized controlled trials in the academic world. A dose of pragmatism may necessitate statistical corrections for imperfections in design and underscore the need to use convergent evidence to interpret results. However, they also tend to lead to a more reliable path to policy impact and allow for the testing of academic theory in a much tougher and more demanding real-world context.

The Impact of Behavioral Approaches

Although interest in applying behavioral approaches to policy has increased over the last decade, honesty dictates that we admit that interest doesn't necessarily translate into impact: many ideas are fashionable for a time, then

close to half of all Americans currently have **$10,000** saved for retirement

$75-150m

estimated direct savings in cash benefits from a BIT intervention in job-seeking activity

2%

reduction in energy use per individual consumer once consumers were told how efficient they were relative to eachother

vanish without a trace. Most governments have, at best, a rather patchy record of measuring the impact of their policies in a systematic and reliable way.[20] Furthermore, when impacts are measured, the causal ancestry—how the policy was developed, whose idea it was, and who gave the necessary authorizations and funding—of any given policy can be hard to reconstruct. There's truth to the saying that success has many parents, but failure is an orphan.

Here we offer four relatively simple, linked ways that may demonstrate the power of behavioral approaches to help build effective policies, limit political quagmires, and benchmark global adoption of such approaches.

Spread of Behavioral Science Programs Around the Globe

2013

Australia (New South Wales), Singapore: Behavioural Insights Unit established the Department of Premier and Cabinet with the secondment of Rory Gallagher from the U.K. Behavioural Insights Team to the Department of Premier and Cabinet. Singaporean Public Services Division and Ministry of Manpower begin randomized trials.

United States: White House launches the Social and Behavioral Sciences Team, similar to the United Kingdom's Behavioural Insights Team. Similar teams exist in the governments of some cities such as New York and Chicago.

United Kingdom: Civil service reform document calls for the adoption of behavioral science strategies by all government departments.

2014

Germany: Announced it would set up a small team inside the Chancellery, with direct access to Chancellor Angela Merkel.

Italy: Prime Minister Matteo Renzi's office published a document on modern policymaking that outlines the relevance of nudging.

European Commission: Announced creation of a behavioral unit inside the European Commission's Joint Research Centre.

Netherlands: Network of departmental teams is established.

2015

Australia (Federal Government): Team headed by Harvard Professor Michael Hiscox established in the Department of the Prime Minister and Cabinet.

2016

Australia (Victoria): Team established in the Department of Premier and Cabinet.

- Widespread impacts in the United Kingdom and United States
- Spread across countries
- Volume of behavioral study trials and policy interventions
- Estimate of intervention impact, monetized in US dollars

Widespread Impacts in the United Kingdom and United States

Behavioral scientists can certainly claim their interventions have touched the lives of tens of millions of people (see Table 1). Changes in pension saving rules are perhaps the most obvious behaviorally inspired intervention on both sides of the Atlantic in the last decade. We've outlined the impact of implementing savings defaults in the United Kingdom and in the United States. Work by John Beshears, currently at the Harvard Business School, has demonstrated the huge impact on savings enrollment rates that even firm-level defaults can have.[21]

Interest Among Other Countries

By 2013, a number of other governments and public bodies had started to become interested in applying behavioral science to policy (see the sidebar *Spread of Behavioral Science Programs around the Globe*).

Two early movers were Australia (New South Wales in particular) and Singapore. Both set up behavioral teams in central governments. The combination of the ideas articulated in books such as *Nudge*[3] and the steady stream of practical trial results from the United Kingdom's BIT was particularly intriguing to pragmatic public administrators in these countries.

By 2015, interest and active application had spread to many other countries, typically by government treasuries and tax administrations that saw how BIT's small, low-cost interventions could boost tax collection totals. In 2014, the German government announced that it was setting up a small team inside the Chancellery, with direct links to Chancellor Angela Merkel. In Italy, the government of Prime Minister Matteo

Renzi published a document on modern policymaking that outlined the relevance of nudging.[22] And within the European Commission, long seen as a bastion of traditional regulation, it was announced that a behavioral unit would be created within the Commission's Joint Research Unit.

In 2013, the White House launched its own Social and Behavioral Sciences Team (SBST), headed by Maya Shankar, a young neuroscientist out of Stanford. This new team brought into the Obama administration many of the same methods that had characterized the U.K.'s BIT. Although SBST's genesis and activities are independent of those of the BIT, the similarity of methodology can be clearly seen, for example, in their first report.[23]

The attendance roster at the September 2015 Behavioural Exchange conference, hosted in London, demonstrates the range of governments using or considering behavioral approaches to policy. The 900 delegates and speakers included officials and advisers from more than 20 countries. Nations beyond those listed above that are actively considering behavioral approaches include Canada, the Netherlands, Sweden, Denmark, Israel, Ireland, Mexico, the United Arab Emirates, Jamaica, and Brazil.

"Behavioral scientists can certainly claim their interventions have touched the lives of tens of millions."

International bodies are also tapping the behavioral and experimental approaches to policy. They include the European Commission, the World Bank, the United Nations Development Programme, the Organisation for Economic Co-operation and Development, and the World Economic Forum. These institutions are actively supporting the spread of the use of behaviorally-inspired approaches into Central and Latin America, Central and Eastern Europe, Africa, and South Asia through direct investments, trials, summits, and publications such as the World Bank's World Development Report titled *Mind, Society, and Behavior.*[24]

Within countries, the spread is being facilitated by the movement of people among influential roles. For example, it is no coincidence that the Australian state of Victoria created its own behavioral insights capability after the appointment of Chris Eccles as secretary of the Department of Premier and Cabinet—a role he had held in New South Wales, where he had seen the results from its behavioral insights team. Meanwhile, both the United Kingdom and the United States are seeing significant uptake of behaviorally based trials by local, regional, and city governments.

Building Strong Bridges Between Government and Academia

The growth in number and scope of government behavioral insights teams has been supported by a strong sense of collaboration, both among teams in different countries and with academia. The collaborations have taken various forms. BIT maintains an academic advisory panel to provide guidance on the team's work, and established BIT's research fellow program that recruits promising doctoral students to work with BIT for short stints (some fellows continue with BIT, while others return to academia with experience of government). The collaborations on special projects with academics outside the BIT are bearing published fruit.[9,10,17,18,25–27]

These special projects are born from two main formats. In one, a long-standing relationship between an academic and BIT leads to specific projects that naturally align with each other's interests. The second, more common format involves discussions between BIT members and academics to establish areas of interest and who's researching what, so when something appropriate comes up, those working on behavioral issues in government will know whom to contact.

Volume of Trials

An arguably more solid measure of adoption of behavioral approaches is the number of trials being initiated by governments. No simple database documents this. BIT is seeking to follow emerging good practice of publishing outline protocols of trials and the results of these trials on a regular basis,[28,29] but even in the United Kingdom, practical and political pressures sometimes prevent trials from being made available in the public domain.

Table 2. Estimated number of trials conducted by behavioral units in government (2010–2016)

Country	Number of trials	Primary source institution
United Kingdom	300–400	Behavioural Insights Team (Cabinet Office), Her Majesty's Revenue & Customs (tax collection), Education Endowment Foundation, Financial Conduct Authority
United States	30–50	Social and Behavioral Sciences Team (White House Office for Science and Technology Policy)
Australia	10–25	Department of Premier and Cabinet (New South Wales), VicHealth, Department of Premier and Cabinet (Victoria)
Singapore	20–30	Ministry of Manpower, Prime Minister's Office
The Netherlands	5–15	Treasury; Department for Infrastructure and the Environment; Ministry of Business Affairs
International	10–30	World Bank, United Nations Development Programme
Total	375–550	

Using a combination of public material and our own knowledge, Table 2 gives an indication of the number of behaviorally based trials under way across governments and public bodies.

We estimate that around 375–550 behaviorally inspired trials have been explicitly and intentionally initiated by governments over the last 5 years. The majority of these trials were initiated in the last 2 years, indicating an acceleration in activity. This is likely an underestimate, considering the strategy of using behavioral insights while crafting policies has recently spread to state, municipal, and city governments, which makes counting harder. All of this research promises to lead to an explosion of new results.

These numbers do not include the wider rise in the use of trial methods in general. For example, the United Kingdom's Educational Endowment Foundation, set up by the Department for Education in 2011 to systematically test and identify what works in education, has sponsored and supported around 100 large-scale trials involving more than 4,000 schools and over 600,000 children. Only a minority of these trials have an overt link to the behavioral literature, whereas others test more conventional interventions, such as whether student grades can be increased by hiring teaching assistants or paying students for performance. Such interventions are excluded from our estimates.

Impact Valuations: The Return on Investment

Table 1 shows some examples from the United Kingdom of the reach of a selection of behaviorally based interventions. For some of them, an estimate of impact is relatively straightforward. For example, we can derive an estimate of effect size from a regional stepped-wedge rollout of a BIT intervention to encourage job seekers to plan their job search activity. The original single-site intervention suggested that job seekers exposed to the implementation intention intervention were around 10% more likely to be off benefits, presumably because they had returned to work (although this was not confirmed), after 13 weeks, but this single-site intervention had several problems, such as displacement effects (for example, one group of job seekers might be simply getting jobs faster but taking them from others in the same area). Another possibility is that that the heavy involvement of the BIT team might have led to originator effects that would not be seen in a wider rollout. The stepped-wedge multisite design, in contrast, required the codification of the intervention and training-by-trainer implementation, and it had much less possibility of displacement of effects. Unsurprisingly, the regional trial led to an effect size that was considerably smaller, at around 1.7 percentage points, but that provides a reasonable estimate of the likely effect size when the same codification and standardized training were expanded to the national level. In this case, this leads to an estimate of direct savings in cash benefits of around $75–$150 million, not factoring in the wider economic benefits of a more active labor market and reduced emotional scarring of individuals who reenter the workforce faster.

Of course, the sample size in a trial, the reach of the intervention, and even the effect size are not by themselves an indication of impact in real policy terms. For example, one of BIT's

trials on organ donation involved a sample of over 1 million people to test eight variations of prompts asking people if they would join the (voluntary) organ-donation register. Adding the prompt to the annual car tax renewal process resulted in around a quarter of a million new donors joining the register each year. Adopting the most effective of the eight variants contributed approximately 100,000 extra registrations to this total. These are large numbers, but it is important to recognize that even adding an extra 100,000 donors is likely to save only a few lives a year, valuable though these are.

Similarly, there's no doubt that changing pension defaults in the United Kingdom has led to massive increases in savings—certainly running to billions of pounds since 2012. Yet, it's difficult to calculate the scale of the economic benefit that follows. For example, some have argued that it might have been better over this particular economic period to have stimulated extra consumer spending rather than saving. The most obvious benefit of increased savings ought to be that governments would use the success of automatic enrollment to wind back tax subsidies to consumers or firms. A 2014 study published in the *Quarterly Journal of Economics*[30] estimated that the net effect of a $100 tax subsidy encouraging people to save is a mere $1 of extra pension saving by consumers. To date, however, governments have been wary of winding down these subsidies—the cost of which is estimated to run to more than $30 billion for the United Kingdom alone and much more than that in the United States—for fear of destabilizing the pension market or of political backlash among high-turnout voters.

Sustainability

One key challenge is to take the important results from current trials to scale. For example, the United Kingdom's tax office, Her Majesty's Revenue and Customs, has taken a true test-and-learn approach, where the results of small-scale trials—that is, small in terms of sample size and complexity—have been expanded to become national policy even as new, novel tests continue. In general, successful small-scale RCTs need to be extended to the broader population if the true potential of behavioral science in policy is to be realized.

"One key challenge is to take the important results from current trials to scale."

Another challenge is to look at the longer-term effects of interventions. This challenge comes in two parts: habits and habituation. Habits concern the ability of behavioral interventions to have lasting effects on people's lives by making them change their behavior not just immediately after an intervention but in the longer term. As Frey and Rogers[31] pointed out, the evidence that currently exists is fairly limited and often not promising. Although short-term effects may be sufficient to identify a bias or other phenomena in an academic setting, in a policy context, more work is clearly needed. The second component of these long-term effects concerns habituation, or what happens when people are exposed repeatedly to the same kind of behavioral intervention. This is an area that warrants significant study as these interventions become more commonplace.

Finally, it is worth noting that some of the most effective interventions may come from the private sector. The strategy of giving consumers feedback about how much energy they use relative to their more efficient neighbors (declarative social norms)—notably promoted by Opower, an energy services firm—has been rolled out to more than 50 million consumers so far, and that number is rising. Although the 2% reduction in energy use per individual consumer this intervention averages[32] may appear modest, when aggregated across all 50 million Opower customers, this is a big impact. Also note that in some cases, an intervention may be more appropriately run by an entity other than the government: when governments are not the best actors to intervene, charities or corporations can sometimes get an intervention to the target population at scale.

We estimate (conservatively, we think), on the basis of more precise examples such as the Jobcentre Plus trial and scale-up or tax trials, that the monetary benefits of behavioral interventions are safely estimated in the hundreds of millions of dollars. If more wide-ranging estimates are used, such as including a monetized value for years of life saved by a particular strategy (for example, if someone is persuaded to use e-cigarettes rather than smoking actual cigarettes) or estimating the combined benefits of taxes paid through repeated trials, then the benefits almost certainly run to many billions of dollars.

Frustratingly, at least an order of magnitude difference exists between these conservative and wider-ranging estimates. Of course, this disparity is not unique to behaviorally based interventions. The historic rarity of RCTs and robust evaluations in most policies, as well as the complexity of estimating effects—for example, did military or security spending actually prevent an attack?—mean that only a tiny proportion of the trillions spent by governments across the world can be said to have been subject to a meaningful cost–benefit impact analysis. The promotion of RCTs and related research methods by behavioral scientists may start to change this landscape through, for example, the rise of What Works Centres and a growing understanding that experimental methods can give pragmatic and rapid answers to operational and policy questions that policymakers and the public want answered.

Measuring Success: A Final Summary

Over the last decade, behavioral approaches have moved from being an interesting idea to increasingly mainstream practice within the policy community. The quest for impact is still very much a work in progress, both to identify tomorrow's equivalent of the default changes on pensions and to scale up the promising interventions that are currently being studied.

This importance of buy-in from stakeholders cannot be overstated. It goes to the heart of the APPLES mnemonic, which emphasizes that there is no single component for success. Enthusiasm from politicians can only translate into policy triumphs if the machinery of government can also be convinced that your idea is going to work. Teams of just academics or just policymakers are less likely to be successful, as both ingredients are necessary to successfully conceive, test, and implement policies that influence behavior. Perhaps most important, the bar for evaluation has been raised over the last few years, as organizations like the Education Endowment Foundation have led the way in showing what "good" looks like, and this is set to continue. Applying lessons from science to policy without rigorous testing is not desirable—nor is it easy to get away with. With the right combination of skills and infrastructure, the future is bright for policymakers or academics looking to apply behavioral science to policy.

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author note

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report

Using organizational science research to address U.S. federal agencies' management & labor needs

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abstract

Employee performance often moves in lockstep with job satisfaction. Using the 2015 Federal Employee Viewpoint Survey, we have identified important and common management and labor needs across more than 80 federal agencies. Drawing on the vast trove of organizational science research that examines the effects of organizational designs and processes on employees' and organizations' behaviors and outcomes, we offer specific evidence-based interventions for addressing employee dissatisfaction or uncertainty that breeds lackluster performance, managerial shortcomings, and needed supports. Our intervention and policy recommendations have the synergistic goals of improving employee well-being, employee productivity, agency performance, and agency innovation, all resulting in increased efficiency and effectiveness, which benefit the taxpayer. Our top recommendations directly target the goals of improving employee motivation through engagement, empowerment, and embeddedness; enhancing the employees' voice; and fostering both internal and across-agency cooperation, communication, and collaboration. These recommendations are general enough to apply across diverse government agencies yet specific enough to yield results in discrete agency units.

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Core Findings

What is the issue?
Analysis of the 2015 Federal Employee Viewpoint Survey reveals that efforts to increase job satisfaction among federal employees are likely to yield improvements in productivity, agency performance and innovation, and efficiency, benefiting the taxpayer.

How can you act?
Selected interventions include:
1) Rapid response teams with 100-day project mandates
2) Training managers to actively solicit employee input and reduce the fear of reprisal for disagreement
3) Reversing the "continued decline in cooperation" by examining union-management partnership experiments

Who should take the lead?
Policymakers who want to maximize the value delivered to taxpayers, and managers within federal agencies.

Organizational science is a long-established multidisciplinary field of study that seeks to understand and improve the well-being and performance of employees and the effectiveness of organizations. Research in this field, conducted over the past 100 years, has involved millions of people across industries and occupations, resulted in studies published in hundreds of scientific journals, and yielded a mother lode of empirical evidence that is now widely accepted. The findings show, among other things, that employees experience greater levels of well-being and produce better outcomes when they are happy with and knowledgeable about their jobs, when they trust their leaders, and when they are respected and empowered to participate in decisions involving their jobs.[1–3]

Cognizant of these and other findings on the importance of employees to agency success, the Office of Personnel Management has, for over a decade, conducted the annual Federal Employee Viewpoint Survey (FEVS), which provides government employees with the opportunity to candidly share perceptions of their work experiences, agencies, and leaders.[4] The latest (2015) edition of the FEVS summarizes the responses of over 420,000 employees in more than 80 large and small departments and agencies on three major indices: employee engagement, overall job satisfaction, and workplace inclusion. Accordingly, FEVS results offer the most up-to-date evidence regarding employees' perceptions of management and labor needs.[5]

Using the 2015 FEVS,[5] we have identified important management and labor needs across agencies and suggest interventions aimed at

- increasing employee motivation through engagement, empowerment, and embeddedness;
- giving employees a greater voice; and
- enhancing cooperation, communication, and collaboration within and across groups.

Overall, our recommendations have the synergistic goals of improving employee well-being, employee productivity, agency performance, and agency innovation, with a result of increased efficiency and effectiveness, which benefit the taxpayer. Although in some cases we've drawn on research conducted in the private sector, our suggested interventions are likely to be effective for federal workers and agencies also. Thus, we offer suggestions for future research that can be readily conducted within the context of U.S. federal agencies. Such future research might best be directed at occupations that the 2015 FEVS has designated "mission critical" to agency success.[5]

The Three Es for Motivating Workers: Engagement, Empowerment, Embeddedness

During the past three decades, empirical research on employee motivation has yielded valuable insights concerning three motivational forces: engagement, empowerment, and embeddedness. For each of these concepts, robust empirical evidence is available to guide organizational interventions to improve employee motivation and reap its benefits.

Engagement is strong when employees respond positively to work: when the job makes them feel physically energetic and resilient, emotionally attached and dedicated, and cognitively focused and absorbed. Engaged employees are more fully invested in their work and believe it is meaningful. Numerous studies have demonstrated that employee engagement results in better job performance and enhanced *organizational citizenship*, which are behaviors beneficial to the organization but not directly included in job descriptions.[6,7]

Empirical studies of empowerment focus on feelings of meaningfulness, self-determination, competence, and impact.[8,9] Management practices promoting these feelings reap many benefits, including improved individual and team performance, greater innovation, more frequent acts of helping among colleagues, reduced feelings of strain, and lower likelihood of employee turnover. Empowerment is particularly motivating in the service sector.[10]

Embedded employees feel enmeshed or pulled into their workplace and harbor a strong sense of psychological attachment. Such workers perform better, are more likely to exhibit organizational citizenship behaviors, and are less likely to leave their employers.[11,12] The importance of embeddedness was demonstrated by the individuals responding to the FEVS, who often did not answer affirmatively to questions such as "I feel encouraged to come up with new and better ways of doing things," "My work gives me a feeling of personal accomplishment," or "My talents are used well in the workplace."[5]

The findings point to a number of evidence-based strategies for enhancing employee motivation. On the basis of FEVS responses that showed some federal agencies could work to improve employee motivation and available scientific evidence, we make the following recommendations.

Interventions for Enhancing Employee Motivation

- **Redesign Jobs.** Well-designed jobs share a number of features, such as they allow the worker to use a variety of valued skills, the worker understands how his or her work contributes to larger organizational objectives, and the worker has sufficient autonomy to determine how to perform the work. The act of job redesign leverages these features to sculpt jobs that improve employee motivation by creating feelings of engagement, which, in turn, promote improved work performance. In one technique, called the *rapid results* method, leaders work with staff members to identify problems, develop solutions, and set goals for making changes over the course of about 100 days.[13] Used successfully by many organizations worldwide, the rapid results method can empower employees to make changes that address obstacles to their own motivation.

- **Institute a Formal System for Employee Suggestions.** Organizational science findings show that employees enfranchised to participate in decisions and initiatives affecting an entire work unit or agency feel trusted, effective, and competent. In a word, these employees are empowered.[10] Furthermore, the empowerment of employees with diverse perspectives and knowledge bases results in enhanced creativity and innovation. Sophisticated employee suggestion systems have been used in a wide range of companies as well as in several federal agencies. These programs often allow employees to organize themselves into teams charged with developing ideas for new products and services during normal work hours. Such programs involve a formal system for evaluating proposed ideas, a commitment to dedicate resources to worthwhile ideas, and recognition and rewards (often nonmonetary) for the employees who offer the best suggestions. For example, across two studies involving almost 1,500 employees organized into hundreds of teams in the metalworking and banking sectors, units that supported employee empowerment had employees who were more passionate (as reported by the employees themselves) and creative (as reported by the leaders) in doing their work than were employees in nonparticipating units.[14]

"Numerous studies have demonstrated that employee engagement results in better job performance and enhanced *organizational citizenship,* which are behaviors beneficial to the organization but not directly included in job descriptions."

- **Use Digital Performance Dashboards.** Performing well in one's job is motivating, whereas performing poorly is demotivating and contributes to a downward spiral of poor performance. It is important to note that motivation is influenced by the competence of one's managers and coworkers as well as by one's own competence. Allowing poor-performing individuals to remain in their jobs for too long may seem kind, but it is demotivating for other employees. An effective management system ensures that employees are placed in jobs they are competent to perform doing work that contributes to an organization's bottom-line financial health.[3,15] If employees have the required skills but are not performing well, their managers may need assistance in setting meaningful performance goals and providing frequent performance feedback.[16] Performance dashboards that display a few key performance metrics for an individual (including people in leadership positions), a team, or an entire organization are increasingly used to provide the feedback so important for sustaining employee motivation and performance and making decisions about issues such as who requires training and who needs to be terminated. Indeed, digital performance dashboards are increasingly being used for a diverse range of jobs, from salespeople and nurses to delivery drivers and chief executive officers.[17]

Giving Employees a Voice

In healthy, high-performing organizations, employees are comfortable identifying challenges and problems and feel empowered to suggest ideas for improvement, which is what is labeled *employee voice*.[18,19] However, empirical evidence suggests that employees often withhold such information and that they do so for three primary reasons: they fear retribution, they think providing feedback is futile, or they lack the motivation to speak up.[20,21] An example of this phenomenon is that DC Metro employees were aware of dangerous track conditions prior to the July 2016 derailment of the Silver Line train outside East Falls Church that caused $150,000 in damages, but they feared retaliation for reporting problems.[22]

"In healthy, high-performing organizations, employees are comfortable identifying challenges and problems and feel empowered to suggest ideas for improvement, which is what is labeled *employee voice*."

Moreover, whistleblowers often suffer negative consequences for speaking up.[23] For example, results of a survey of more than 13,000 federal employees revealed that about 25% of whistleblowers had personally experienced some type of reprisal—or threat of reprisal—by management for having reported misconduct.[24] Employee silence has led to disasters that have made headlines, as well as to smaller and much more frequent losses in the form of reduced efficiency, missed opportunities, worker disengagement, and worker turnover.[25,26]

Empirical evidence[18] reveals employees stay silent at all hierarchical levels within not just private sector organizations but also major federal agencies. Close to half of federal employees surveyed expressed uncertainty about the wisdom and safety of speaking up about organizational improvement or ethics-related issues. The 2015 FEVS reported tepid responses to such questions as "I feel encouraged to come up with new and better ways of doing things" and "I can disclose a suspected violation of any law, rule or regulation without fear of reprisal."[5] These results are consistent with a number of more specific investigations in recent years that have identified cultural impediments to the expression of employee voice in places like the Veterans Health Administration,[27] the New York Federal Reserve Bank,[28] and some parts of the U.S. intelligence[29] and military communities.[30] Reported problems range from self-censoring based on fear of consequences to reports of actual retaliation for speaking up.

Fortunately, organizational science researchers have made significant strides in understanding the key drivers of employee voice. For instance, immediate supervisors who actually solicit input (for instance, by walking around the workplace during working hours) rather than merely saying they are open to employee voice (by announcing an open door policy) receive more input.[31] Also,

managers who act on ideas received and report back to employees on those actions encourage employee voice.[32]

The evidence gives us a number of potent tools for improving employee voice. We describe some of the most promising of these tools below.

Interventions for Enhancing Employee Voice

- **Train Leaders to Encourage Dialogue.** Individual leaders strongly influence employees' self-expression. Thus, it is essential to train managers in the art of encouraging employees' voice.[31,33] Such training is most effective when, as a result of their efforts, leaders establish a trusting and supportive relationship with followers.[34] Training leaders is a very effective intervention because it is more efficient and scalable than those solely focused on a unit's individual members. However, in the absence of additional interventions, such as those described next, training alone is unlikely to be successful in the long run.

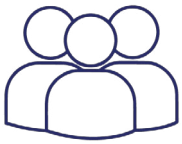
- **Reduce Barriers to the Flow of Information.** Centralized decisionmaking and separated divisions tend to decrease information flow.[35,36] Therefore, it follows that reducing these structural barriers could encourage employee participation and expression of employee voice.[25,37] For example, consider instituting skillfully conducted, unscripted *skip-level meetings*, in which upper management skips middle management to meet directly with nonmanagerial workers two or more levels down the chain of command;[18] casual coffees or lunches can work here as well. Also, consider using a *facilitated strategic input process*, in which trusted employees are empowered and trained to collect and deliver information about barriers to accomplishing strategic objectives and then work with senior management to develop a response.[38] Skip-level meetings and facilitated strategic input processes can be implemented to increase transparent communication and organizational learning. Both of these methodologies have been found to facilitate information flow and reduce employee silence around key strategic issues.

- **Learn to Understand & Encourage Employee Voice Within the Federal Government.** To examine the relative effectiveness of various types of interventions, within a given agency, future research could involve training some leaders to actively engage in voice solicitation[31] and others to act on the input received,[32] while having still other units serve as control groups. Alternatively, such research could compare the strategy of *voice accountability* (evaluating employees for their input and managers for creating healthy voice climates) with *upside sharing* (those who suggest or enact solutions share what has been gained).

- **Improve the Understanding of Union–Management Partnerships.** Employee voice can also be delivered through collective processes. Where unions exist, joint sponsorship with management of employee engagement and problem-solving teams could serve to enhance job satisfaction, union satisfaction, and possibly organizational performance. This is evidenced by the encouraging positive effects of Executive Order 12871, signed in 1993 by then president Bill Clinton, mandating that federal agencies and departments establish formal labor–management partnerships to reinvent government.[39] A study that examined the operations and outcomes of 60 partnerships that covered several hundred thousand federal employees revealed encouraging effects in the form of more harmonious labor relations climates and a reduced number of workplace disputes.[40] In terms of organizational performance, cost savings were achieved because of the smaller number of disputes, but other benefits were not easily discernible. This is an ideal area for experimentation and evaluation in the future.

Creating a Collaborative Spirit

Classic models of organizations depict them as systems of cooperation and coordination:[41] ideally, members collaborate effectively within teams and across divisions or groups for mutual benefit.[42] Collaboration has had a central place in organizational science research because it enhances knowledge acquisition and creation,



420,000 employees across **80** agencies were surveyed in FEVS 2015

25%

Percentage of whistleblowers who personally experience reprisal

1.16M

Number of federal employees who are represented by unions

"People tend to engage in behaviors for which they are rewarded rather than do what their formal roles prescribe or superiors presume they should do."

organizational learning, resource sharing, the quality of work relationships, the quality of labor–management relations, innovation, managerial success, goal attainment, and performance.[42,43]

Yet cooperation in the workplace, at least within the federal government, appears to be at risk. The 2015 FEVS report noted a "continued decline" in cooperation and found that leaders themselves may be at the root. Indeed, many respondents answered negatively to such questions as "Managers promote communication among different work units" and "Managers support collaboration across work units to accomplish work objectives." More generally, respondents seem satisfied with their immediate supervisors but less so with higher levels of management. Of note, some agencies did much better than others: a very large department had one of the lowest cooperative scores (37%), whereas the score for another large one was nearly twice as high (72%).[5]

A high level of cooperation in some departments suggests the potential for considerable improvement among less cooperative counterparts. We've identified some of the most useful strategies for enhanced cooperation, communication, and collaboration below.

Interventions for Enhancing Workplace Cooperation, Communication, & Collaboration

- **Set Clear & Achievable Goals.** Managers, especially senior leadership, need to clearly articulate, explain, and set realistic, specific, and attainable goals for communication and collaboration across an entire unit or between units, when appropriate, rather than announcing more general or vague "do your best" kinds of goals.[44] For both specific projects and agencywide work culture, a widely used shorthand for these kinds of clear goals is SMART, which stands for *specific*, *measurable*, *achievable*, *realistic*, and *time-bound*.[3] Encouraging employees to identify with commonly shared goals will reduce conflict and competition over subgroup goals,[45] especially when this friction arises at the boundaries between different organizational groups.[46] Setting and meeting those goals is likely to result in enhanced social capital, where resources can be found embedded in relationships between individuals and across work units.[47] It should come as no surprise that social capital improves performance and retention in settings ranging from for-profit enterprises to public schools.[48]

- **Enable Interdependent, Cross-Work-Unit Teams.** These teams, comprising individuals with different specialties, would have specific goals and be equipped with the information, resources, and support they need to execute a creative or innovative project. Such teams would be given adequate time for cross-unit communication and collaboration and would be empowered to work together to find creative solutions to problems, such as is done by the innovation teams at IDEO.[49,50]

- **Reinforce Collaboration Through Incentive & Performance Measurement & Management Systems.** People tend to engage in behaviors for which they are rewarded rather than do what their formal roles prescribe or superiors presume they should do. Asking employees to work as a team but rewarding individual performance is what Steve Kerr described as a managerial folly: "rewarding A, while hoping for B."[51] If there is an interest in improving cross-unit collaboration, there must be formal and informal ways to reward it.[52] Leader follow-through in aligning goals with reward systems is key.

- **Improve the Understanding of Collaboration Through Union–Management Partnerships.**

Approximately 880,000 federal employees (that is, 27% of the total federal workforce) are unionized. Approximately 1,160,000 individuals (that is, about 32% of the total federal workforce) are represented by unions.[53] Although union–management partnerships have been encouraged at various points in the past,[39] it is unclear how much effort is under way to build and support them today. And to our knowledge, no labor–management partnerships have ever been evaluated using randomized controlled experiments. The decentralized structure of federal agencies and units provides an ideal setting for designing such experiments.[54,55] Specifically, experiments could be conducted in which interventions are randomly assigned to some agencies but not others to learn about their effect. This type of empirical effort would result in valuable knowledge about what works and why, and results could be used for future evidence-based wide implementation.

Conclusion

In summary, responses to the federal survey of employees reveal both good news and bad news: on the one hand, overall, federal employees are generally satisfied with their jobs, but on the other hand, employee attitudes vary widely across agencies and aspects of the work environment could be improved to achieve better levels of performance. When examining the results of the recent FEVS study in light of research in the organizational sciences, it's clear that federal agencies can improve well-being and performance by enhancing employee motivation through engagement, empowerment, and embeddedness; by cultivating employee voice; and by encouraging cooperation, communication, and collaboration both within and across departments. Interventions and innovations should be designed and governed by the full range of stakeholders, from nonmanagerial federal employees to top-level managers.

Top Policy Implications Gleaned From a Review of the 2015 FEVS

Organizational science interventions have already been used to great effect, as shown in the many published studies cited in this article and actions by many agencies such as the Veterans Health Administration.[56] But more data are still needed, and we recommend continuing to monitor trends from the FEVS within agencies and occupational groups to identify future needs. For example, performance should be gauged in the context of varying work and job demands. Research is needed to explore how to improve job conditions (for example, workload and time constraints) and also how best to increase individual and team resilience, especially for mission-critical jobs. Given the size and decentralized structure of federal agencies and work units, as mentioned above, we suggest designing randomized controlled experiments that can identify what would work best where.

Finally, a common denominator of all of our recommendations is that they involve some type of change, and research indicates the need for a systematic process that builds motivation and the chance to improve the workplace and its products in positive ways.[57,58] A coherent vision of the change needs to be communicated, understood, and acted on across all levels of the hierarchy. Leaders must be trained and their actions reinforced through additional training and development of those reporting to them.[59] Leaders should be held accountable for the degree of employee motivation, engagement, performance, and innovation in their units. They should experiment and encourage innovation to achieve successful change. Across the organization, employees must learn to adapt to the change as they connect and collaborate with colleagues to solve the problems they face.[60] Leaders who systematically evaluate and implement evidence-based management practices will inspire employee trust and confidence and greater organizational effectiveness overall. We look forward to collaborating with federal agencies to design and implement interventions as well as research with the synergistic goals of improving employee well-being, employee productivity, agency performance, and agency innovation. These will be win-win results, leading to increased agency efficiency and effectiveness and thus benefiting the taxpayer.

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report

Combating biased decisionmaking & promoting justice & equal treatment

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abstract

This article draws on the behavioral science literature to offer empirically driven policy prescriptions that can reduce the effect of bias and ameliorate unequal treatment in policing, the criminal justice system, employment, and national security.

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Core Findings

What is the issue?
Preserving the balance between security and human rights often involves difficult trade-offs. Behavioral interventions to reduce bias in law enforcement and criminal justice are cost-effective ways to enhance both outcomes.

How can you act?
Selected interventions include:
1) Reduce discretion in police stop-and-search decisions to reduce arbitrary alienation
2) Develop evidence-based practices to increase the number of prosocial contact interactions between law enforcement and citizens
3) Mask or blind prejudicial information from decisionmakers.

Who should take the lead?
Policymakers and decisionmakers in law enforcement, criminal justice, labor, national security

Bias—systematic differences in decision-making caused by irrelevant factors—can often be unintentional and cause injustice and unequal treatment. Bias may be amplified in situations of uncertainty or ambiguity (such as during discretionary police stops), when people weigh and assess information (such as when hiring or promoting employees), or when people consider competing values and need to make trade-offs (such as when choosing whether to intervene during humanitarian crises). In this article, we focus on improving decisionmaking via tools and techniques, such as prescriptive instructions, validated risk assessment instruments, the removal of irrelevant information from the decision context, and structured decisionmaking techniques. We recognize that racial, ethnic, gender, and other disparities result from a multitude of causes, with some important causes operating at the organization and societal level. It is not our intent to suggest that biases operating at the individual level are the sole, or even the most influential problem. Rather, they are where recent behavioral science is most relevant and likely to generate effective solutions. Our approach is also not one of strong regulatory mandates or sanctions. Instead, we offer interventions to reshape the decision environment to promote and improve decisionmaking. We describe how these practices can ameliorate the effect of biases, reduce inequalities, and improve the likelihood that justice prevails.

Improve Police & Pretrial Detention Decisions to Reduce Unequal Treatment

Recent fatal officer-involved shootings of Black men and fatal shootings of police by citizens highlight the strained relations between communities of color and American law enforcement. However, these high-profile events represent only the tip of the iceberg. In much, if not most of the country, minorities, as well as the poor, are often subject to bias and unequal treatment at multiple points in the criminal justice system. In what follows, we present interventions that could substantially increase equal treatment in stop-and-search decisions and pretrial detention in federal district courts.

Reduce Discretion in Stop-and-Search Decisions

Policing data show extremely high rates of routine discretionary stops and indicate that police are dramatically more likely to stop, search, arrest, and use force against minorities compared with Whites.[1] Discretionary stops are often based on highly subjective criteria[2] (for example, furtive movements) and are not particularly accurate (only 2%–10% of stops yield evidence of contraband or weapons).[3] Even when police stops do not lead to citation or arrest, they create a sense of arbitrariness that engenders alienation among members of targeted communities.[4] This alienation, in turn, undermines cooperation with police.[5] Stop-and-search rates are so high in many jurisdictions that, despite their low yield rates, they contribute to untenably high rates of incarceration,[6] often with devastating collateral consequences (for example, loss of employment or voting rights) for minorities.[7] Drawing from research on decisionmaking and the compelling examples described below, we propose reducing police officer discretion in stop-and-search decisions.

Pretext stops are when officers use a legal excuse (for example, a broken taillight) to justify a stop for investigatory purposes (for example, looking for contraband). Such stops are regulated by a jurisprudence that is deferent to officer discretion and nearly agnostic to racial motives,[8] and search decisions are governed by the inherently vague *reasonable suspicion* standard. Yet behavioral science literature shows that decisionmaking under such ambiguous conditions is susceptible to many biases,[9] including racial stereotyping.[10] Two persuasive examples demonstrate that reducing officer discretion leads to reductions in stop-and-search rates while increasing yield rates and keeping crime rates stable. First, when the U.S. Customs Service reduced the list of reasons to conduct searches to a small set of behavior-related triggers, search rates went down 75%, hit rates (discoveries of contraband) quadrupled, and ethnic disparities all but disappeared.[11] Similarly, the recent dramatic reduction in pedestrian stop–and-frisks in New York City is concurrent with an increased rate of search yields and reductions in racial disparities in stop rates.[12]

Pilot Stop-and-Search Projects Recommended

Following are our suggestions for feasible interventions to regulate officer discretion in conducting street stops:

- Limit or eliminate officers' use of suspicion criteria that are most subjective and/or likely to be proxies for race. For example, ban furtive movements and walking in high-crime areas as reasons to stop and search.

- Improve instructions to officers regarding valid bases of suspicion. Strengthen documentation requirements for all pedestrian stops, not just those resulting in searches, force, or arrests, and bolster supervision and accountability both in the chain of command and, when possible, by independent oversight.

- Shift incentives for promotion away from those that motivate large numbers of fruitless detentions, such as arrest quotas, and toward positive indicators, like citizen commendations.

Implementing and testing these interventions would be both feasible and relatively inexpensive.

Reducing Pretrial Detention in Federal District Courts

The rate of pretrial detention—detaining a suspect during the time between the initial appearance before a judge or magistrate and the final judicial determination or dismissal occurs—has risen dramatically in the last two decades. According to the U.S. Department of Justice (DOJ), pretrial detention rates for federal defendants increased from 42% in 1995 to 64% in 2010.[13] Furthermore, the number of federal defendants detained at any time during the duration of the case nearly tripled between 1995 and 2010 (increasing from 27,004 to 76,589 detentions). Although this DOJ report provided no data on the race, ethnicity, or gender of those who were detained, other research documents that Blacks and Hispanics are more likely to be detained in state[14,15] and federal[16] courts, even when controlling for the type and severity of the alleged crime, criminal history, and other legally relevant factors.[16,17] It is also likely that those who

"Those detained are more likely to be convicted and receive more severe sentences than those who are released pending trial."

are poor lack the resources to post bail or hire good lawyers and therefore are more likely to be detained, thus contributing to the discrepancy. In a recent court filing, the DOJ, citing the Constitution's guarantee of equal protection, stated, "Bail practices that incarcerate indigent individuals before trial solely because of their inability to pay for their release violate the Fourteenth Amendment" and "unlawfully discriminate based on indigence."[18] Those detained are more likely to be convicted and receive more severe sentences than those who are released pending trial, even when controlling for the type and severity of the alleged crime and other legally relevant factors.[16,19,20] The high rate of pretrial detention in the federal district courts, coupled with its negative consequences and potentially inequitable application, is problematic.

Pilot Pretrial Detention Program Recommended

We recommend that several federal district courts implement a validated risk assessment instrument[21] (which also accounts for indigence and other variables) and evaluate its effectiveness in reducing the overall number of persons and, in particular, the disparity in the characteristics of persons detained prior to trial. Most risk assessment instruments gather information on the offender's background, community ties, criminal history, history of substance abuse, and current situation.[21]

Enhance Police–Citizen Interactions & Procedural Justice

Procedural justice refers to both the real and the perceived fairness of the procedures used by authority figures when interacting with people

under their authority. A growing body of behavioral science evidence suggests that people feel more obligated to obey the law and are more likely to cooperate and comply when legal authorities treat them fairly. For example, when legal authorities treat people in a polite and respectful manner and rely on unbiased procedures when making discretionary decisions (such as whether to stop, search, cite, arrest, or use force), people are more likely to view those authorities as procedurally just and worthy of their compliance and cooperation.[22–25] This research indicates that the real and perceived procedural fairness of the criminal justice system is likely to improve as police increase the number of positive interactions they engage in within the communities they serve. One means of accomplishing such positivity is by implementing *community-oriented policing* (COP), which builds mutual understanding and trust through collaborative community partnerships and problem-solving exercises.

"One study showed that procedural justice was associated with lower levels of violence in federal prisons."

Promoting Contact Theory–Driven COP

Decades of psychological science research on intergroup contact indicates that respectful and prosocial contact between members of oppositional groups can reduce prejudice and ill will in robust and lasting ways.[26] This is the central premise of *contact theory*, and the theory has significant implications for the relationship between police and the public.[27]

Despite its broad appeal, COP is subject to criticism that its tenets are too vague and it is unevenly implemented across agencies. Contact theory provides a useful foundation for designing COP interventions that focus more clearly on improving relationships between police and communities, especially those communities where police are often perceived as unjust and illegitimate.

Pilot COP Projects Recommended

We recommend that public safety funding entities support contact theory–driven COP by (a) rigorously testing the effects of COP interventions on a variety of key outcomes, including cooperation, compliance, and perceptions of police fairness and legitimacy (for example, developing and testing de-escalation methods intended to reduce conflict and minimize hostility in police interactions with citizens); (b) developing and disseminating evidence-based best practices meant to improve relationships between police and communities; and (c) incentivizing police departments to recruit incoming academy cohorts that better resemble the demographics of the community.[28–30]

Promoting Procedural Justice

Most research on procedural justice in criminal justice settings focuses on the police, but recent research has begun to explore applications in court and correctional settings.[5,31–35] Within policing, officers of the law can promote cooperation, compliance, and law-abiding behavior by treating people fairly.[24,36,37] These same benefits that result from fair treatment by police officers may also apply in court and correctional settings. When defendants perceive that prosecutors and judges have treated them unfairly, for instance, they are more likely to view the legal system as illegitimate; therefore, they feel less obligation to obey the law or comply with legal authorities. Similarly, prison authorities can benefit greatly from practices that reduce anger and defiance and encourage voluntary compliance and cooperation among inmates.

Research on procedural justice has begun to influence several domains of policy and practice and figured prominently in the landmark recommendations of President Obama's Task Force on 21st Century Policing.[28] While significant procedural justice-related research and reform is under way in policing, little research has taken place in corrections. However, the extant research is promising. For instance, one study showed that procedural justice was associated with lower levels of violence in federal prisons.[33] Other studies have found that procedural justice in prisons is associated with lower rates of misconduct while in prison and lower rates of recidivism after release.[31,32]

Pilot Procedural Justice Interventions Recommended

Our recommendation is to pilot procedural justice interventions in federal law enforcement agencies, district courts, and correctional agencies. Researchers conducting internally focused studies could examine existing behavioral data (for example, compliance and defiance measures such as grievances filed or number of sick days) to determine the effects on employees of procedural justice training for supervisors and managers. Externally focused studies could test the effects of training, policy changes, or other interventions associated with procedural justice on the attitudes and behaviors of arrestees, defendants, inmates, and other people processed by these agencies.

Actions in two related priority areas could also promote the broader goals of increased fairness and improved police–community relations. They are (a) eliminating coercive interrogation tactics, particularly on youth, and (b) supporting research to distinguish between and address two causes of racial disparities and misuse of force in policing: outliers (that is, "bad apples") and systemic sources (for example, implicit, unintentional bias). Together, these approaches can enhance equitable and effective policing and promote safe communities.

Reducing Bias by Blinding or Masking Decisionmakers

People are routinely influenced by social or physical cues that can bias their judgments away from normative standards of rationality and fairness.[38] For example, hiring decisions are often influenced by a candidate's race or gender,[39] which can lead to unequal treatment. Unfortunately, teaching people about these biases is usually ineffective, in part because people are often unable to consciously monitor the influence of these biases on their thought processes.[40] However, these biases can be significantly reduced using a powerful approach known as *blinding* or *masking,* in which prejudicial or biasing information (for example, gender or race) is redacted or modified so that it is unavailable to the decisionmaker.[41] Indeed, blinding is well-established in medical research and physics. For example, in a double-blind clinical trial, neither the patient nor the administering physician knows whether the treatment is real or a placebo. Less familiar are methods of blinding in physics, where the data are perturbed by adding noise or a systematic offset value so that the analyst is unable to massage the data to favor a preferred or an expected hypothesis—a method that could prove valuable for empirical research on contentious public policy topics.[42] Outside of science and research, blinding methods are now used in business, education, journalism, and the arts. For example, in symphony orchestras, when instrumental auditions were conducted with the musician behind a curtain (so judges were unaware of the musician's gender), the likelihood of a woman being selected for the next round of auditions increased by 50%.[43]

Legal scholars and practitioners are beginning to investigate the application of blinding methods in forensic analysis, expert testimony, and legal fact finding by prosecutors, judges, juries, and arbitrators.[44] These methods also have considerable potential for improving decisionmaking in many commercial contexts (for example, recruitment and hiring, bank lending, and housing-related applications).[45] However, more research is needed to determine the most effective and efficient blinding methods. For example, how can information be selectively masked to block prejudicial cues while retaining probative cues? When during the decisionmaking process should the mask be lifted?

To help answer these questions, we propose four main steps for policymakers.

1. Engage in a Normative Analysis of the Types of Information Deemed Prejudicial or Inappropriate. It is important that masked factors are viewed as completely irrelevant to the integrity of the needed evaluation. For example, a candidate's race is an irrelevant normative cue in employment or criminal justice contexts and thus serves as an obvious candidate for blinding (see Sah, Robertson & Baughman, 2015, for more information on blinding prosecutors to the defendant's race).[44]

2-10%
of stop-and-search yielding contraband or weapons evidence

400%
increase in contraband hit rates once U.S. Customs reduced search discretion

42-64%
jump in pretrial detention rates for federal defendants between 1995 and 2010

"There will always be a delicate balance between national security issues and human rights issues in today's reality."

2. Engage in Pilot Studies on the Efficacy of Masking Procedures Prior to Full-Scale Implementation. Pilot studies should examine the feasibility of implementation, as well as the effectiveness of mitigating bias. For example, in some contexts, masking might fail because of inadvertent cues from other types of available information (for example, aspects of a person's resume or curriculum vitae may indirectly signal that applicant's race).

3. Build Protocols to Ensure That Blinding Is Conducted in an Effective, Efficient, & Uniform Way. By *effective*, we mean that there should be an ongoing assessment of whether the information to be blinded is, in fact, fully blinded; this can be challenging when there are many correlated cues or indicator variables (for example, a degree from an all women's or a traditionally African-American college). To be efficient, blinding procedures should be designed in a manner that minimizes the cost and delay associated with the decision process. To be uniform, blinding procedures should be implemented consistently across cases.

4. Train Specialists in Blinding Procedures for Implementing & Monitoring the Masking Process. Specialists need to have the institutional legitimacy and independence to ensure the integrity of the process. Specialists could also engage in routine data collection that would allow for continued supervision of the efficacy of the masking procedure.

Initiative: Investigating the Collapse of Humanitarian Values in Decisionmaking

There will always be a delicate balance between national security issues and human rights issues in today's reality. Decisions by government officials involving trade-offs that pit human rights against other important objectives are common, yet difficult and controversial. In such cases, there is often a disconnect between the high value placed on protecting human rights expressed by officials and the apparent low value revealed by the actions of those officials. In particular, humanitarian values may collapse when in competition with national security objectives threatened by the risk of terrorism.

Behavioral science research and theoretical models of judgment and choice lead to a hypothesis called the *prominence effect* that predicts this collapse.[46] The prominence effect asserts that when making decisions, people become biased toward focusing on the most prominent consequence of an action rather than on their expressed values.[47] This bias occurs because of the perceived need to justify or defend decisions. A choice made in accord with a prominent consequence is highly defensible (a key concern for politicians and other decisionmakers), even when that choice violates expressed values. For example, in today's America, worries about economic and physical security are highly prominent. Acting in defense of security, even at the cost of diminishing human rights, is likely to be highly defensible, leading to abuses such as racial profiling, unjustified stop-and-search decisions, and refusals to intervene in mass atrocities.[46] Immigration decisions offer another important example. Although providing a safe haven and opportunities for refugees is undoubtedly important, the possibility that some refugees might be terrorist sympathizers understandably raises strong concerns that may lead decisions and actions to igrnore these humanitarian benefits.[48]

This initiative is relevant to justice and correcting unequal treatment. Two steps could be taken to further examine whether the prominence effect might devalue human rights that are in competition with security objectives. First, researchers should conduct qualitative studies and controlled experiments along with think-aloud discussions of the moral, ethical, and strategic implications of this possible bias. This research would give further insight into how bias

may emerge when humanitarian values conflict with national security. Second, conducting trials using structured decision-aiding techniques would determine whether these techniques correct biases in the weighting of humanitarian values in relation to security values. These decision-aiding techniques have shown promise in facilitating trade-offs among conflicting objectives and mitigating prominence bias.[49]

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