

small behavioral science–informed changes can produce large policy-relevant effects

Robert B. Cialdini, Steve J. Martin, & Noah J. Goldstein

abstract

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There is a story the late Lord Grade of Elstree often told about a young man who once entered his office seeking employ. Puffing on his fifth Havana of the morning, the British television impresario stared intently at the applicant for a few minutes before picking up a large jug of water and placing it on the desk that divided them. “Young man, I have been told that you are quite the persuader. So, sell me that jug of water.”

Undaunted, the man rose from his chair, reached for the overflowing wastepaper basket beside Lord Grade’s desk, and placed it next to the jug of water. He calmly lit a match, dropped it into the basket of discarded papers, and waited for the flames to build to an impressive (and no doubt anxiety-raising) level. He then turned to his potential employer and asked, “How much will you give me for this jug of water?”

The story is not only entertaining. It is also instructive, particularly for policymakers and public officials, whose success depends on influencing and changing

behaviors. To make the sale, the young man persuaded his prospective employer not by changing a specific feature of the jug or by introducing a monetary incentive but by changing the psychological environment in which the jug of water was viewed. It was this shift in *motivational context* that caused Lord Grade’s desire to purchase the jug of water to mushroom, rather like the flames spewing from the basket.

Small Shifts in Motivational Context

Traditionally, policymakers and leaders have relied upon education, economic incentives, and legal sanctions to influence behavior and effect change for the public good. Today, they have at hand a number of relatively new tools, developed and tested by behavioral scientists. For example, researchers have demonstrated the power of appeals to strong emotions such as fear, disgust, and sadness.^{1–3} Likewise, behavioral scientists now know how to harness the enormous power of defaults, in which people are automatically included in a program unless they opt out. For example, simply setting participation as the default can increase the

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number of people who become organ donors or the amount of money saved for retirement.^{4–6}

In this review, we focus on another set of potent tools for policymakers that leverage certain fundamental human motivations: the desires to make accurate decisions, to affiliate with and gain the approval of others, and to see oneself in a positive light.^{7,8} We look at these three fundamental motivations in particular because they underlie a large portion of the approaches, strategies, and tactics that have been scientifically demonstrated to change behaviors. Because these motivations are so deeply ingrained, policymakers can trigger them easily, often through small, costless changes in appeals.

As a team of behavioral scientists who study both the theory and the practice of persuasion-driven change,^{9,10} we have been fascinated by how breathtakingly slight the changes in a message can be to engage one of these basic motivations and generate big behavioral effects. Equally remarkable to us is how people can be largely unaware about the extent to which these basic motivations affect their choices. For example, in one set of studies,¹¹ homeowners were asked how much four different potential reasons for conserving energy would motivate them to reduce their own overall home energy consumption: Conserving energy helps the environment, conserving energy protects future generations, conserving energy saves you money, or many of your neighbors are already conserving energy. The homeowners resoundingly rated the last of these reasons—the actions of their neighbors—as having the least influence on their own behavior. Yet when the homeowners later received one of these four messages urging them to conserve energy, only the one describing neighbors' conservation efforts significantly reduced power usage. Thus, a small shift in messaging to activate the motive of aligning one's conduct with that of one's peers had a potent but underappreciated impact. The message that most people reported would have the greatest motivational effect on them to conserve energy—conserving energy helps the environment—had hardly any effect at all.

Policymakers have two additional reasons to use small shifts in persuasive messaging beyond the outsized effects from some small changes. First, such shifts are likely to be cost-effective. Very often, they require only slight changes in the wording of an

appeal. No additional program resources, procedures, or personnel are needed. Second, precisely because the adjustments are small, they are more likely to be embraced by program staff and implemented as planned.

Accuracy Motivation

The first motivation we examine is what we call the *accuracy motivation*. Put simply, people are motivated to be accurate in their perceptions, decisions, and behaviors.^{7,12–15} To respond correctly (and therefore advantageously) to opportunities and potential threats in their environments, people must have an accurate perception of reality. Otherwise, they risk wasting their time, effort, or other important resources.

The accuracy motivation is perhaps most psychologically prominent in times of uncertainty, when individuals are struggling to understand the context, make the right decision, and travel down the best behavioral path.^{16,17} Much research has documented the potent force of *social proof*¹⁸—the idea that if many similar others are acting or have been acting in a particular way within a situation, it is likely to represent a good choice.^{19–21}

Indeed, not only humans are influenced by the pulling power of the crowd. So fundamental is the tendency to do what others are doing that even organisms with little to no brain cortex are subject to its force. Birds flock, cattle herd, fish school, and social insects swarm—behaviors that produce both individual and collective benefits.²²

How might a policymaker leverage such a potent influence? One example comes from the United Kingdom. Like tax collectors in a lot of countries, Her Majesty's Revenue & Customs (HMRC) had a problem: Too many citizens weren't submitting their tax returns and paying what they owed on time. Over the years, officials at HMRC created a variety of letters and communications targeted at late payers. The majority of these approaches focused on traditional consequence-based inducements such as interest charges, late penalties, and the threat of legal action for those who failed to pay on time. For some, the traditional approaches worked well, but for many others, they did not. So, in early 2009, in consultation with Steve J. Martin, one of the present authors, HMRC piloted an alternative approach that was strikingly subtle. A

single extra sentence was added to the standard letters, truthfully stating the large number of UK citizens (the vast majority) who do pay their taxes on time. This one sentence communicated what similar others believe to be the correct course of action.

This small change was remarkable not only for its simplicity but also for the big difference it made in response rates. For the segment of outstanding debt that was the focus of the initial pilot, the new letters resulted in the collection of £560 million out of £650 million owed, representing a clearance rate of 86%. To put this into perspective, in the previous year, HMRC had collected £290 million of a possible £510 million—a clearance rate of just 57%.²³

Because the behavior of the British taxpayers was completely private, this suggests the change was induced through what social psychologists call *informational influence*, rather than a concern about gaining the approval of their friends, neighbors, and peers. We contend that the addition of a social proof message to the tax letters triggered the fundamental motivation to make the “correct” choice. That is, in the context of a busy, information-overloaded life, doing what most others are doing can be a highly efficient shortcut to a good decision, whether that decision concerns which movie to watch; what restaurant to frequent; or, in the case of the UK’s HMRC, whether or when to pay one’s taxes.

Peer opinions and behaviors are not the only powerful levers of social influence. When uncertainty or ambiguity makes choosing accurately more difficult, individuals look to the guidance of experts, whom they see as more knowledgeable.^{24–26} Policymakers, therefore, should aim to establish their own expertise—and/or the credibility of the experts they cite—in their influence campaigns. A number of strategies can be used to enhance one’s expert standing. Using third parties to present one’s credentials has proven effective in elevating one’s perceived worth without creating the appearance of self-aggrandizement that undermines one’s public image.²⁷ When it comes to establishing the credibility of cited experts, policymakers can do so by using a version of social proof: Audiences are powerfully influenced by the combined judgments of multiple experts, much more so than by the judgment of a single authority.²⁸ The implication for policymakers: Marshall the support of multiple experts, as they lend credibility to one another, advancing your case more forcefully in

the process.

Another subtle way that communicators can establish their credibility is to use specific rather than round numbers in their proposals. Mason, Lee, Wiley, and Ames examined this idea in the context of negotiations.²⁹ They found that in a variety of types of negotiations, first offers that used precise-sounding numbers such as \$1,865 or \$2,135 were more effective than those that used round numbers like \$2,000. A precise number conveys the message that the parties involved have carefully researched the situation and therefore have very good data to support that number. The policy implications of this phenomenon are clear. Anyone engaged in a budget negotiation should avoid using round estimates in favor of precise numbers that reflect actual needs—for example, “We believe that an expenditure of \$12.03 million will be necessary.” Not only do such offers appear more authoritative, they are more likely to soften any counteroffers in response.²⁹

Affiliation and Approval

Humans are fundamentally motivated to create and maintain positive social relationships.³⁰ Affiliating with others helps fulfill two other powerful motivations: Others afford a basis for social comparison so that an individual can make an accurate assessment of the self,³¹ and they provide opportunities to experience a sense of self-esteem and self-worth.³² Social psychologists have demonstrated that the need to affiliate with others is so powerful that even seemingly trivial similarities among individuals can create meaningful social bonds. Likewise, a lack of shared similarities can spur competition.^{33–36} For instance, observers are more likely to lend their assistance to a person in need if that person shares a general interest in football with observers, unless the person in need supports a rival team.³⁷

Because social relations are so important to human survival, people are strongly motivated to gain the approval of others—and, crucially, to avoid the pain and isolation of being disapproved of or rejected.^{12,38,39} This desire for social approval—and avoidance of social disapproval—can manifest itself in a number of ways. For example, in most cultures, there is a norm for keeping the environment clean, especially in public settings. Consequently, people refrain from littering so as to maximize the social approval and minimize the

social disapproval associated with such behavior.

What behavioral scientists have found is that minimizing social disapproval can be a stronger motivator than maximizing social approval. Let us return to the example of social norms for keeping public spaces clean. In one study, visitors to a city library found a handbill on the windshields of their cars when they returned to the public parking lot. On average, 33% of this control group tossed the handbill to the ground. A second group of visitors, while on the way to their cars, passed a man who disposed of a fast-food restaurant bag he was carrying by placing it in a trash receptacle; in these cases, a smaller proportion of these visitors (26%) subsequently littered with the handbill. Finally, a third set of visitors passed a man who disapprovingly picked up a fast-food bag from the ground; in this condition, only 6% of those observers improperly disposed of the handbill they found on their cars.⁴⁰ These data suggest that the most effective way to communicate behavioral norms is to express disapproval of norm breakers.

Furthermore, expressions of social disapproval in one area can induce desirable behavior beyond the specifically targeted domain. In one study, pedestrians walking alone encountered an individual who “accidentally” spilled a bag of oranges on a city sidewalk; 40% of them stopped to help pick the oranges up. Another set of pedestrians witnessed an individual who dropped an empty soft drink can immediately pick it up, thereby demonstrating normatively approved behavior; when this set of pedestrians encountered the stranger with the spilled oranges, 64% stopped to help. In a final condition, the pedestrians passed an individual who was sweeping up other people’s litter, this time providing clear disapproval of socially undesirable behavior. Under these circumstances, 84% of the pedestrians subsequently stopped to help with the spilled oranges. Here is another example of the power of witnessed social disapproval to promote desired conduct. But in this instance, observed disapproval of littering led to greater helping in general.⁴¹

This phenomenon has significance for policymakers. Such findings suggest that programs should go beyond merely discouraging undesirable actions. Programs that depict people publically reversing those undesirable actions can be more effective.

Municipalities could allocate resources for the formation and/or support of citizens groups that want

to demonstrate their disapproval of disordered environments by cleaning debris from lakes and beaches, graffiti from buildings, and litter from streets. Moreover, city governments would be well advised to then publicize those citizens’ efforts and the manifest disapproval of disorder they reflect.

Another phenomenon arising from the primal need for affiliation and approval is the *norm of reciprocity*. This norm, which obliges people to repay others for what they have been given, is one of the strongest and most pervasive social forces across human cultures.⁴² The norm of reciprocity tends to operate most reliably and powerfully in public domains.⁸ Nonetheless, it is so deeply ingrained in human society that it directs behavior in private settings as well⁴³ and can be a powerful tool for policymakers for influencing others.

Numerous organizations use this technique under the banner of *cause-related marketing*. They offer to donate to causes that people consider important if, in return, those people will take actions that align with the organizations’ goals. However, such tit-for-tat appeals are less effective if they fail to engage the norm of reciprocity properly.

The optimal activation of the norm requires a small but crucial adjustment in the sequencing of the exchange.⁴⁴ That is, benefits should be provided first in an unconditional manner, thereby increasing the extent to which individuals feel socially obligated to return the favor. For instance, a message promising a monetary donation to an environmental cause if hotel guests reused their towels (the typical cause-related marketing strategy) was no more effective than a standard control message simply requesting that the guests reuse their towels for the sake of the environment. However, consistent with the obligating force of reciprocity, a message that the hotel had already donated on behalf of its guests significantly increased subsequent towel reuse. This study has clear implications for governments and organizations that wish to encourage citizens to protect the environment: Be the first to contribute to such campaigns on behalf of those citizens and ask for congruent behavior after the fact.

To See Oneself Positively

Social psychologists have well documented people’s desire to think favorably of themselves^{45–50} and to take actions that maintain this positive self-view.^{51,52} One

central way in which people maintain and enhance their positive self-concepts is by behaving consistently with their actions, statements, commitments, beliefs, and self-ascribed traits.^{53,54} This powerful motivation can be harnessed by policymakers and practitioners to address all sorts of large-scale behavioral challenges. A couple of studies in the field of health care demonstrate how to do so.

Health care practitioners such as physicians, dentists, psychologists, and physical therapists face a common predicament: People often fail to appear for their scheduled appointments. Such episodes are more than an inconvenience; they are costly for practitioners. Recent research demonstrates how a small and no-cost change can solve this vexing problem. Usually, when a patient makes a future appointment after an office visit, the receptionist writes the appointment's time and date on a card and gives it to the patient. A recent study showed that if receptionists instead asked patients to fill in the time and date on the card, the subsequent no-show rate in their health care settings dropped from an average of 385 missed appointments per month (12.1%) to 314 missed appointments per month (9.8%).⁵⁵ Why? One way that people can think of themselves in a positive light is to stay true to commitments they personally and actively made.⁵⁶ Accordingly, the simple act of committing by writing down the appointment time and date was the small change that sparked a measurable difference.

Staying within the important domain of health care, whenever we consult with health management groups and ask who in the system is most difficult to influence, the answer is invariably "physicians." This can raise significant challenges, especially when procedural safeguards, such as hand washing before patient examinations, are being ignored.

In a study at a U.S. hospital, researchers varied the signs next to soap and sanitizing-gel dispensers in examination rooms.⁵⁷ One sign (the control condition) said, "Gel in, Wash out"; it had no effect on hand-washing frequency. A second sign raised the possibility of adverse personal consequences to the practitioners. It said, "Hand hygiene prevents *you* from catching diseases"; it also had no measurable effect. But a third sign that said, "Hand hygiene prevents *patients* from catching diseases," increased hand washing from 37% to 54%. Reminding doctors of their professional commitment to their patients appeared to activate

the motivation to be consistent with that commitment. Notice too that this small change did not even require an active commitment (as in the appointment no-show study). All that was necessary, with the change of a single word, was to remind physicians of a strong commitment they had made at the outset of their careers.

Potent Policy Tools

How can such small changes in procedure spawn such significant outcomes in behavior, and how can they be used to address longstanding policy concerns? It is useful to think of a triggering or releasing model in which relatively minor pressure—like pressing a button or flipping a switch—can launch potent forces that are stored within a system. In the particular system of factors that affect social influence, the potent forces that generate persuasive success often are associated with the three basic motivations we have described. Once these stored forces are discharged by even small triggering events, such as a remarkably minor messaging shift, they have the power to effect profound changes in behavior.

Of course, the power of these motivation-triggering strategies is affected by the context in which people dwell. For example, strategies that attempt to harness the motivation for accuracy are likely to be most effective when people believe the stakes are high,^{16,58} such as in the choice between presidential candidates. Approaches that aim to harness the motivation for affiliation tend to be most effective in situations where people's actions are visible to a group that will hold them accountable,⁵⁹ such as a vote by show of hands at a neighborhood association meeting. The motivation for positive self-regard tends to be especially effective in situations possessing a potential threat to self-worth,^{51,60} such as in circumstances of financial hardship brought on by an economic downturn. Therefore, policymakers, communicators, and change agents should carefully consider the context when choosing which of the three motivations to leverage.

Finally, it is heartening to recognize that behavioral science is able to offer guidance on how to significantly improve social outcomes with methods that are not costly, are entirely ethical, and are empirically grounded. None of the effective changes described in this piece had emerged naturally as best practices

within government tax offices, hotel sustainability programs, medical offices, or hospital examination rooms. Partnerships with behavioral science led to the conception and successful testing of these strategies. Therefore, the prospect of a larger policymaking role for such partnerships is exciting.

At the same time, it is reasonable to ask how such partnerships can be best established and fostered. We are pleased to note that several national governments—the United Kingdom, first, but now the United States and Australia as well—are creating teams designed to generate and disseminate behavioral science-grounded evidence regarding wise policymaking choices. Nonetheless, we think that policymakers would be well advised to create internal teams as well. A small cadre of individuals knowledgeable about current behavioral science thinking and research could be highly beneficial to an organization. First, they could serve as an immediately accessible source of behavioral science-informed advice concerning the unit's specific policymaking challenges. Second, they could serve as a source of new data regarding specific challenges; that is, they could be called upon to conduct small studies and collect relevant evidence if that evidence was not present in the behavioral science literature. We are convinced that such teams would promote more vibrant and productive partnerships between behavioral scientists and policymakers well into the future.

author affiliation

Cialdini, Department of Psychology, Arizona State University; Martin, Influence At Work UK; Goldstein, Anderson School of Management, UCLA. Corresponding author's e-mail: Robert.Cialdini@asu.edu

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