

# Instrumental Use Erodes Sacred Values

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A fundamental feature of sacred values like environmental-protection, patriotism, and diversity is individuals' resistance to trading off these values in exchange for material benefit. Yet, for-profit organizations increasingly associate themselves with sacred values to increase profits and enhance their reputations. In the current research, we investigate a potentially perverse consequence of this tendency: that observing values used instrumentally (i.e., in the service of self-interest) subsequently decreases the sacredness of those values. Seven studies ( $N = 2,785$ ) demonstrate support for this *value corruption* hypothesis. Following exposure to the instrumental use of a sacred value, observers held that value as less sacred (Studies 1–6), were less willing to donate to value-relevant causes (Studies 3 and 4), and demonstrated reduced tradeoff resistance (Study 7). We reconcile the current effect with previously documented value protection effects by suggesting that instrumental use decreases value sacredness by shifting descriptive norms regarding value use (Study 3), and by failing to elicit the same level of outrage as taboo tradeoffs, thus inhibiting value protective responses (Studies 4 and 5). These results have important implications: People and organizations that use values instrumentally may ultimately undermine the very values from which they intend to benefit.

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The importance of human values has been clear to scholars throughout history. Philosophers from Aristotle through Kant to contemporary thinkers like Singer (2016) have contributed to our understanding of values. Within psychology, values are defined as abstract ideals that serve as important guiding principles in people's lives (Allport, Vernon, & Lindzey, 1960; Feather, 1975; Rokeach, 1968; Schwartz, 1992). Values undergird many of the field's most central subfields and theories, including the self, political and moral psychology, system justification, and self-regulation. Values are used to predict differences across generations (e.g., Twenge & Kasser, 2013), to predict individuals' willingness to help others (e.g., Van Lange, 1999), and to explain political conflict (Haidt, 2012). Researchers have consistently highlighted values for their importance in predicting and explaining human behavior.

Some values even take on sacred status, such that a group of people believe that their commitments to these values are absolute and inviolable (Bartels & Medin, 2007; McGraw & Tetlock, 2005; Ritov & Baron, 1999; Tetlock, 2002; Tetlock, Kristel, Elson, Green, &

Lerner, 2000). Values are deemed sacred<sup>1</sup> when people state an unwillingness to compromise them, especially in exchange for more secular values, such as economic considerations around profit and cost–benefit analyses. For example, people often refuse to consider the price of human life or the maximum price that should be paid to save an endangered species (Rozin & Wolf, 2008; Tetlock, 2002). These values are elevated above market considerations such as profitability. People also imbue these values with transcendental significance, leading sacred values and the objects, persons, and places that represent them to evoke reverence and awe (Belk, Wallendorf, & Sherry, 1989; Durkheim, 1912/1995; Ginges & Atran, 2014). By contrast, secular (nonsacred) values are normatively treated as fungible, and people make secular trade-offs on a regular basis, as when people make price-quality trade-offs in the supermarket (McGraw & Tetlock, 2005). Though there is some overlap between value sacredness and related constructs such as value strength or importance, they can be distinguished (see Ginges, Atran, Medin, & Shikaki, 2007 and Tanner, Ryf, & Hanselmann, 2007 for empirical demonstrations). That is, although sacred values tend to be important, there are also many secular values that people may deem important (e.g., authority, wealth; Schwartz, 1992) but are inherently fungible and amenable to tradeoffs.

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<sup>1</sup> We note that what is deemed sacred is not equivalent to the religious. Although people do often sacralize the objects, places, and people associated with religion, many nonreligious objects, places, and people are also sacralized (e.g., flags and national holidays, equality, environmental protection, family heirlooms; see Belk et al., 1989; Graham & Haidt, 2012; Tetlock, 2002).

Despite a key feature of value sacredness being an elevated importance above market considerations, people are routinely exposed to messages and behaviors that violate this key feature. The case of “paid patriotism” is a vivid illustration of this point. National Football League (NFL) games have long been full of patriotic displays, including camouflage jerseys, national flags, and military jets flying overhead. However, the term *paid patriotism* was coined to acknowledge that the association between the NFL and patriotism does not come for free: professional sports leagues across America were paid at least \$53 million by the U.S. Department of Defense to embed military-themed programs into the game-day experience (Williamson, 2018). These acts, done under the guise of the teams’ voluntary expressions of patriotism, were performed to yield a substantial profit.

Acts like paid patriotism are not unusual. Sacred values like environmental-protection, diversity, and patriotism are frequently leveraged by organizations, marketers, and individuals to yield profits and favorable reputations. The many for-profit organizations embracing sacred values often claim it is a win-win approach—maximizing profit and facilitating the environment or equality. These practices promote the sacred values being leveraged (Kreps & Monin, 2011; Makov & Newman, 2016). We term these practices the *instrumental use of sacred values*, defined as situations in which a sacred value is used in the service of self-interest (e.g., for profit). Our primary aim is to examine how exposure to the instrumental use of sacred values affects how people perceive sacred values. In a departure from existing theorizing about sacred values (Baron & Spranca, 1997; McGraw, Schwartz, & Tetlock, 2012; Tetlock et al., 2000), we propose that, rather than protecting values, people exposed to the instrumental use of a sacred value will subsequently hold the value itself as less sacred and, in turn, demonstrate less behavioral commitment to that value. Our theory draws on two predictions supported by previous research. First, we suggest that the instrumental use of a sacred value acts as a descriptive norm, which shifts perceptions of the value. Because sacred values are believed to be elevated above market considerations, the instrumental use of sacred values signals that the values are not held as sacred. Second, we draw on the latitudes of acceptance and rejection literature (e.g., Eagly & Telaak, 1972; Peterson & Koulack, 1969) to suggest why instrumental use may lead values to be corrupted (become less sacred) rather than protected (become more sacred). We argue that because instrumental use promotes rather than threatens values, instances of instrumental use do not trigger protective reactions but instead reduce the perceived sacredness of values by shifting descriptive norms.

### Sacred Value Corruption

Typically, a sacred value is thought to have intrinsic worth, meant to be pursued as an end unto itself, and elevated above market considerations (Bell, 1976; Durkheim, 1912/1995; Calabresi & Bobbitt, 1978; Zelizer, 2005). Observing sacred values used toward self-interest may, however, change observers’ understanding of the descriptive norms related to the value—the norms that describe what is typical for treatment of the value (Cialdini, Reno, & Kallgren, 1990; Cialdini & Trost, 1998). A large body of research has demonstrated that descriptive norms have a powerful influence on beliefs and behavior (see Miller & Prentice, 2016 for review). For example, merely observing an act of littering or cheating can increase these

behaviors in observers (Cialdini et al., 1990; Gino, Ayal, & Ariely, 2013).

Descriptive norms can even shape internalized beliefs, including values. For instance, research on intergroup conflict has found that changing perceived consensus about views of a group (e.g., African Americans) is enough to change private attitudes and values regarding treatment of that group (e.g., Crandall, Eshleman, & O’Brien, 2002; Monteith, Deneen, & Tooman, 1996; Stangor, Sechrist, & Jost, 2001). Likewise, Pryor and colleagues (2019) found that norms influenced moral decision-making (e.g., participants’ willingness to report a crime) even when participants understood that those norms were arbitrary.

People use three main sources of information when forming their perceptions of norms—individual behavior, summary information about a group (i.e., perceived consensus), and institutional signals, including the behavior of large organizations (Paluck, 2009; Tankard & Paluck, 2015). Observing individuals or organizations using sacred values for self-interested reasons may therefore alter descriptive norms, by indicating that these values are not widely held as above market aims. In the current research, we therefore predicted that observing the instrumental use of sacred values would result in a decrease of the values’ sacredness, reducing the degree to which people hold the values as sacred and decreasing their behavioral commitment to the values.

### Sacred Value Protection Versus Corruption

At first glance, it may appear that our argument is at odds with existing research on sacred values. According to Tetlock’s (2002, 2003) sacred-value-protection model, people strive to protect their values when those values are threatened. For example, people consider it taboo to put a price on saving an endangered species or to justify racial profiling on the basis of cost-benefit analyses. In one illustrative study, Tetlock et al. (2000) exposed participants to either a “taboo tradeoff,” in which a hospital administrator must decide between saving the life of a young boy who needs an organ transplant or saving the hospital \$500,000 for other organizational purposes, or a “tragic tradeoff,” in which the administrator must decide which of two boys to save. Participants exposed to the taboo tradeoff demonstrated more moral outrage and a greater desire to punish the administrator, than did those exposed to the tragic tradeoff. Exposure to taboo tradeoffs has also been found to feel morally contaminating, leading observers to want to behave in ways that reaffirm their values, such as donating time or money to causes relevant to the value. In Tetlock et al.’s study, for example, participants exposed to the taboo tradeoff reported being more likely to volunteer for a campaign that would increase organ donations (see also McGraw et al., 2012; McGraw & Tetlock, 2005). Taken together, this line of work suggests that people seek to protect sacred values under threat.

We argue that our central prediction is entirely compatible with these findings. Although people may react to the threat of explicitly trading off a sacred value by engaging in acts that reaffirm that value, we argue that the mere instrumental use of a sacred value may not represent a clear threat to the value, thus inhibiting value protective responses. This is because the scenarios used in existing research supporting the sacred-value-protection model tend to involve both instrumentality and the active harm of the value. For example, when the hospital administrator lets the child die to save

the hospital \$500,000, there is a clear violation of the sanctity of human life in exchange for monetary benefit (Tetlock et al., 2000). Yet, many situations in which a sacred value is used for instrumental gain do not involve trading off or sacrificing the value. Returning to the hospital example, instrumental use might instead involve espousing the hospital's success in saving the lives of children—and the importance of doing so—to increase the profitability of the hospital. Instrumental use is therefore a qualitatively distinct phenomenon in which a sacred value is promoted rather than directly threatened.

Research on latitudes of acceptance and rejection suggests why instrumental use may not elicit value protective responses. Given a range of possible positions about a given subject, a latitude of acceptance comprises the range of positions that a person would accept, even if they deviate from their initial position. Persuasive messages that fall within the latitude of acceptance tend to trigger attitude change (Atkins, Deaux, & Bieri, 1967; Eagly & Tetaak, 1972; Fazio, Zanna, & Cooper, 1977; Sherif, Sherif, & Nebergall, 1965). By contrast, a latitude of rejection comprises a range of positions that an individual would reject, and persuasive messages that fall within this range often trigger defensive change away from the message. Taboo tradeoffs are interpreted as clear moral violations that fall into perceivers' latitudes of rejection. Taboo tradeoffs do not shift perceivers' beliefs to interpret these situations as normatively appropriate, and instead elicit reactance, high levels of moral outrage, and a desire to protect the value. Tetlock et al. (2000) echoed this point by suggesting that strong value protective responses are most likely to emerge when the "observed normative violation is so egregious (as ours usually were) that it severely undercuts the moral order" (p. 869). Indeed, moral outrage is an important motivator of action designed to redress undesirable situations and enhance commitment to moral or sacred values (e.g., Lerner, 1980; Wakslak, Jost, Tyler, & Chen, 2007; Wisneski & Skitka, 2017).

By contrast, we suggest that instrumental use does not involve a clear violation of the value, and thus ironically creates greater change in perceived sacredness by falling into people's latitudes of acceptance. Whereas a company letting an oil spill continue in order to earn a profit is a clear violation of and threat to the value of environmentalism, a company's attempt to benefit from promoting environmentalism may not seem inherently wrong as it ostensibly supports the value by bringing attention to and promoting the issue. However, this practice might suggest to observers that environmentalism has entered the domain of markets and self-interest. We therefore also predicted that, compared with taboo tradeoffs, the instrumental use of sacred values will not induce strong moral outrage and value protective responses but will instead prompt the opposite response—the corruption of sacred values. Specifically, we predict that the instrumental use of sacred values will result in a decrease in perceptions of sacredness, as well as reduced behavioral commitment to the value.

## Overview of Studies

In the current research, we present seven studies designed to test the value corruption hypothesis. Studies 1 and 2 experimentally tested whether the instrumental use of a sacred value decreases the sacredness of that value, using both fictional (Study 1) and real (Study 2) campaigns. Studies 3 and 4 aimed to document the

behavioral implications of this effect by examining whether witnessing the instrumental use of sacred values reduces donation to value-relevant causes. Study 3 was designed to explore the underlying mechanism by testing whether stronger (vs. weaker) descriptive norms toward instrumental use exacerbate the effect. Next, our theory uniquely predicts that the value corruption effect should only occur when observers do not view the action as clearly threatening or undermining the value. Studies 4 and 5 tested this boundary condition. Finally, Studies 6 and 7 enhance ecological validity by examining the consequences of two real-world cases of instrumental use. Study 6 tested whether corporate sponsorship of a social movement connected to sacred values changed the perceived sacredness of the movement. Study 7 examined whether natural variation in awareness of paid patriotism shaped the perceived sacredness of patriotism among American participants.

Taken together, the current research contributes to our understanding of how instrumentality can shape values and how the meaning of values can change over time, shedding light on the potential consequences of the introduction of market norms into previously untouched spheres of life. Determining which values are held as sacred or not by a given group or culture is of great importance, given that perceived sacredness predicts willingness to act on those values (in the absence of external incentives), a stated unwillingness to compromise those values, and aggressive responses to conflict involving those values (see Atran, 2010 for review).

We have reported all measures and conditions for all studies in this article as well as any data exclusions. As the first set of studies to causally manipulate instrumental use and measure judgments of sacred values, we had no data available to conduct a priori power calculations; therefore, we aimed to have at least 50 participants per cell in each study, which power analyses revealed would be sufficient to detect a medium-sized effect ( $d = 0.5$ ). For studies conducted later, we took a more conservative approach and went beyond these recommendations, averaging 133 per cell across our experimental studies. For studies with similar designs, we did not allow participants who had taken a previous study to participate. For all studies, the sample size was determined in advance and data collection was terminated before analyzing the results. We note that, in an effort to aid in the transparency and replicability of this work we have made all study materials and all available data accessible online via Open Science Framework (OSF).<sup>2</sup> In addition, we preregistered our most recent studies (Study 1 replication, and Studies 2, 5, and 7). We conducted the other studies before preregistration was considered a best practice within science.

## Pretest

We first conducted a pretest to ensure that the values we examined were viewed by participants (on aggregate) as being sacred. We note that, consistent with existing work, we use the labels of "sacred" and "secular" or "non-sacred" values throughout the paper for clarity, but nonetheless assume that the underlying construct of value sacredness is continuous. That is, within values categorically described as sacred (e.g., those values for which people would opt-out of a tradeoff) or not, values can still be more or less sacred (e.g., evoking greater or lesser reverence or devo-

<sup>2</sup> Our OSF page is available via [https://osf.io/mfpzx/?view\\_only=4df1d286d00443bd92431cb4d7cfbe00](https://osf.io/mfpzx/?view_only=4df1d286d00443bd92431cb4d7cfbe00).

tion). This point is evident in the case of tragic tradeoffs, in which two sacred values are pitted against each other, such as honor versus life (Tetlock, 2003; Tetlock, Mellers, & Scoblic, 2017). Though both values may be associated with a stated uncompromisability, ultimately one is prioritized in these tradeoffs, and the other is compromised.

Though we assume the underlying construct of sacredness is continuous, there are two broad approaches to measuring value sacredness in the literature. The first is categorical, in which participants select a response option that captures uncompromisability (often “This [behavior or practice] should never be allowed, no matter the benefits or costs”) or choose to opt-out of a financial transaction involving the value (e.g., Baron & Spranca, 1997; Graham & Haidt, 2012; Scott, Inbar, & Rozin, 2016). The second approach is continuous, in which participants respond to Likert scale items capturing the conceptual features of sacred values (e.g., “I believe that [value] should not be compromised, no matter the benefits”; e.g., Hanselmann & Tanner, 2008). Consistent with Tetlock et al.’s (2000) theorizing, we made the a priori decision to treat values as sacred in this research if the relevant sample, on aggregate, categorized the value as sacred. We therefore used the categorical approach in the pretest.

For the pretest, 100 American participants were recruited on Amazon’s Mechanical Turk. Six were removed for not completing the study, and the analyses were conducted on the remaining 94 ( $M_{\text{age}} = 34.60$ ,  $SD_{\text{age}} = 11.30$ ; 36.2% female). After an extensive review of the empirical papers in the sacred (and protected) values literature, we pretested a range of values treated as sacred (and secular) in prior research (Berns et al., 2012; Graham & Haidt, 2012; Hanselmann & Tanner, 2008; Ritov & Baron, 1999; Tetlock et al., 2000). To do so, we used a paradigm established by Berns and colleagues (2012) in which participants respond to monetary tradeoffs involving sacred values. Specifically, participants indicated their position (agree or disagree) on a value-relevant issue (e.g., “People of all races should be treated equally,” “I am proud to be an American”). Participants were then asked how much money it would take to change their position on the issue. Critically, participants had the option to “opt-out” if they would never change their position for any amount of money. Consistent with existing research (Berns et al., 2012; Graham & Haidt, 2012), participants were considered to hold the value as sacred if they chose the opt-out option, and we considered a value sacred if the modal decision was to opt-out of the transaction. In total, participants completed 16 questions covering a wide range of values.

The results revealed substantial variance in the degree to which values were held as sacred. The values of environmentalism, patriotism, religion, equality, human health and well-being, and human life were held as sacred by participants, with the modal bid being to opt-out of the transaction. These values have also been found to be held as sacred in studies using the same bidding paradigm (Berns et al., 2012; Graham & Haidt, 2012), as well as studies inferring sacredness by examining people’s resistance to taboo trade-offs (Baron & Spranca, 1997; Ritov & Baron, 1999; Tetlock et al., 2000). In order of descending bid prices, loyalty, conflict resolution, honesty, political orientation, maintaining rules, creativity/innovation, economic development, and taste and product preferences were not found to be held as sacred based on our empirical criteria, with median bid prices ranging from \$50,000 to \$500.

## Study 1

In Study 1, we provided an initial test of the value corruption effect. Specifically, we examined whether instrumental use of a sacred value (patriotism) would decrease the sacredness of the value as compared with a value-consistent use or a neutral control condition. The results of this initial test are available in our online supplemental materials (OSM) on OSF. Although the results of this first study were supportive of our predictions, to build confidence in our effect, we then conducted a preregistered replication study with a larger sample size (see <http://aspredicted.org/blind.php?x=2233fw> for our preregistration document) and present the results of this study below.

## Method

**Participants.** In this study, we aimed to collect 300 participants on MTurk. After excluding the participants who did not complete the dependent measure and the attention check, we conducted our analyses on the remaining 269 participants.<sup>3</sup> A power analysis (using G\*Power 3.1) indicated that this gave us at least 95% power to detect a medium effect (see SOM via OSF).

**Procedure.** Participants were randomly assigned to one of three conditions. In the instrumental use condition, participants read about an organization that used the American flag in a recent campaign because its analyses indicated that it would be a profitable approach. In other words, the organization used patriotism to serve its self-interest. In the value-consistent use condition, participants likewise read about an organization that used the American flag in a recent campaign, but the primary aim was to promote national pride. Thus, in both the instrumental use and value-consistent use conditions, a national symbol was used though the use was driven by different motives. Participants in the control condition read neutral text describing the American flag and proceeded to the measures.

In all conditions, participants then completed neutral filler items (e.g., “I prefer practical jokes to verbal humor”) to mask the hypotheses. Participants then completed the dependent measure, which was a measure of value sacredness adapted from Hanselmann and Tanner (2008). They then completed a manipulation check regarding the intent of the organization (in the instrumental use and value-consistent use conditions only) and provided their demographic information. Finally, participants completed open-ended questions examining awareness of the hypotheses (“What do you think the researchers are testing in this study?” and “Is there anything else you’d like to tell us?”) and were debriefed. No participants indicated awareness of our specific research hypotheses.

### Measures.

**Manipulation check.** Participants in the instrumental use and value-consistent use conditions indicated their agreement or disagreement with the statement “The organization launched the campaign to increase profits” on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

<sup>3</sup> We note that, unexpectedly, 17 participants in the value-consistent condition expressed suspicion about the organization’s motives (e.g., saying that the organization allegedly wants to increase civic pride, but it is actually about profit). We run these analyses both with and without these participants included and find similar results.

**Sacredness.** For the key dependent measure, participants then completed a Sacredness Scale, adapted from Hanselmann and Tanner (2008). The items were designed to capture the conceptual feature of uncompromisability, wherein sacred values are operationalized in terms of their perceived non-negotiability, tradeoff resistance, and expressed absolute commitment. Participants indicated their level of agreement or disagreement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) with five statements assessing how sacred national symbols were perceived to be (e.g., “I believe that the flag and other national symbols should never be sacrificed, no matter what the benefits; See Appendix for all items”). Conducting an exploratory factor analysis using principal axis factoring revealed that these items loaded onto one factor with an eigenvalue of 3.13 (factor loadings  $> .60$ ), explaining 69.21% of the variance. The mean interitem correlation for the scale was 0.61, within the range recommended by Clark and Watson (1995), and the items demonstrated good internal consistency ( $\alpha = .89$ ). All items and factor loadings are available in the Appendix (Table A1). We averaged across items to create a single measure of value sacredness.

## Results and Discussion

**Manipulation check.** Participants in the instrumental use condition were significantly more likely to report that the campaign was intended to yield a profit ( $M = 6.34$ ,  $SD = 1.02$ ) than were those in the value-consistent use condition ( $M = 4.00$ ,  $SD = 1.40$ ),  $t(165) = 12.46$ ,  $p < .001$ ,  $d = 1.92$ , indicating that our manipulation was successful.

**Sacredness.** A one-way analysis of variance (ANOVA) revealed a significant effect of condition on perceived sacredness,  $F(2, 266) = 4.99$ ,  $p = .007$ , partial- $\eta^2 = .036$ . As predicted, participants in the instrumental use condition reported holding patriotism significantly less sacred ( $M = 3.68$ ,  $SD = 1.54$ ) than did those in the value-consistent use condition ( $M = 4.29$ ,  $SD = 1.36$ ),  $t(165) = 2.64$ ,  $p = .022$ ,  $d = 0.41$ , and the control condition ( $M = 4.29$ ,  $SD = 1.53$ ),  $t(187) = 2.81$ ,  $p = .015$ ,  $d = 0.41$ . Participants in the value-consistent use and control conditions did not significantly differ,  $t(180) = .02$ ,  $p = 1.00$ ,  $d = 0.003$ . Analyses at the item level (for all studies) are available in the SOM (p. 35).

We also conducted exploratory analyses examining potential interactions between condition (where 1 = instrumental use and 0 = value-consistent use/control) and political orientation. The results revealed a significant main effect of condition,  $b = -1.16$ ,  $p = .013$ , and of political orientation,  $b = 0.56$ ,  $p < .001$ , such that more conservative participants held patriotism as more sacred, and no significant interaction,  $b = .23$ ,  $p = .163$ . This result is consistent with the remaining studies, and therefore is not discussed further (though supplemental analyses examining moderation by political orientation are available in the SOM).

The results of Study 1 revealed that viewing the instrumental use of a sacred value led participants to subsequently hold that value as less sacred compared with viewing the value used in a value-consistent manner or simply reading about neutral information.

## Study 2

Study 2 had several aims. First, in Study 1, the organization’s instrumental versus value-consistent motives were made explicit to

participants. This approach facilitated internal validity and was consistent with prior manipulations of self-interest motives (e.g., Lin-Healy & Small, 2013; Newman & Cain, 2014). However, in Study 2 we sought to test whether the effect found in Study 1 would generalize to situations in which instrumentality is inferred rather than communicated to participants. Second, Study 2 was designed to enhance external validity by using real campaigns. Specifically, we used real Earth Day messages sent by organizations. Earth Day is an annual event celebrated on April 22nd to demonstrate support for environmental protection. Earth Day began as a grassroots attempt to raise awareness, yet for-profit organizations have become increasingly involved in Earth Day campaigns (Verhovek, 2000). To test the value corruption prediction, participants viewed real Earth Day campaigns that were pretested to vary in whether perceivers viewed these messages as more instrumental versus more value-consistent (or no campaign in the baseline control condition), and then completed the sacredness measure, a manipulation check, and demographic measures.

## Method

**Participants.** We recruited 600 American participants through Amazon’s Mechanical Turk. We preregistered the study design and analysis plan (<https://aspredicted.org/blind.php?x=gj3i74>). As per our preregistered criteria, we excluded participants who appeared to be “bot-based/farmer” responders as indicated by unusual or nonsensical responses to the open-ended question (e.g., just replying “good,” or “nice” as suggested by Chmielewski and Kucker, 2019), leaving us with a total of 543 eligible participants ( $M_{\text{age}} = 37.00$ ,  $SD_{\text{age}} = 10.70$ ; 45% female). A power analysis (using G\*Power 3.1) indicated that this gave us at least 99% power to detect a medium effect.

**Procedure.** Participants were invited to participate in a study ostensibly designed to assess their beliefs and attitudes. Participants were randomly assigned to one of three conditions: instrumental use versus value-consistent use versus baseline control. In the instrumental and value-consistent use conditions, participants were first asked to evaluate Earth Day campaigns. Participants in the instrumental use condition viewed a real campaign pretested<sup>4</sup> to be high on perceived instrumentality (a “Happy Earth Day” tweet from John Deere), while participants in the value-consistent use condition viewed a campaign pretested to be low on perceived instrumentality (a tweet from Conservation International also reading “Happy Earth Day”; see SOM). Control participants did not view a campaign.

After viewing the campaign, participants completed filler items about the aesthetics of the campaign (e.g., “The image was engaging”). Participants then completed a modified version of the Sa-

<sup>4</sup> To identify real Earth Day campaigns associated with instrumentality, we scrapped all tweets from verified accounts the prior year containing #EarthDay. Two research assistants then ensured that the dataset contained only tweets coming from organizations (both for-profit and not-for-profit). A subsample of remaining tweets were presented to 294 participants who rated a series of Earth Day campaigns (tweets) on the extent to which they were associated an intention to “primarily increase profits” on a 7-point scale. The campaign selected as instrumental was associated with significantly higher intentions to pursue profits ( $M = 5.22$ ,  $SD = 0.83$ ) than was the campaign selected as the value-consistent campaign ( $M = 2.89$ ,  $SD = 1.45$ ), paired  $t = 4.22$ ,  $p = .003$ . These campaigns did not significantly differ in terms of engagement, ease of reading, and aesthetic appeal,  $ps > .289$ .

credness Scale and the manipulation check. Participants also provided their demographic information, Earth Day participation (“How involved have you been in Earth Day activities?”), and political orientation on a scale from 1 (*extremely liberal*) to 5 (*extremely conservative*).

#### Measures.

**Manipulation check.** Participants indicated their agreement or disagreement with the statement “The organization sent this message because they thought it would be profitable to do so” on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Sacredness.** Participants completed a modified version of the Sacredness Scale used in Study 1. Specifically, we eliminated two items from the scale used in Study 1 and added six total items to better capture both uncompromisability and purity perceptions. First, we removed one item that may be less aligned with the conceptual features of sacred values (i.e., “I feel committed to . . .”) and one that involved a word that was not as accessible to all participants (i.e., inviolable), as indicated by open-ended responses from some participants in previous studies. In addition, we adapted two items from Hanselmann and Tanner (2008), which were designed to further tap the uncompromisability feature of sacred values, one item to capture reverence of sacred values (Murray-Swank, Pargament, & Mahoney, 2005), and three items adapted from Chakroff, Dungan, and Young (2013) to capture perceptions of purity: “pure,” “tainted” (reverse-coded), and “clean.” These last three items draw on models of moral psychology which suggest that purity is an inherent element of sacred entities, and the derogation of sacred entities is associated with contamination or impurity (Graham & Haidt, 2012; Shweder, Much, Mahapatra, & Park, 1997).

Considering the potential for multiple factors to emerge, we conducted an exploratory factor analysis on this nine-item scale with direct oblimin rotation,<sup>5</sup> which revealed a two-factor solution. The eigenvalues for the first factor was 4.35 (factor loadings > .70), and 1.31 for the second (factor loadings > .67). All items and factor loadings are available in the Appendix. Five items loaded onto the first factor (henceforth the uncompromisability factor) and the three purity items loaded onto a second (purity) factor. Given this factor structure results and the concern that the purity items (e.g., “tainted”) may capture participants’ perceptions that a violation has occurred rather than a change in the sacredness of the value,<sup>6</sup> we have moved the results of the purity subscale to our SOM (pp. 33–34). Further discussion of this decision and the results of a confirmatory factor analysis supporting this two-factor solution are also available (SOM, pp. 6–7). The remaining six items demonstrated good internal consistency ( $\alpha = .84$ ) and were averaged to form our measure of sacredness.

## Results and Discussion

**Manipulation check.** Examining the manipulation check, participants in the instrumental use condition thought that the campaign was motivated by profit ( $M = 5.17$ ,  $SD = 1.61$ ) significantly more so than did participants in the value-consistent use condition ( $M = 3.97$ ,  $SD = 1.80$ ),  $t(350) = 6.63$ ,  $p < .001$ ,  $d = 0.71$ , thus supporting the validity of our manipulation.

**Sacredness.** Examining the dependent measure, an ANOVA revealed a significant effect of condition on sacredness,  $F(2, 540) = 7.52$ ,  $p = .001$ ,  $\eta^2 = .027$ . Participants in the instrumental

use condition rated environmentalism as significantly less sacred ( $M = 4.40$ ,  $SD = 1.30$ ) than did those in the value-consistent use ( $M = 4.83$ ,  $SD = 1.12$ ),  $t(350) = 3.37$ ,  $p = .002$ ,  $d = 0.36$ , and baseline control conditions ( $M = 4.83$ ,  $SD = 1.20$ ),  $t(366) = 3.38$ ,  $p = .002$ ,  $d = 0.35$ . The value-consistent and baseline control conditions did not significantly differ from each other ( $p = .998$ ).

Consistent with Study 1, Study 2 found support for the value corruption hypothesis: Participants who observed a real Earth Day campaign pretested to score high on instrumentality subsequently viewed environmentalism as less sacred compared with participants who viewed an Earth Day message rated low on instrumentality or participants who observed no message.

## Study 3

In Study 3, we examined the role of descriptive norms supporting instrumental use in shaping the value corruption effect. To do so, we manipulated the prevalence of instrumental (vs. value-consistent) use, as perceptions of the prevalence of a given behavior is commonly referred to as the descriptive norm governing a behavior (Cialdini, Kallgren, & Reno, 1991; Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). To the extent that instrumental use is affecting perceptions of value sacredness by shaping descriptive norms for the appropriate use of these values, stronger descriptive norms (i.e., a higher prevalence of instrumental use) should exacerbate the effect.

Second, we assessed an important behavioral outcome: participants’ willingness to donate to value-relevant (vs. nonrelevant) charities (Stikvoort, Lindahl, & Daw, 2016; Tetlock et al., 2000). If the corruption effect is specific to the value used instrumentally, participants’ general willingness to support values-driven causes will not be affected; rather, participants will be less willing to donate to causes relevant to the corrupted value.

## Method

**Participants.** We recruited 400 participants via Turk Prime. An additional four participants started the study but did not complete it. After removing participants who did not respond to the prompt, participants were 394 American adults ( $M_{\text{age}} = 37.47$  years; 52% female).

A power analysis using Superpower (Lakens & Caldwell, 2019) revealed that we had 85% power to detect a medium-sized two-way interaction.

**Procedure.** Participants were randomly assigned to one of four conditions in a 2 (motive: instrumental vs. value-consistent)  $\times$  2 (prevalence: high vs. low) between-subjects design. Participants read about a meeting at which a CEO and board of directors discussed whether to launch a “green” campaign. During the meeting, a board member summarized a report assessing the primary motives behind other organizations’ decisions to launch proenvironmental campaigns. The potential response options

<sup>5</sup> Given that uncompromisability and purity might capture unique (but related) facets of sacredness, we would expect that they might correlate, even if they emerged as multiple factors. We therefore used direct oblimin rotation to account for possible intercorrelations, but we note that we find similar results if promax or varimax rotations are used.

<sup>6</sup> We thank an anonymous reviewer for pointing out this issue.

ranged from highly value-consistent to highly instrumental: sustainability (it is critically important to support the environment), reduces waste (sustainability programs cut down on waste in the organization), improved workforce (sustainable workplaces are better for employees), public relations (these campaigns will attract like-minded employees), and profit (it helps the bottom line).

For the motive manipulation, participants were presented with information that either focused on how many organizations selected either the highly instrumental (profit) or the highly value-consistent option (sustainability) as their primary motivation for launching proenvironmental campaigns (see SOM, p. 8). For the prevalence manipulation, either 90% (high prevalence) or 10% (low prevalence) selected the focal option. That is, in the instrumental use, high prevalence condition, participants viewed a pie chart demonstrating that 90% of similar organizations had selected profit as their primary reason for launching the eco-friendly campaign. In the instrumental use, low prevalence condition, 10% of similar organizations indicated that they selected profit as their primary reason. In the value-consistent use, high prevalence condition, 90% of similar organizations indicated that they selected sustainability as their primary reason for launching the eco-friendly campaign. In the value-consistent use, low prevalence condition, 10% of similar organizations indicated that they selected sustainability as their primary reason. We note that because the organizations could have selected among a range of motivations (e.g., improved workforce, public relations) rather than just selecting between profit and sustainability, the instrumental and value-consistent use conditions were not identical.

For the dependent measures, participants completed the Sacredness Scale as in Study 2. Participants then completed the manipulation checks and demographic measures. To assess donation behavior, participants were told that they had been provided with an additional \$0.25, which they could either keep or donate part or all of to a charity. Participants then indicated their desired donation amount (from \$0 to \$0.25), and were provided with a choice of three charities that captured different sacred values: Wildlife Conservation International (environmental protection), Get Fit Foundation (human health/well-being), and Teaching Tolerance (diversity; see SOM, p. 14). As a manipulation check, participants selected whether the proenvironmental campaigns were launched primarily because of profit (instrumental use), sustainability (value-consistent use), or another motive.

## Results and Discussion

**Manipulation check.** Collapsing across prevalence condition, significantly more participants in the instrumental use condition (92%) reported that the environmental campaign was used to increase profit compared with the value-consistent use condition (4%),  $\chi^2 = 276.85$ ,  $p < .001$ . Thus, the validity of our manipulation was supported.

**Sacredness.** A two-way ANOVA revealed a significant main effect of motive condition,  $F(1, 390) = 21.37$ ,  $p < .001$ ,  $\eta^2 = .052$ , a marginal effect of prevalence condition,  $F(1, 390) = 3.62$ ,  $p = .058$ ,  $\eta^2 = .009$ , and an interaction between motive (instrumental use vs. value-consistent use) and prevalence (high vs. low) conditions in predicting the perceived sacredness of environmentalism,  $F(1, 390) = 4.51$ ,  $p = .034$ ,  $\eta^2 = .011$ , (see Figure 1). Parsing this apart, in the high prevalence condition, participants who read about instrumental

use rated environmentalism as significantly less sacred ( $M = 3.95$ ,  $SD = 1.24$ ) than did those in the value-consistent use condition ( $M = 4.70$ ,  $SD = 0.96$ ),  $t(201) = -4.81$ ,  $p < .001$ ,  $d = 0.68$ . In the low prevalence condition, participants who read about instrumental use rated environmentalism as marginally less sacred ( $M = 4.40$ ,  $SD = 1.10$ ) than did those in the value-consistent use condition ( $M = 4.68$ ,  $SD = 1.10$ ),  $t(189) = -1.76$ ,  $p = .081$ ,  $d = 0.25$ .

**Donations.** Because the data were right skewed and contained many zeroes, we analyzed whether condition predicted whether or not participants donated to the environmental cause as a dichotomous variable (where 1 = donation made to the environmental cause; 0 = no donations, or donation made to the other two causes).<sup>7</sup> In exploring whether or not participants donated to the environmental cause, there was no main effect of motive condition,  $b = 0.18$ ,  $\chi^2(1, N = 394) = 0.31$ ,  $p = .579$ , no effect of prevalence condition,  $b = 0.18$ ,  $\chi^2(1, N = 394) = 0.31$ ,  $p = .579$ , and a marginal interaction between motive and prevalence conditions,  $b = -0.84$ ,  $\chi^2(1, N = 394) = 3.37$ ,  $p = .066$  (see Figure 2). Within the high prevalence condition, whereas only 20.19% of participants donated to the environmental cause in the instrumental use condition, 31.63% of participants in the value-consistent use condition donated,  $\chi^2(1, N = 202) = 3.46$ ,  $p = .063$ . Within the low prevalence condition, motive condition did not predict whether or not participants donated to the environmental cause,  $\chi^2(1, N = 191) = 0.31$ ,  $p = .579$ , with 31.63% and 27.96% donating in the instrumental and value-consistent use conditions, respectively. The results are similar when using the continuous donation measure as the dependent variable (as described in Footnote 7).

We also examined whether condition affected general donating behavior (where 1 = donations made to the two nonfocal charities and 0 = no donations, or donation made to the focal charity). We observed no effects of the experimental conditions on general donating behavior,  $b_{\text{value-use}} = 0.17$ ,  $p = .727$ ;  $b_{\text{prevalence}} = 0.60$ ,  $p = .178$ ;  $b_{\text{interaction}} = 0.03$ ,  $p = .956$ .

Taken together, the results of Study 3 generally support the role of descriptive norms in shaping the relationship between instrumental use and the reduced sacredness of values. The effect of instrumental use on reduced value sacredness and willingness to donate was exacerbated when more organizations were using the sacred value primarily to increase profit, that is, when there was a stronger descriptive norm toward instrumental use. Although the effects of instrumental use was only significant in the high prevalence condition, the interaction between prevalence and motive conditions was nonsignificant for donations, and thus we suggest exercising caution in interpreting this finding. Future research replicating this study would be fruitful. Finally, the fact that

<sup>7</sup> We also ran an additional analysis to also examine the donation results as a continuous variable without transformations. A two-way ANOVA revealed a marginal interaction between motive (instrumental use vs. value-consistent use) and prevalence (high vs. low) conditions in predicting donations to the environmental cause,  $F(1, 389) = 2.92$ ,  $p = .088$ ,  $\eta^2 = .007$ , no effect of motive condition,  $F(1, 389) = 2.08$ ,  $p = .150$ ,  $\eta^2 = .005$ , and no effect of prevalence condition,  $F(1, 389) = .04$ ,  $p = .849$ ,  $\eta^2 = .000$ . In the high prevalence condition, participants who read about instrumental use donated less to the environmental cause ( $M = \$0.04$ ,  $SD = 0.08$ ) than did those in the value-consistent use condition ( $M = \$0.07$ ,  $SD = 0.10$ ),  $t(200) = -2.26$ ,  $p = .025$ ,  $d = 0.28$ . No significant differences emerged in the low prevalence condition,  $p = .853$ .

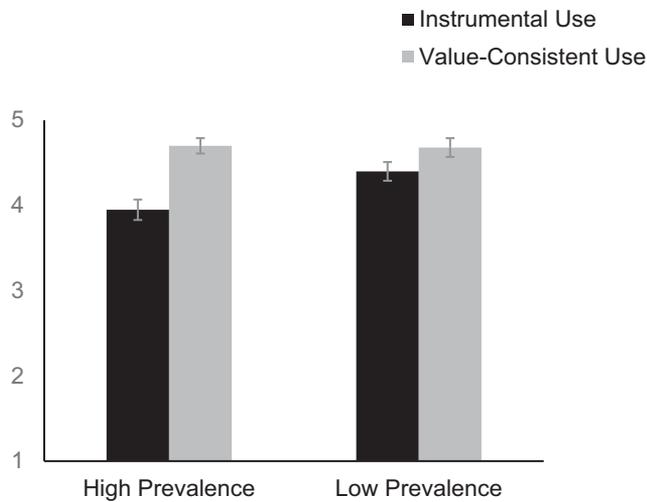


Figure 1. The perceived sacredness of environmentalism by condition in Study 3 ( $\pm$  SE;  $N = 394$ ).

exposure to instrumental use did not affect willingness to donate to causes other than environmentalism suggests that instrumental use does not inhibit willingness to act on prosocial values in general, but more specifically, affects the sacred value tied to instrumental use.

## Study 4

### Method

The main goal of Study 4 was to reconcile the current effect with prior research on taboo tradeoffs and value protection effects (e.g., Ginges et al., 2007; Tetlock et al., 2000). At first glance, our results may appear inconsistent with previously documented value protection effects. For example, Tetlock and colleagues (2000) found that people react to taboo tradeoffs with moral outrage and an increased commitment to the values—responses which serve to protect sacred values under threat. We have proposed that the current research captures a distinct phenomenon. Taboo tradeoffs actively threaten the value and therefore produce a value protective response. By contrast, instrumental use involves promoting rather than threatening the value, which we predict will not trigger value protective responses. Although instrumental use promotes the value, these practices nonetheless implicitly communicate to observers that the value is not held as sacred because the value is being used to facilitate profitability. Thus, we argue that instrumental use will ultimately have the opposite effect. Rather than triggering a value protective response, it will reduce the sacredness of the value. We test this prediction by randomly assigning participants to observe either an instrumental use, a value-consistent use, or a classic taboo tradeoff in a between-subjects design. Following the manipulation, participants indicated their feelings of moral outrage, perceived value sacredness, and their willingness to donate as in Study 3.

**Participants.** One hundred and fifty participants were recruited on Amazon's Mechanical Turk. An additional 12 participants enrolled. Eleven participants were then removed for spend-

ing less than 5s reading the vignette, leaving a total of 151 participants ( $M_{age} = 32.30$ ,  $SD_{age} = 9.62$ ; 45% female). A power analysis (G\*Power 3.1) revealed that we had 79% power to detect a medium-sized effect.

**Procedure.** Participants first read initial instructions indicating that they were participating in a study assessing their evaluations and recall of various communications. All participants then read a transcript between a CEO and a board of directors. In the instrumental-use condition participants read the following scenario:

The CEO of a company spoke to the company's board of directors and said, "We are thinking of starting a new prodiversity campaign."

The chairman of the board replied, "Good, diversity sells. Let's make as much profit off of this as we can."

In the value-consistent use condition, participants read a similar dialogue, but the chairman of the board instead replied, "Good, diversity matters. Let's increase our commitment to diversity as much as we can."

In the taboo tradeoff condition, we adapted a scenario from Hanselmann and Tanner (2008) to also pertain to a dialogue between a CEO and board of directors,

The CEO of a company spoke to the company's board of directors and said, "We have to decide whether to take action to reduce ongoing discrimination toward female and minority employees at the company OR use the money for other organizational purposes, such as increased marketing and research and development." They decide to not work to reduce discrimination at the company, and decide to instead keep the money for other organizational purposes.

Participants then completed the Sacredness Scale as in Studies 2 and 3, and a measure of moral outrage from Tetlock et al. (2000), which asked participants to indicate how disgusted, upset, saddened, outraged, angry, and offended they felt on a scale from 1 (*not at all*) to 7 (*very much so*;  $\alpha = .97$ ). Participants then completed the manipulation check (i.e., "What was the primary motive behind the leader's decision?"), and the demographic measures used in the previous studies.

Similar to Study 3, participants were told that they had been provided with an additional \$0.25, which they could either keep or

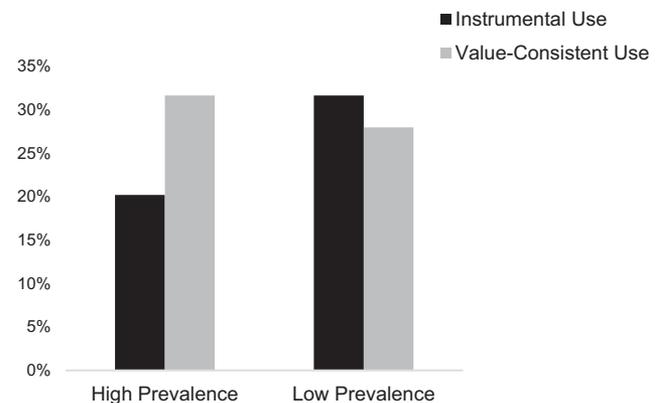


Figure 2. The percentage of participants donating to the environmental cause by condition in Study 2.

donate in part or all to a charity. Participants then indicated their desired donation amount (from \$0 to \$0.25) and were provided with three charities that they could select from, which captured different sacred values: The Sierra Club (environmental protection), Get Fit Foundation (health/well-being), and Teaching Tolerance (diversity).

## Results and Discussion

**Outrage.** There was a main effect of condition on outrage,  $F(2, 149) = 38.06, p < .001, \text{partial-}\eta^2 = .338$ . Critically, participants in the taboo tradeoff condition experienced significantly more outrage ( $M = 4.22, SD = 1.65$ ) than did participants in the instrumental use condition ( $M = 2.86, SD = 1.83$ ),  $t(99) = 4.37, p < .001, d = 0.87$ , or the value-consistent use condition ( $M = 1.44, SD = 1.09$ ),  $t(94) = 8.71, p < .001, d = 1.78$ . Participants in the instrumental use condition experienced significantly more outrage than did participants in the value-consistent use condition,  $t(105) = 4.68, p < .001, d = 0.90$ .

**Sacredness.** There was also a main effect of condition on sacredness judgments,  $F(2, 149) = 10.98, p < .001, \text{partial-}\eta^2 = .128$ . Participants in the instrumental use condition held diversity as significantly less sacred ( $M = 3.54, SD = 0.94$ ) than did participants in the value-consistent use condition ( $M = 4.07, SD = 1.05$ ),  $t(105) = -2.69, p = .008, d = 0.62$ , or the taboo tradeoff condition ( $M = 4.48, SD = 1.04$ ),  $t(99) = -4.64, p < .001, d = 1.05$ . Participants in the taboo tradeoff condition held diversity as more sacred than did participants in the value-consistent use condition,  $t(94) = 2.00, p = .048, d = 0.40$ .

**Donation behavior.** Because the donation data were again right-skewed and contained many zeroes, we again conducted a binary logistic regression in which we regressed donation (0 = did not donate or donated to the other two causes, 1 = donated to the diversity cause) onto two dummy coded variables (1 = instrumental use, 0 = value-consistent, 0 = taboo tradeoff and 0 = instrumental use, 0 = value-consistent, 1 = taboo tradeoff).<sup>8</sup> The results revealed the predicted effect of instrumental use condition,  $b = -0.20, \chi^2(1, N = 151) = -2.44, p = .016$ , such that participants in the instrumental use condition were significantly less likely to donate to the diversity cause than were those in the other two conditions. Although only 7.14% of participants in the instrumental-use condition donated to the diversity cause, 22.22% did so in the taboo tradeoff condition, and 18.00% did so in the value-consistent use condition. These results again held when examining the continuous donation measure (as described in Footnote 8). There was no effect of the taboo tradeoff condition on the tendency to donate to the diversity cause,  $b = 0.26, \chi^2(1, N = 151) = 0.26, p = .608$ .

Consistent with the results of Study 3, collapsing across the two nonfocal charities, there was no effect of the instrumental use condition,  $b = .09, \chi^2(1, N = 151) = .06, p = .800$ , or the taboo tradeoff condition,  $b = 0.07, \chi^2(1, N = 151) = 0.04, p = .851$ , in predicting the tendency to donate in general.

In sum, Study 4 again found support for the value corruption hypothesis. Further, Study 4 provided an initial reconciliation of the value corruption effect with previously demonstrated value protection effects. Compared with exposure to the instrumental use of diversity, exposure to a taboo tradeoff led to significantly more moral outrage, and no decrease in perceived sacredness or will-

ingness to donate to a value-relevant cause. Participants in the taboo tradeoff condition rated diversity as significantly more sacred compared to those exposed to a value-consistent diversity message. We note that though participants who saw diversity promoted for instrumental rather than value-consistent reasons had higher scores on the moral outrage scale, the mean in this condition was still below the scale midpoint and is best described as mild negative affect. People may experience discomfort when witnessing sacred values being used instrumentally, but this is distinct from the moral outrage experienced when exposed to a taboo tradeoff. This is a point to which we return in the General Discussion. As a point of caution, the power in this study fell slightly below 80%, and thus we ensured that the similar design employed in Study 5 was well-powered.

## Study 5

In Study 4, we demonstrated the unique effects of instrumental use and taboo tradeoffs on sacredness within a single study. The main goal of Study 5 was to more directly test our proposition for why value protection versus corruption effects might emerge. We have proposed that because instrumental use promotes rather than threatens the value (albeit in ways that implicitly violate its sacred status), instances of instrumental use do not trigger value protective reactions, but instead do the opposite and reduce value sacredness. If our process account is correct, then increasing the perceived threat to the value entailed in instrumental use should produce results similar to those observed in the value protection literature. To test this idea, we created two instrumental use conditions. In both conditions, the value is being used by an organization to facilitate profit (i.e., being used instrumentally). We orthogonally varied whether the behavior of the organization supports or threatens the value. In the instrumental support condition, the motive is self-interest, and the act supports the value. In the instrumental threat condition, the motive is self-interest, and the action threatens the value. We also included two comparison conditions: a value-consistent use condition, in which the motive is sustainability rather than self-interest, and a taboo tradeoff condition, as in Study 4. We predicted that observing the instrumental use of a sacred value would decrease the degree to which participants hold that value as sacred when that value is supported as compared to observing a value consistent use, a taboo tradeoff, or instrumental use when that value is threatened.

## Method

**Participants.** Eight hundred participants were recruited via MTurk Prime. We preregistered the study design and analysis plan (<https://aspredicted.org/blind.php?x=8yk3k8>). As per our preregistered criteria, we excluded participants who spent less than 5 s reading the vignette and/or who appeared to be “bot-based/farmer”

<sup>8</sup> We observed a significant effect of condition on continuous donations to the diversity cause,  $F(2, 148) = 3.32, p = .039, \text{partial-}\eta^2 = .043$ . Participants in the instrumental use condition donated significantly less ( $M = \$0.01, SD = 0.05$ ) than did participants in the taboo tradeoff condition ( $M = \$0.05, SD = 0.10$ ),  $t(99) = 2.50, p = .013$ , and marginally less than those in the value-consistent use condition ( $M = \$0.04, SD = 0.09$ ),  $t(104) = 1.70, p = .091$ . The value-consistent use and taboo tradeoff conditions did not significantly differ,  $t(93) = 0.84, p = .410$ .

responders as indicated by unusual or nonsensical responses to the open-ended question in which they were asked to describe the organization's decision and motivations (e.g., just replying "good," as suggested by Chmielewski and Kucker (2019)), leaving us with a total of 663 eligible participants ( $M_{\text{age}} = 37.62$ ,  $SD_{\text{age}} = 11.06$ ; 46% female). A power analysis (using G\*Power 3.1) indicated that this gave us at least 99% power to detect a medium effect.

**Procedure.** Participants first read initial instructions indicating that they were participating in a study assessing their evaluations and recall of various communications. All participants then read a transcript between a CEO and a board of directors, as in Study 4, but in the context of environmentalism. The two key conditions were the instrumental support and instrumental threat conditions. In both of these conditions, a company wanted to launch a "green" campaign to increase profits. In the instrumental threat condition, this green campaign was nonetheless associated with a line of products using cheaper plastic materials that would increase waste and environmental harm. The misalignment of stated values and actions highlighted a flimsy commitment to the value, which is viewed as value threatening (e.g., Krepes & Monin, 2011; Monin & Merritt, 2011). In the instrumental support condition, this campaign was associated with a new line of sustainable products that would decrease waste and environmental harm. As in Study 4, participants in the value-consistent use condition read a similar dialogue, but the green campaign was motivated by sustainability. In the taboo tradeoff condition, we again adapted a scenario from Hanselmann and Tanner (2008) in which the environment is sacrificed for the sake of profit (see SOM, p. 18 for full descriptions).

After reading the vignette, participants completed three items assessing the degree to which the organization's actions were perceived to support or undermine the value of environmentalism (e.g., "To what extent does this organization's actions violate the value of environmentalism?";  $\alpha = .81$ ), and the Sacredness Scale as in Studies 2–4. Participants also completed a motive manipulation check ("The organization made this decision primarily to boost profits").

## Results and Discussion

**Motive manipulation check.** There was a main effect of condition on perceived profit motivation,  $F(3, 643) = 154.46$ ,  $p < .001$ , partial- $\eta^2 = .419$ . Participants in the value-consistent use condition thought that the organization's decision was motivated by profit less ( $M = 3.32$ ,  $SD = 1.61$ ) than did those in the instrumental support condition ( $M = 6.20$ ,  $SD = 1.21$ ), the instru-

mental threat condition ( $M = 6.25$ ,  $SD = 1.54$ ), and the taboo tradeoff condition ( $M = 6.21$ ,  $SD = 1.60$ ),  $t_s > 17.10$ ,  $p_s < .001$ ,  $d_s > 1.92$ . The latter three conditions did not differ significantly from each other ( $p_s > .991$ ).

**Perceived threat to the value.** Table 1 presents the means, standard deviations, and the results of omnibus and pairwise tests. There was a significant main effect of condition on the perceived threat to the value. Participants in the instrumental threat condition thought that the organization's actions threatened the value of environmentalism significantly more than did those in the instrumental support condition. Participants in the taboo tradeoff condition thought the organization's actions threatened the value more than did participants in the other three conditions, and participants in the value-consistent use condition thought that the organization threatened the value less than did those in the other three conditions.

**Sacredness.** As shown in Table 1, there was also a main effect of condition on sacredness judgments. Participants in the instrumental support condition held environmentalism as significantly less sacred than did participants in the value-consistent use condition, the instrumental threat condition, and the taboo tradeoff condition. The value-consistent use, taboo tradeoff, and instrumental threat conditions did not differ significantly from each other.

Study 5 again found support for the value corruption hypothesis, finding that when an organization promoted environmentalism because of self-interest, the value was subsequently held as less sacred compared to when the organization promoted environmentalism because it cared primarily about being more sustainable. Study 5 also offered a more direct test of our proposed reconciliation between the value corruption effect and previously demonstrated value protection effects. When a threat to the value was introduced to instrumental use, a decrease in perceived sacredness was no longer observed, suggesting that the effects of instrumental use on sacredness are driven by the fact that the value is seemingly supported in these situations.

## Study 6

In Study 6, we examined a real-world example of instrumental use that would be highly relevant to our sample and extended our testing to the context of a social movement. Prior research has documented value protection effects in the context of "sacred movements" (e.g., Experiment 5 of Tetlock et al., 2000), and thus here we examine whether value corruption effects will similarly emerge in this context. During the time of data collection, a large midwestern university's football fanbase established a tradition

Table 1  
Means, Standard Deviations, and Statistical Tests in Study 5 ( $N = 663$ )

Measure	Condition				Omnibus $F$ test
	Instrumental support	Instrumental threat	Taboo tradeoff	Value-consistent use	
	$M$ ( $SD$ )				
Perceived threat	3.53 (1.25) <sub>a</sub>	6.03 (1.18) <sub>b</sub>	6.38 (1.02) <sub>c</sub>	2.79 (1.22) <sub>d</sub>	$F(3, 659) = 379.83$ , $p < .001$ , partial- $\eta^2 = .634$
Sacredness	4.49 (1.21) <sub>a</sub>	4.84 (1.15) <sub>b</sub>	5.12 (1.21) <sub>b</sub>	4.83 (1.18) <sub>b</sub>	$F(3, 659) = 7.55$ , $p < .001$ , partial- $\eta^2 = .033$

Note. Mean values with different subscript letters are significantly different from one another at  $p < .05$ .

called “The Wave.” The Wave involves the stadium waving to the children’s wing of the hospital during game breaks (the building behind the stadium). What began as a spontaneous or grassroots prosocial act among fans to support sick children was subsequently sponsored by the Atlantic Coca Cola Bottling Company (and entailed Coca Cola advertisements that preceded The Wave). We examined whether the instrumentality potentially inferred by this sponsorship may shape perceptions of the sacredness of the movement itself. Moreover, we examined whether the effects of observing instrumental use would persist after a larger temporal delay between the manipulation and the dependent measures than in the previous studies.

## Method

**Participants.** Participants were 279 undergraduate students at a Midwestern university ( $M_{\text{age}} = 19.37$  years; 48% female) who had signed up for a 30-min laboratory session that comprised a series of short, unrelated studies. We sought to collect 300 participants, but some participants did not show up to their appointments, and we ended data collection after the two weeks we had booked in the lab. A power analysis (using G\*Power 3.1) indicated that this final sample size gave us at least 99% power to detect a medium effect (see SOM).

**Procedure.** Study 6 used a single-factor (instrumental use vs. value-consistent use) between-subjects design. In the value-consistent use condition, participants watched a 1-min clip of The Wave with a brief explanation of its origin. In the instrumental use condition, participants watched the same 1-min clip. The key difference in this condition was that the clip began with an announcement of Coca Cola’s sponsorship of the wave. Both conditions used real footage. Participants then completed a series of unrelated studies, and then completed the Sacredness Scale as in Studies 2–5 with regard to their beliefs about the practice of The Wave (e.g., “The Wave involves principles that I would defend under any circumstances”).

As an exploratory measure, we also assessed how participants reacted to a hypothetical situation in which the hospital’s CEO decided to close the children’s wing because it was no longer profitable. An existing finding in the sacred values literature is that people who hold a given value as sacred are more likely to respond to taboo tradeoffs involving that value with moral outrage (e.g., Ginges et al., 2007). To the extent that the sacredness of the movement has decreased following instrumental use, it is possible that participants would experience less moral outrage about a violation directed toward the children’s hospital. To gauge participants’ responses to this situation, they completed the measure of moral outrage, indicating how disgusted, upset, saddened, outraged, and angry they felt on a scale from 1 (*not at all*) to 7 (*very much so*;  $\alpha = .92$ ). Participants also completed the three punishment items (e.g., “The CEO should be removed from this job”) from Tetlock et al. (2000) ( $\alpha = .78$ ). Finally, as a manipulation check, participants in the instrumental use condition also rated the extent to which Coca Cola sponsored the wave in order to profit on a scale from 1 (*strongly agree*) to 7 (*strongly disagree*). Only participants in this condition completed this item because the sponsorship did not appear in the value-consistent use condition.

## Results and Discussion

**Perceptions of motive.** Participants in the instrumental use condition indicated that the sponsorship was highly motivated by profit ( $M = 2.02$ ,  $SD = 1.14$ ), with the mean deviating significantly from the scale midpoint,  $t(138) = -20.48$ ,  $p < .001$ ,  $d = 1.74$ , which suggests that participants are indeed viewing corporate sponsorship as an instrumental use.

**Sacredness.** The results revealed a significant effect of condition on the perceived sacredness of The Wave, such that participants in the instrumental use condition thought this movement was significantly less sacred ( $M = 4.16$ ,  $SD = 0.82$ ) than did those in the value-consistent use condition ( $M = 4.44$ ,  $SD = 0.91$ ),  $t(277) = -2.68$ ,  $p = .008$ ,  $d = 0.32$ .

**Moral outrage.** There were no significant effects on moral outrage, such that participants in the instrumental use and value-consistent use conditions were similarly outraged by the closure of the children’s wing ( $M = 4.13$ ,  $SD = 1.50$ , and  $M = 4.22$ ,  $SD = 1.46$ , respectively),  $t(277) = -0.46$ ,  $p = .644$ ,  $d = 0.06$ , and desired punishing the CEO to similar degrees ( $M = 4.89$ ,  $SD = 1.20$ , and  $M = 4.82$ ,  $SD = 1.15$ , respectively),  $t(277) = 0.52$ ,  $p = .605$ ,  $d = 0.06$ . However, conducting bootstrapping analyses (Hayes, 2018) with 5,000 resamples, we found that there was a significant indirect effect of condition on moral outrage via reduced sacredness, 95% CI [-0.02, -.22], such that participants in the instrumental use condition subsequently held the practice as less sacred, which, in turn, decreased moral outrage in response to the closure. We found no indirect effect examining desire to punish as the outcome measure, 95% CI [-0.07, .04]. Unexpectedly, desire to punish was unrelated to perceptions of sacredness,  $r = .03$ ,  $p = .610$ . The relationships between these variables could be further explored in future studies.

In sum, Study 6 found support for the value corruption hypothesis: Participants who viewed a brief corporate sponsorship subsequently held the social movement as less sacred than did those who viewed no corporate sponsorship. Although condition did not directly affect moral outrage in response to a subsequent violation, we found preliminary evidence that when instrumental use leads people to view a value or practice as less sacred, they are less morally outraged by subsequent violations. Taken together, the results of Study 6 helpfully extend the current research to a novel and ecologically valid operationalization of instrumental use (corporate sponsorship) and to the context of a sacred values-relevant social movement.

## Study 7

The goal of Study 7 was again to test our central hypothesis in a real-world setting, this time leveraging natural variance in awareness of paid patriotism among a population for whom this practice is relevant (American NFL fans). In 2015, Senators John McCain and Jeff Flake put forth a report documenting how organized displays of national pride (e.g., flag presentations, the honoring of military members, reenlistment ceremonies) had been put on by the NFL in exchange for money from the U.S. military. The report was picked up by both right-leaning (e.g., *The Wall Street Journal*, *The National Review*) and left-leaning (e.g., *MSNBC*, *NPR*) news outlets; thus, a wide range of people may have been exposed to this news story. We predicted that participants who were aware of paid patriotism would subsequently hold patriotism as less sacred, as

measured by a choice variable capturing participants' refusal to tradeoff patriotism—a key feature of sacred values (Atran, 2010; Baron & Spranca, 1997; Tanner & Medin, 2004). We expected that this relationship would hold even after controlling for demographic variables related to the context, namely political orientation, military service, gender, age, and education level. We preregistered this study design and our analysis plan (available at <http://aspredicted.org/blind.php?x=s8qx2v>).

## Method

**Participants.** We recruited 500 Americans to participate in the study ( $M_{\text{age}} = 39.61$ , 53.6% female) via Turk Prime panels. We followed research by Schönbrodt and Perugini (2013) suggesting that a sample size of at least 250 is needed to achieve stable estimates for correlations, and oversampled so that we could conduct sufficiently powered analyses on subsamples (e.g., participants who highly identified as NFL fans). American residency was confirmed both by the Turk Prime panel, participant self-report, and IP addresses. Fourteen participants spent less than 5s reading about the scenario, and two appeared to be Bots/farmers based on our preregistered criteria. We analyze the data with and without these participants and find the same results. The results presented in-text are without these participants.

**Procedure.** Participants began the study, which was ostensibly an NFL knowledge quiz and consumer preference study. Participants first indicated the degree to which they were a fan of the NFL and of football more generally on 7-point scales from 1 (*not at all*) to 7 (*very much so*), how many games they watch per season on TV and in-person, and whether they had a favorite team. Participants then answered five true/false trivia questions about the NFL (e.g., “Is it true or false that Eli Manning is the oldest ever Super Bowl player?”) and had 45 s to answer each question. The critical item asked about paid patriotism (“Is it true or false that the term ‘Paid Patriotism’ was used to describe the practice of NFL teams accepting money to put on patriotic displays at games?”). Following each trivia question, participants indicated their confidence with their answers on a scale from 1 (*not at all confident*) to 7 (*very confident*). At the end of the trivia section, participants estimated how many questions out of five they had answered correctly and indicated the difficulty of the quiz on a scale from 1 (*not at all difficult*) to 5 (*very difficult*).

Following the quiz, participants were informed that they would get to see the correct trivia answers at the end of the study, but that first, the researchers wanted to gather consumer opinions about a potential change in NFL policy. At this point, participants completed our preregistered dependent variable. Drawing on real-world events, participants were told that the NFL was considering letting the decision to sing the national anthem be voluntary and up to individual teams rather than be mandatory across the NFL. Participants were asked what they thought of this proposal, and provided their responses using the response options from Baron and Spranca (1997), that is, “I think this is a good thing,” “I do not object to this,” “I think this should be done only if it brings great benefits,” and “No matter how great the benefits, this shouldn't be done.” As in the original research, participants who selected the last option were said to hold the value as sacred. Participants also completed an open-ended question<sup>9</sup> asking which factors influenced their judgments of the proposal, and were asked two items

that assessed the perceived instrumentality of the NFL's patriotic displays (“To what extent do you think the NFL displays patriotism because they receive money to do so?” and “To what extent do you think the NFL displays patriotism because they are truly patriotic?” on scales from 1 [*not at all*] to 7 [*very much so*],  $r = -.46$ ,  $p < .001$ ). Finally, participants completed demographic items and were asked if they could guess the hypothesis of the study.

## Results and Discussion

**Awareness of paid patriotism.** In terms of accuracy, 63.7% of participants were able to correctly answer “true” to the paid patriotism question. The other trivia items ranged from an accuracy rate of 37.3% to 86.5%. Participants who indicated being aware of paid patriotism were significantly more likely to believe that the NFL put on patriotic displays for instrumental reasons ( $M = 4.64$ ,  $SD = 1.76$ ) than were those who were not aware ( $M = 2.93$ ,  $SD = 1.73$ ),  $t(481) = 10.31$ ,  $p < .001$ ,  $d = 0.94$ , and were less likely to indicate that the NFL puts on patriotic displays because it is truly patriotic ( $M = 3.69$ ,  $SD = 1.58$ ) than were those who were not aware of paid patriotism ( $M = 4.47$ ,  $SD = 1.68$ ),  $t(479) = -5.10$ ,  $p < .001$ ,  $d = 0.46$ .

**Sacredness.** In examining the effect of awareness of instrumental use on sacredness, the results revealed that participants who were aware of paid patriotism were significantly less likely to hold patriotism as a sacred value (as evidenced by tradeoff resistance), with 27.51% of these participants holding the value as sacred compared with 41.71% among participants who were not aware of paid patriotism,  $\chi^2(1, N = 484) = 10.25$ ,  $p = .001$ , odds ratio [ $OR$ ] = 1.89.

Next, we conducted a series of binary logistic regressions examining whether participants responses to the two continuous items assessing the perceived instrumentality of patriotic displays by the NFL predicted sacredness. Believing that the NFL held patriotic displays for instrumental reasons negatively predicted holding patriotism sacred,  $b = -.35$ ,  $p < .001$ , while believing the NFL held patriotic displays out of genuine patriotism positively predicted holding patriotism sacred,  $b = .26$ ,  $p < .001$ .

We also examined whether this effect would hold just looking at participants for whom this practice would be highly relevant: NFL fans. We examined the effect of awareness of paid patriotism on sacredness among participants who indicated that they identified as NFL fans at a 5 or higher on the scale out of 7. The results revealed that, even among highly identified NFL fans, paid patriotism led to reduced sacredness of patriotism, such that 26.79% of participants aware of paid patriotism endorsed the value as sacred,

<sup>9</sup> The qualitative data provided by participants supported the validity of the Baron and Spranca (1997) measure, such that those who refused the tradeoff wrote answers consistent with beliefs held as sacred or protected (“It would be unAmerican,” “I think it's just something that shouldn't happen no matter what,” “They should not disrespect the country by omitting it,” “The national anthem should be sung no matter what the circumstances are”), whereas those who chose other options indicated more flexibility and indications that they believed symbols of patriotism were a more mundane than sacred preference (e.g., “I believe it is an individual preference,” “Playing the anthem at a sporting even is an antiquated tradition,” “I think the anthem is just a cultural event, not overly important”).

whereas 47.83% who were not aware of paid patriotism endorsed the value as sacred,  $\chi^2(1, N = 260) = 11.69, p = .001, OR = 2.51$ .

**Possible alternative explanations.** Given the absence of random assignment in this study, we took efforts to address possible alternative explanations or third variables. One possible alternative explanation is that, among participants who were simply guessing at the trivia answers, their preexisting beliefs about patriotism may have shaped their answers to the paid patriotism question and their willingness to accept tradeoffs. In other words, among participants who were unsure of the answer, those who did not hold patriotism as sacred to begin with may have been more likely to guess that paid patriotism was true. To address this, we also examined the results among participants who indicated being highly certain of their responses to the paid patriotism question (indicating a 6 or 7 out of 7 on the confidence item). We found that the results replicated among this subsample,  $\chi^2(1, N = 110) = 11.69, p = .001, OR = 6.42$ , suggesting that these effects were not driven by participants who were guessing (and their preexisting beliefs). Finally, we conducted a binary logistic regression examining whether the effects of paid patriotism held while controlling for gender, political orientation, age, education, and history of military service. Indeed, the effects of paid patriotism awareness on endorsing patriotism as sacred held while controlling for these variables (see Table 2 for analyses with and without the control variables). Additional analyses exploring potential moderation by these variables are available in the SOM.

Taken together, the results of Study 7 suggest that real-world exposure to instrumental use affected the degree to which participants held the value of patriotism as sacred. This effect was documented in the context of a real case of instrumental use, and among a sample for whom the practice was relevant, thus enhancing external validity.

## Additional Studies

Over the course of this research, we conducted additional studies that are not reported in the article but are available in our SOM. In Study 8 (SOM, pp. 42–47), we used the manipulation from Studies 4 and 5 in which a CEO and board of directors contemplates launching a new campaign (here, an environmental campaign). Laboratory participants were randomly assigned to one of three conditions in a between-subjects design: instrumental use versus contemplated instrumental use versus value-consistent use. The instrumental and

value-consistent use conditions were the same as in previous studies, but in the contemplated instrumental use condition, the board decided to continue to deliberate the issue rather than to launch the instrumentally motivated campaign. Participants then completed the Sacredness Scale from Studies 2 to 6 as well as the donation measure from Studies 3 and 4 (but with \$3 instead of \$0.25). Participants also completed a more implicit measure of purity, which draws on the tendency for purity (impurity) to be grounded in the perceptual experience of the color white (black; e.g., Sherman & Clore, 2009). Under the guise of a recall task, participants were exposed to a series of neutral (e.g., “table”) and value-relevant words (e.g., “environmental”) in fonts varying in color on the black–white spectrum and then recalled the shade of the previous word. The degree to which participants associated environmentalism with darker as opposed to lighter shades served as an index of perceived impurity. We found that participants who observed the instrumental use of environmentalism subsequently held that value as less pure and sacred, as captured by both implicit and explicit measures, and were less willing to donate to the environmental cause. Moreover, the instrumental use had to have taken place for the value corruption effect to occur, suggesting that mere contemplation is not sufficient to produce these results. Although Study 8 offers a helpful extension and demonstration, we did not reach our intended sample size of 50 per cell due to no shows to the lab and the semester ending, instead ending data collection with a sample size of 128. This left us with 71% power to detect a medium-sized effect, and thus we interpret these effects with caution.

In Study 9 (SOM, pp. 47–50), we examined whether participants who observed instrumental use would subsequently be more willing to endorse ambiguous uses of that value as being value-consistent. To the extent that a value has become less sacred, people may hold less stringent criteria for what comprises a value-consistent use. To test this idea, participants were randomly assigned to one of three conditions in a between-subjects design: instrumental use of environmentalism versus value-consistent use of environmentalism versus pure instrumentality control. Across conditions, participants viewed a message that was written by another individual soliciting donation requests. In the instrumental use condition, the message sender was being paid \$0.25 for every \$1 collected, and in the value-consistent use condition, the message sender was a volunteer. In the pure instrumentality control, the message sender was sending the message for profit, but this was not tied to a sacred value. Participants then rated three organizations that have made “green” claims but were pretested to vary in people’s willingness to describe them as pro-environmental (where Conservation International, a nonprofit environmental organization, was rated to be highly proenvironmental, West Paw, a sustainable pet store, was rated to be moderately proenvironmental, and Toyota, was less proenvironmental). The results revealed no effect of condition on ratings of the moderately or highly pro-environmental organization, but that participants exposed to instrumental use rated the less proenvironmental as significantly more pro-environmental than did those in the value-consistent use condition or a pure instrumentality control condition. Thus, exposure to instrumental use resulted in a relaxing of standards for what constitutes value-consistent use. As in Study 8, we did not reach our intended sample size of 50 per cell, with a final sample size of 142 after removing participants who failed the attention check, which gave us 75% power to detect a medium-sized effect. Thus, we again interpret these effects with caution.

Table 2  
*Study 7 Binary Logistic Regression Results With (Model 2) and Without (Model 1) Control Variables*

Variable	Model 1	Model 2
Awareness of paid patriotism	−0.643** (0.199)	−0.473* (0.237)
Gender (1 = male)		−0.824*** (0.228)
Political orientation		0.597*** (0.071)
Education		−0.019 (0.100)
Military service		0.127 (0.407)
Confidence in answer		−0.018 (0.065)
Constant	−1.603* (0.297)	−3.384*** (1.036)
Observations	484	482
R-squared	0.057	0.204

Note. All regression coefficients are unstandardized. Robust standard error estimates are reported in parentheses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## General Discussion

As sacred values like environmental-protection, patriotism, and diversity have become increasingly leveraged to yield profits and favorable reputations, it becomes increasingly important to understand how this tendency shapes the meaning of the values themselves. In the current research, we present seven studies demonstrating that instrumental use can desacralize values. Across different values and different operationalizations of motive, participants who observed a sacred value used instrumentally subsequently held that value as less sacred compared to participants who had not observed the value used in this manner. As a result, people observing instrumental use were also generally less willing to donate to causes relevant to the value.

## Theoretical Contributions

Our research provides a number of theoretical contributions. First, the sacred values literature has been dominated by the study of taboo tradeoffs in which a sacred value is explicitly traded off in exchange for secular concerns, such as profit (Baron & Spranca, 1997; Ginges et al., 2007; Tetlock et al., 2000). This line of work has documented value protection effects, whereby perceivers experience moral outrage and a desire to protect the value under threat. In the current research, we document a novel phenomenon whereby sacred values are used toward self-interest. Because these actions promote the values, they ironically have an opposing effect on observers' perceptions of the values. In this vein, our findings speak to discussions surrounding the negative effects of markets on human values and social institutions (e.g., Zelizer, 1978). For example, Sandel's *What Money Cannot Buy* (2012) raises provocative questions around practices like paying to hunt endangered species and to skip lines at amusement parks. Sandel argued that "when we decide that certain goods may be bought and sold, we decide, at least implicitly, that it is appropriate to treat them as commodities, as instruments of profit and use. But not all goods are properly valued in this way" (p. 9). The current research offers empirical evidence supporting this assertion, but also suggests the conditions under which instrumentality is likely to undermine our sacred values.

In a related vein, our findings shed light on how culture and values might shift over time. The literature has often treated human values as primarily stable, akin to personality characteristics (e.g., Feather, 1975; Ritov & Baron, 1999; Rokeach, 1973; Schwartz, 1997). It is therefore unsurprising that existing research has primarily examined how relatively stable individual differences (e.g., political orientation, group membership; Ginges et al., 2007; Graham & Haidt, 2012; Graham, Haidt, & Nosek, 2009) predict the perceived sacredness of values. The current research extends scholars' understanding of human values by suggesting how situational influences (e.g., values used for monetary or reputational gain) can influence perceptions of values.

Our results also have important implications for common practices in market-based societies. Namely, organizations should take great care when communicating initiatives relevant to sacred values (e.g., Corporate Social Responsibility initiatives), lest they undermine the very values from which they intend to benefit. An increasingly common narrative in organizations is "doing well by doing good," which captures the belief that the pursuit of social values and profit is a win-win (Makov & Newman, 2016). Implicit in this approach is the subordination of values to profit, such that "doing good" is a subordinate goal whose use is determined by the degree to which it facilitates "doing well" (Kreps & Monin, 2011). Corporations that publish corporate citizenship reports are

often quick to note that the intent of their actions is primarily instrumental. This is well captured by the popularity of the business case for diversity (Kaplan, 2020), which justifies the need for diversity by citing profit margins and stock performance. Diversity is a worthy goal provided it serves the bottom line. One way in which this subordination is problematic is that it might signal a fragile commitment to values, such that values-driven behaviors would be abandoned if their profitability came into question (Margolis & Walsh, 2001; Vogel, 2005). Our results suggest that communications that prioritize values as ends unto themselves might be more effective.

## Limitations and Future Directions

Despite the advances made, it should be noted that our work contains some limitations that should be addressed in future research. For example, all of the studies were conducted using participants within the United States, a culture in which marketization is prominent. Future research should examine whether these results would be stronger or weaker in nations wherein marketization is less common. Second, in our experimental studies (Studies 1–6) all measures were completed relatively soon after the experimental manipulations (though Study 6 involved a somewhat longer time lapse between the independent and dependent variables). While efforts were taken to mask the nature of the hypotheses and to rule out demand characteristics, future research should examine how long these effects last.

Many other interesting questions remain for future research. First, we did not find evidence of moderation of the effect by political orientation. One possible explanation is that if we had recruited samples that more strongly identified with a given sacred value (e.g., environmental or civil rights activists), these people might have more readily identified instrumentality as a threat. If so, how might these people seek to protect the value from instrumentality threats? One interesting possibility is that people who strongly hold a given sacred value engage in a process of *value constriction*—more narrowly defining which actions and objects are value-consistent following instrumental use. This constriction could serve to protect the sacredness of the value. For example, a wide range of behaviors could be classified as patriotic: wearing a flag pin, buying only American products, involvement in local government, chanting "USA" during the Olympic Games, posting "Happy 4th of July" to social media, or enlisting in the army to defend the country. Some actions are ambiguous with regard to whether or not the actions reflect sincere patriotism. If patriotism is perceived to have been undermined by instrumental use, people for whom patriotism is important may subsequently view only less ambiguous behaviors as being consistent with the value of 'patriotism,' in order to maintain the value's sacredness. Future research may seek out activists or other highly value-driven populations to study this proposed value constriction effect.

Next, although we identify descriptive norms and latitudes of acceptance-rejection as key mechanisms through which instrumental use may decrease value sacredness, we note that other potential mechanisms may exist. For example, in Study 4, we observe that, although participants in the instrumental use condition experience less moral outrage than in the taboo tradeoff condition, they experience more than those in the value-consistent use condition. One possible alternative mechanism to consider might be cognitive dissonance reduction. Given that instrumentality is inconsistent with the conceptual features of sacred values, observing these situations may evoke dissonance. For those exposed to taboo tradeoffs (Studies 4 and 5) or an instrumental use with a clear values threat (Study 5), there is a clear option to resolve potential dissonance, which is to

derogate the target and bolster the value. However, given the ostensible benefits of instrumental use, any dissonance evoked in this case may be more easily resolved by changing perceptions of the sacredness of the value. Using an exploratory measure of negative affect included in Studies 3 and 6 (see SOM, pp. 15–16 and 26, respectively) that included items used to assess dissonance in previous work (uncomfortable, uneasy, bothered; e.g., Glasford, Pratto, & Dovidio, 2008), we were able to examine this possibility. Although we found that instrumental use increased feelings of dissonance in Study 3, we did not observe this effect in Study 6. Moreover, feelings of dissonance did not mediate the effect of instrumental use on reduced sacredness in Study 3. Despite these mixed results, these analyses were exploratory, and it would be worth examining this possibility in a more systematic fashion in future research. For example, perhaps a misattribution of arousal paradigm could be applied following exposure to instrumental use to examine whether this attenuates the current effect (e.g., Zanna & Cooper, 1974).

Future work may also fruitfully integrate the current findings with the emerging literature on moral authenticity. Carroll and colleagues (e.g., Carroll & Wheaton, 2009; Lehman, O'Connor, & Carroll, 2019) have defined moral authenticity as the perception that the decisions of a given entity reflect that entity's sincere choices (i.e., choices true to the self) rather than external or social pressures. In essence, moral authenticity captures the degree to which an entity is true to its stated values. A current assumption in the literature is that people prefer authentic producers and products (see Lehman, O'Connor, Kovacs, & Newman, 2019, for review), often because personal associations with the authentic serves to satisfy identity-based goals (e.g., Arnould & Price, 2000). The authenticity literature has primarily examined judgments of producers and products (e.g., a craft or microbrewery being evaluated more favorably than a macrobrewery; Frake, 2017). The current research opens questions as to whether, for example, a trend toward macro brewers offering craft offerings would erode the intrinsic worth of these craft products if their actions were viewed as instrumental and low in moral authenticity. This proposition would be consistent with the results of Study 6, whereby perceptions of the prosocial act of "The Wave" were undermined by corporate sponsorship.

Finally, future work may seek to compare and contrast the value corruption effect and "crowding out" effects found in the motivation literature. This research had found that introducing extrinsic rewards to intrinsically valuable tasks can subsequently decrease individuals' intrinsic motivation to complete those tasks (e.g., Ariely, Bracha, & Meier, 2009; Deci, Koestner, & Ryan, 1999; Frey & Oberholzer-Gee, 1997). For instance, students who previously enjoyed completing puzzles lost interest in playing for free once they were paid to solve the puzzles (Deci, 1971). Extrinsic incentives can also crowd out moral norms. In their study of Israeli day care centers, Gneezy and Rustichini (2000) found that imposing fines on parents for picking up children late ironically increased tardiness. Although the mechanisms discussed for crowding out effects (e.g., changes in self-perceptions; Ariely et al., 2009) are distinct from the mechanism presented here (changing descriptive norms), our findings offer interesting future directions for the crowding out literature. For example, perhaps merely observing others being extrinsically motivated to complete certain tasks may lead to a "vicarious" crowding out effect among perceivers.

## Conclusions

As markets increasingly interface with our sacred values—be it through advertisements, product offerings, promoting the strategic advan-

tages of a diverse workforce, or Corporate Social Responsibility initiatives—it becomes increasingly important to understand the effects of using sacred values toward market aims on perceptions of and commitment to values. The results of the current research suggest that instrumentality can undermine the sacredness of values and suggests that organizations and individuals should take great care in how they communicate their values and values-based initiatives.

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(Appendix follows)

## Appendix

### Sacredness Scales

Table A1

*Item Factor Loadings for the Sacredness Scale Used in Studies 1 and 3 (Study 1 Data Below, N = 268)*

Item	Item <i>M</i> ( <i>SD</i> )	Factor loadings
I believe that the flag and other national symbols are sacred.	4.25 (1.86)	.87
I believe that the flag and other national symbols should not be sacrificed, no matter the benefits.	4.12 (1.90)	.91
The flag and other national symbols involve principles that I would defend under any circumstance.	3.98 (1.66)	.60
I feel committed to the flag and other national symbols.	3.78 (1.79)	.69
The flag and other national symbols are inviolable.	4.31 (1.86)	.84

Table A2

*Item Factor Loadings for the Uncompromisability (UN) and Purity (PU) Scales Used in Studies 2, 4, 5, and 6 (Study 2 Data Below, N = 543)*

Item	Item <i>M</i> ( <i>SD</i> )	Factor loadings	
		UN	PU
Pure	5.33 (1.26)	.29	.72
Tainted (reverse-coded)	5.15 (1.76)	-.10	.50
Clean	5.52 (1.21)	.24	.71
Sacred	4.42 (1.76)	.64	.07
Should not be compromised, no matter the benefits (money or otherwise)	4.99 (1.56)	.71	-.07
I revere, respect it	5.18 (1.44)	.72	.18
Involves principles that I would defend under any circumstances	4.99 (1.48)	.72	.11
Cannot be contaminated by financial or other commercial interests	3.95 (1.84)	.58	-.01
Involves issues or values I could compromise if the situation demands it (reverse-coded)	4.62 (1.60)	.78	-.10

*Note.* This scale was used in Studies 2, 4, 5, and 6. For the sake of transparency, we note that the last item demonstrated a lower factor loading in Study 4 (= .17) and Study 5 (= .36). This is consistent with prior research suggesting that negatively coded items have significantly lower discrimination (Sliter & Zickar, 2014). We nonetheless recommend maintaining this item in the scale to avoid acquiescence bias.

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