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Rates of participation in organ donation programs are known to be powerfully influenced by the relevant default policy in effect ("opt-in" vs. "opt-out"). Three studies provide evidence that this difference in participation may occur in part because the requirement to opt-in or opt-out results in large differences in the meaning that individuals attach to participation. American participants in Study 1 rated participation as a significantly more substantial action when agreement was purportedly obtained under opt-in rather than opt-out conditions, and nonagreement as a greater abrogation of responsibility when that decision was made under opt-out rather than under opt-in conditions. Study 2 replicated these findings with respondents who live in Germany, which employs an opt-in donation policy, and in Austria, which has an opt-out policy. Study 3 required American participants to rate various actions that differ in the effort and self-sacrifice they demand. As predicted, the placement of organ donation on the resulting multidimensional scaling dimension differed significantly depending on whether it purportedly was made in an opt-in country (where it was considered roughly akin to giving away half of one's wealth to charity upon one's death) or an opt-out country (where it fell between letting others get ahead of one in line and volunteering some time to help the poor). We discuss the relationship between this change of meaning account and two other mechanisms—behavioral inertia and implicit norms—that we believe underlie the default effect in decision making and other effects of policies designed to influence decision-makers.

A large body of recent research has called into question the fundamental assumption of classical economics that people have stable and well-articulated preferences that guide their choices (1). This research demonstrates that people's preferences can be dramatically influenced by minor variations in the phrasing of a question or by the method by which they are elicited. Such findings, in turn, suggest that preferences often are constructed on the spot and in light of the surrounding context (2–6). This recognition of the context-dependent nature of judgments and the constructed nature of preferences has led to calls for public policy reform that takes into account both the lability of people's responses and various judgment and decision biases to which people are prone (7–9). Indeed, an influential book by the behavioral economist Richard Thaler and the legal scholar Cass Sunstein (10) argues that people's susceptibility to subtle influences of the sort that social and cognitive psychologists have explored during the last few decades should be used to influence people to act in ways that advance the public good without harm to those individuals and without compromising their freedom and autonomy.

accident. Other countries (e.g., Austria and Belgium) have presumed consent, or “opt-out,” policies whereby citizens must indicate their unwillingness to participate. This difference across countries provides a very telling natural experiment.

The difference in organ donation rates—typically exceeding 90% in opt-out countries and failing to reach even 15% in opt-in countries—astonishes most readers. The authors of the landmark study and those who cite it in advocating a switch from opt-in to opt-out default policies attribute this pronounced discrepancy to the difference in relative effort and initiative required for participation. They note that “defaults impose physical, cognitive, and in the case of donation, emotional costs on those who must change their status” (ref. 11, p. 1339). In other words, it simply is easier for a willing participant to be registered as a potential organ donor in an opt-out country than in an opt-in country. The authors were careful to point out other factors, beyond ease of enrollment, that contribute to this difference, noting that “decision-makers might believe that defaults are suggestions by the policy maker, which imply a recommended action” (ref. 11, p. 1338 and ref. 12) and that “defaults often represent the existing state or status quo and . . . psychologists have shown that losses loom larger than equivalent gains” (ref. 11, p. 1338).

Although we agree that all three of these factors contribute to the dramatic difference in participation rates in opt-in vs. opt-out countries, we believe that another powerful determinant is key to a fuller and more general understanding of the circumstances in which seemingly small variations in the presentation of behavioral options produce such large effects. We contend that different default policies influence the very meaning that people assign to the act of being an organ donor. The act of signing or not signing the back of one's driver's license, we suggest, is construed very differently in an opt-in vs. an opt-out context. In the opt-in case, the question posed to potential donors is something akin to, "Do you want to put yourself forward as an exceptional altruist, someone who acts for the good of others under circumstances when only particularly virtuous fellow citizens are likely to follow suit?" In an opt-out context, in contrast, the implicit question is something akin to, "Do you want to stand out as an exceptional misanthrope, someone who fails to step forward and do one's duty as most good citizens and community members do?"

Our contention is consistent with a long tradition in social psychology that emphasizes the importance of subjective meaning and the degree to which individual and collective interpretations of prevailing circumstances, and not the objective circumstances themselves, determine people's behavior (13). This tradition explores the impact of the social and situational context on how meaning is derived and, in the words of pioneering social psychologist Solomon Asch, focuses not on the individual's "judgment of the object" but on the individual's construal of the "object of judgment" (14). In Asch's famous example, the meaning assigned

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question and helps us rule out alternative explanations involving participants' assumptions about more general cultural differences.

In considering the enormous differences in organ donation rates between opt-in and opt-out countries, the surprise one experiences does not arise from the fact that different default policies are associated with different percentages of potential donors. The surprise is that the effect is so large. Indeed, in addition to the measures reported above, participants in study 1A were asked to estimate the percentage of the adult population whose organs would be eligible for harvesting in an unnamed opt-in or opt-out country. The predicted rate was 45% for the opt-in country and 63% for the opt-out country, a difference that is statistically significant but much smaller than the actual differences documented by researchers (11). Clearly, our participants, and we suspect most people, are missing something important when they make such predictions and are surprised by the actual donor participation rates in countries that seem so similar in ethnic makeup, national ethos, and apparent underlying values.

One possibility is that people are simply lazier or perhaps more prone to procrastination (that is, they simply do not get around to doing something they are quite willing or inclined to do) than most of us generally recognize. We do not doubt that this is the case. However, our findings make it clear that another factor is also at play: Participation or nonparticipation of individual citizens is heavily influenced by the meaning that people individually and collectively attach to the opt-in or opt-out choice in question. When citizens are presumed by the default option to be organ donors, organ donation is seen as something that one does unless some exceptional factor makes an individual particularly reluctant to participate. In contrast, when citizens are presumed by the default option not to be organ donors, organ donation is seen as something noteworthy and elective, and not something one simply does.

Our research shows that when respondents are asked explicitly to consider the meaning of the relevant choices, they are capable of discerning this difference in meaning. The failure to make more accurate predictions about the difference between opt-in and opt-out participation rates therefore must arise from one of three reasons. Respondents may not spontaneously consider these differences in meaning, they may not discern the degree of difference in meaning, or they may not appreciate how much impact the difference in meaning will have relative to other determinants—such as individual differences in personal traits and values—in producing the relevant donation rates. Whether participants would predict differences in participation rates more accurately if they were asked to do so after having assessed the meaning of organ donation in the two different contexts is an interesting question and has some theoretical relevance. It is not, however, the one we sought to address in our study.

Again, we emphasize that we are not claiming that differences in the meaning of the object of judgment represent the only factor responsible for differences in organ donor volunteer rates. Indeed, we do not even claim that such differences are the most important cause of the observed differences in opt-in and opt-out countries. That designation may well belong to sheer inertia and the need to do something to become a volunteer vs. the need to do something to avoid becoming a volunteer.\* Our contention

Study 2 replicated these findings with respondents who actually live in countries with opt-in or opt-out organ donation policies. Participants in Germany, which employs an opt-in policy, found the act of agreeing to donate one's organs in the event of one's death to be relatively meaningful and substantial (akin to working overtime without compensation or to giving 20% of one's annual income to charity). Participants in Austria, a country with a very similar culture and ethnic heritage but that employs an opt-out policy, found the act of agreeing to be a donor relatively lacking in meaning and rather insubstantial (akin to fulfilling one's duties at work or giving 2% of one's annual income to charity),  $M_{\text{Germany}} = 5.1$ ,  $M_{\text{Austria}} = 4.2$ ,  $t(43) = 2.64$ ,  $P = 0.011$  (Fig. 1B).

Experiment 3 replicated our findings with a very different measure of meaning. In this study, American participants read about a foreign country's opt-in (The Netherlands) or opt-out (Belgium) organ donation policy and then rated how similar a variety of different prosocial behaviors, including the decision to be a potential organ donor, are to each other in terms of their significance and the level of sacrifice they entail. Some of the behaviors involved a great deal of effort or self-sacrifice (e.g., going on a hunger strike for an important cause or volunteering for a dangerous military assignment), whereas others involved relatively little effort or self-sacrifice (e.g., casting a vote in a mayoral election or letting others go ahead in line).

As predicted, the default donation policy of the country in question had a significant effect on the way participants rated the act of organ donation. Those asked to think about a country with an opt-in policy judged organ donation to be much more similar to the other highly meaningful and significant prosocial behaviors ( $M_{\text{similarity}} = 5.4$ ) than to the less meaningful and significant actions ( $M_{\text{similarity}} = 3.1$ ), paired  $t(50) = 9.64$ . By contrast, those asked to think about a country with an opt-out policy rated organ donation as slightly (although not significantly) more similar to the prosocial actions that were relatively low in meaningfulness and significance ( $M_{\text{similarity}} = 4.6$ ) than to the actions that were relatively high in meaningfulness and significance ( $M_{\text{similarity}} = 4.1$ ). The relevant interaction effect reflecting the difference in participants' placement of organ donation on the effort/self-sacrifice continuum was highly significant,  $F(3,194) = 15.25$ ,  $P < 0.001$ .

The different meaning that the two groups assigned to the act of organ donation can be seen clearly in Fig. 2. In an opt-in country, a willingness to donate one's organs is seen as roughly akin to giving away half of one's wealth to charity upon one's death and as being almost equivalent to going on a hunger strike in support of a cause one advocates. In an opt-out country, in contrast, organ donation is seen as quite far from such relatively extreme acts of altruism, falling between letting others get ahead of one in line and volunteering some time to help the poor. None of the other prosocial acts, it is worth noting, were evaluated differently in the two countries, a result that attests to the specificity of the effect in

\*Although one cannot manipulate a default option without manipulating potential meaning, Johnson and Goldstein (11) have shown that presenting the relevant options in a way that controls for possible influences of laziness and inertia does not eliminate the effect of defaults. That is, they asked research participants whether they would be a donor: (i) if they moved to a country in which the default was not to be a donor and they had to affirm or reject the prevailing opt-in default; (ii) if they moved to a country in which they were assumed to be a donor and they had to affirm or reject the opt-out default; or (iii) they had to choose to be a potential donor or not, with no default specified. Notably, twice as many participants affirmed their willingness to be a potential donor in the opt-out condition even though a simple click of the mouse was the only effort required in all three conditions.



is simply that the way options relevant to personal and societal decisions are posed inevitably influences the meanings that become attached to those decisions.

Furthermore, differences in meaning may influence (and in turn be influenced by) other determining factors, perceived norms in particular. In fact, numerous investigators have shown that perceived norms can have a very large—and often underestimated—impact on people's choices and decisions (17–20). The tendency to assume that the default says something about the preferences or implicit recommendations of those who set the policy (12) can have a similar effect, leading people to assume that others will heed the implicit recommendation, thereby influencing their assessment of the societal norm.

Although these different mechanisms—inertia, meaning, assumed norms, and implicit recommendations—often are mutually reinforcing, they sometimes can be at odds with one another. When they are in conflict it is especially important to attend to the meaning that people are likely to assign to opting-in vs. opting-out. For example, imposing a penalty on behavior one would like to discourage, such as charging a fee for parents arriving late to pick up their children from day care, might seem like a sensible policy because it makes the behavior more costly. However, if people think of it as a price instead of a penalty, it paradoxically can produce more of the very behavior one wants to discourage (21). To craft the most effective policies, therefore, it is essential that policy makers attend to the meaning people will assign to different actions, a lesson we have tried to highlight with the research reported here.

## Methods

This research was approved by Cornell's Institutional Review Board and all participants provided informed consent.

**Experiment 1A. Participants and design.** Participants were 163 students at Cornell University (87 women and 76 men;  $M_{\text{age}} = 19.88$  y) who were approached on or near the campus and who volunteered to complete a short survey. They were assigned randomly to one of the two experimental conditions.

**Manipulation.** Participants read a short paragraph describing the organ donation policy of a foreign country. They learned either that the country had an opt-in policy, in which “the default assumption of the country's health system is that the person [...] is not willing to have his or her organs donated” or an opt-out policy in which “the default assumption of the country's health system is that the person [...] is willing to have his or her organs donated.”

**Dependent variables.** Following the manipulation, participants were asked to consider what it means to donate one's organs in the aforementioned country. Specifically, participants were asked to evaluate the act of organ donation in this country on seven different bipolar scales. On each scale, participants selected the appropriate value along a nine-point continuum representing the similarity of organ donation, in terms of effort and significance, to two other activities, e.g., paying one's taxes vs. endowing a small public-works project, or voting for mayor vs. taking part in a local political campaign.<sup>†</sup> We averaged participants' ratings across all seven scales ( $\alpha = 0.82$ ) to create a composite measure of donation meaning, in which higher numbers indicate a greater degree of effort and significance attributed to organ donations.

**Experiment 1B. Participants and design.** Participants were 43 students at Cornell University (24 women and 19 men;  $M_{\text{age}} = 19.05$  y) who completed a survey as part of a packet of questionnaires in exchange for extra credit. They were assigned randomly to one of the two experimental conditions.

<sup>†</sup>The other pairs were: fulfilling one's duties at work/working overtime without compensation; giving 2% of one's annual income to charity/giving 20% of one's annual income to charity; coaching your son's baseball team/coaching a local baseball team without having a child on the team; leaving 5% of one's estate (upon death) to a specified charitable cause/leaving 50% of one's estate (upon death) to a specified charitable cause; keeping the neatness of one's house and yard to the standard of the neighborhood/volunteering at a local initiative to clean up the neighborhood.

**Manipulation.** Participants read the same manipulation as in experiment 1A, describing a country with an opt-in or opt-out organ donation policy.

**Dependent variables.** Following the manipulation, participants were asked to consider what it means not to donate one's organs in the aforementioned country. Specifically, participants were asked to evaluate the act of not donating one's organs in this country on seven bipolar scales by selecting the appropriate value on a nine-point continuum between two other activities, e.g., failing to report some income on your tax return vs. reporting false information on your tax return, or looking after your own interest vs. being selfish.<sup>‡</sup> As in study 1A, we averaged participants' ratings across all seven scales ( $\alpha = 0.74$ ) to create a composite measure of the meaning of non-donation, in which higher numbers indicate greater significance attached to the failure to donate.

**Experiment 2. Participants and design.** Participants were 45 respondents (11 women and 34 men;  $M_{\text{age}} = 30.36$ ) from Amazon's Mechanical Turk, a website that links researchers with individuals who participate in research for a nominal fee. Participants were citizens of Germany (a country with an opt-in organ donation policy) or Austria (a country with an opt-out organ donation policy).

**Dependent variables.** Participants were told that different countries have different organ donation policies and that the researchers were interested in how people in their country view the act of organ donation. They then were asked to complete the same task as in experiment 1A, evaluating the similarity of organ donations in their country to each of seven pairs of prosocial actions varying in significance. We averaged the ratings of all seven items ( $\alpha = 0.72$ ) to create a composite measure of the meaning of donation, with higher numbers indicating a greater degree of effort and significance attributed to the act of organ donation.

**Experiment 3. Participants and design.** Participants were 101 students at Cornell University (57 women, 42 men, 2 unspecified;  $M_{\text{age}} = 19.49$  y) who completed an online survey and were assigned randomly to one of the two experimental conditions.

**Manipulation.** Participants read a short paragraph describing the organ donation policy in The Netherlands (an opt-in policy) or Belgium (an opt-out policy).

**Dependent variables.** Following the manipulation, participants were asked to consider how a variety of different prosocial actions are perceived in the country they read about, in terms of significance or sacrifice. There were nine items altogether, involving varying degrees of effort, significance, or sacrifice, including voting for mayor, letting other people go ahead of you in line, volunteering your time working with the poor, and donating your organs when you die.<sup>§</sup> Participants rated the similarity of each possible pair of items, or 36 different comparisons altogether, on a nine-point scale (1 = not at all similar; 9 = highly similar).

Within each condition, we averaged the rated similarity of organ donation to the five highly significant prosocial actions ( $\alpha_{\text{Opt-out}} = 0.79$ ,  $\alpha_{\text{Opt-in}} = 0.66$ ) to create a composite measure of similarity to highly significant actions; we also averaged the rated similarity of organ donation to the three less significant prosocial actions ( $\alpha_{\text{Opt-out}} = 0.80$ ,  $\alpha_{\text{Opt-in}} = 0.60$ ) to create a composite measure of similarity to less significant actions.<sup>¶</sup> In both cases, higher numbers indicate greater similarity to the actions in question.

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<sup>‡</sup>The other pairs were: not being supportive of someone who tried hard but failed/belittling someone who tried hard but failed; not helping a friend prepare for a quiz on a subject you know well/not helping a friend prepare for a final examination on a subject you know well; forgetting a colleague's birthday/forgetting your mother's birthday; putting others at risk of getting a cold you do not know you have/putting others at risk of getting a cold you do know you have; skipping your child's baseball game/skipping your child's graduation.

<sup>§</sup>The other items were paying your taxes, giving away half your wealth to charity when you die, going on a hunger strike for a cause you strongly believe in, intervening to help someone who is being verbally assaulted, and volunteering for a dangerous military assignment.

<sup>¶</sup>We split the prosocial behaviors according to the results of the Multidimensional Scaling solution. We had chosen the items so that there would be four highly significant items and four less significant items, but participants rated “volunteering your time to help the poor” as more substantial/significant than we anticipated.

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