Sachdeva, S., Iliev, R., Medin, D. L. (2009). Sinning saints and saintly sinners: The paradox of moral self-regulation. *Psychological Science*. 20(4) 523-528.

Sinning Saints and Saintly Sinners

The Paradox of Moral Self-Regulation

Sonya Sachdeva, Rumen Iliev, and Douglas L. Medin

Address correspondence to Sonya Sachdeva, Department of Psychology, Northwestern University, 2029 Sheridan Rd., Evanston, IL 60208, e-mail: s-sachdeva@northwestern.edu.

ABSTRACT—The question of why people are motivated to act altruistically has been an important one for centuries, and across various disciplines. Drawing on previous research on moral regulation, we propose a framework suggesting that moral (or immoral) behavior can result from an internal balancing of moral self-worth and the cost inherent in altruistic behavior. In Experiment 1, participants were asked to write a self-relevant story containing words referring to either positive or negative traits. Participants who wrote a story referring to the positive traits donated one fifth as much as those who wrote a story referring to the negative traits. In Experiment 2, we showed that this effect was due specifically to a change in the self-concept. In Experiment 3, we replicated these findings and extended them to cooperative behavior in environmental decision making. We suggest that affirming a moral identity leads people to feel licensed to act immorally. However, when moral identity is threatened, moral behavior is a means to regain some lost self-worth.

What motivates people to behave morally? Many theories of altruistic behavior have been proposed. These theories range from evolutionary accounts involving kin selection and reciprocal altruism (Fehr & Fischbacher, 2003; Trivers, 1971), to more proximate accounts pointing to the "warm glow" or self-satisfaction produced by the act of giving (Andreoni, 1990; Cialdini et al., 1987).[1] Yet none of these theories explain moral behavior on a moment-to-moment basis. Morality, and consequently prosocial behavior, may be a balancing act between wanting to do good, but not wanting to pay the costs associated with doing good (Eisenberg & Shell, 1986). There may be some instances in which the desire to act morally wins out over the linked cost, but sometimes, even within quite similar circumstances, the cost may seem too high and doing good may seem not advantageous enough. We propose that moral self-worth is one of the gauges that indicate when moral action is needed.

Past work has shown that people's self-worth is defined to a large extent by how moral they perceive themselves to be (Dunning, 2007). Behaving immorally has a negative influence on perceptions of self-worth, and people engage in moral behavior in order to regain some of that lost worth. This set of compensatory behaviors can be included under a blanket term—moral cleansing, which refers to actions people engage in when their moral self-worth has been threatened.

In one of the first demonstrations of moral cleansing, Carlsmith and Gross (1969) observed that when subjects were forced to administer painful electric shocks to a confederate, they were much more compliant with a researcher's requests in a subsequent context. This increased compliance was not found in subjects who just gave negative verbal feedback to the confederate or watched someone else administer the shocks. Because the subsequent helping behavior did not benefit the confederate who had been shocked, the authors contended that the

participants who had done something immoral helped the researcher because of a need to bolster their self-image, rather than because they wanted to provide restitution to the victim. More recently, it has been shown that people will literally and figuratively cleanse themselves in response to violations of certain moral rules. For example, participants might express an increased desire to donate their organs or to volunteer for an ideological cause after contemplating paying the poor to harvest their organs (Tetlock, Kristel, Elson, Green, & Lerner, 2000), or they might literally disinfect themselves with an antiseptic hand wipe after duplicating an unethical story by hand (Zhong & Liljenquist, 2006). Taken together these results suggest that people monitor their feelings of moral self-worth and use cleansing behaviors to maintain those feelings.

If moral cleansing is used as a means to compensate when moral self-worth is below some standard, then compensation might also occur, in the form of amoral or immoral behavior, when moral self-worth is above an ideal level. That is, if people feel "too moral," they might not have sufficient incentive to engage in moral action because prosocial behavior is inherently costly to the individual. For example, people might not feel the need to donate blood or volunteer if they have already established their reputation as a moral person. This type of response can be thought of as moral licensing. People may be licensed to refrain from good behavior when they have accrued a surplus of moral currency.

Licensing effects have been shown in some other domains. For example, if people are given a chance to establish that they are not prejudiced, they are more likely to make choices that seem prejudiced in a subsequent context (Monin & Miller, 2001). And in making consumption decisions, people are more likely to splurge on a frivolous purchase (e.g., to choose a pair of luxury jeans over a sturdy but boring vacuum cleaner) after they have been asked to imagine that

they have volunteered to spend time doing community service (Khan & Dhar, 2007). Additionally, the researchers suggested that these effects were obtained because of active monitoring of the self-concept. Monin and Miller maintained that licensing effects in stereotyping behavior arise because of individuals' self-perception. That is, once people view themselves as nonsexist or nonracist individuals, they feel free to act in a more stereotypically consistent manner. The link between self-regard and licensing is even more apparent in Khan and Dhar's study, in which the decision to purchase a luxury item after the licensing manipulation was mediated by positive changes in the self-concept, as measured by statements such as "I am a compassionate person."

These licensing effects in stereotyping behavior and consumer purchasing decisions suggest that licensing might play a role in morally motivated behavior more generally. In the work reported here, we sought to extend the basic principle of licensing into the new domain of moral behavior by demonstrating its effect on charitable giving and corporate ethical decisions. We hypothesized that if people feel as if they have been more ethical than necessary, they might compensate by behaving less morally in a subsequent context. In a nutshell, we tested the idea that a sense of moral superiority might limit additional future moral behavior.

We also hypothesized that moral-licensing and moral-cleansing effects can act convergently as part of a moral self-regulation process. That is, when moral self-worth is threatened, moral cleansing restores the moral self-concept, and when moral self-worth is too high, moral licensing allows the agent to restrict moral behavior and return to a more comfortable level. One of the methodological contributions of this work is our attempt to show moral-licensing and -cleansing effects within the same paradigm, to demonstrate that they are part of a larger system of moral self-regulation. Previous studies have addressed specifically one

or the other process, but not both, and the two processes have not been examined with the same dependent measure across studies.

Our primary hypothesis was that a decrease in the moral self-concept leads to increased prosocial behavior, but that an analogous increase in the moral self-concept inhibits altruistic or prosocial behavior (relative to a neutral state). We also tested our conjecture that these effects are caused by changes in the self-concept and therefore should occur when participants are taking a first-person perspective, but not when they are taking a third-person perspective. In Experiment 1, we demonstrated that moral cleansing and licensing compensate for a moral self-concept that is below or above a neutral level. In Experiments 2 and 3, we isolated the role of the self in the moral-licensing and moral-cleansing effects and extended the results to a new domain of prosocial behavior.

EXPERIMENT 1

Participants

Forty-six students (28 females, 18 males; mean age = 18.8 years) from Northwestern University took part in the experiment in partial fulfillment of a requirement in an introductory psychology course.

Procedure and Materials

This experiment was conducted in sessions involving 3 or 4 participants. All instructions and tasks were presented on a paper questionnaire. The instructions explained that the study was about handwriting style, and that subjects would be asked to write stories so that their handwriting could be examined. We thought that this cover story would be plausible and would allow participants to think about the words they were asked to use without necessarily realizing that the words themselves were integral to the experiment.

We used a modified version of a prime that has been shown to affect moral identity (Reed, Aquino, & Levy, 2007). Participants were asked to copy a list of nine words and think carefully about what each word meant to them as they copied it. They were randomly assigned to the neutral-words, positive-traits, or negative-traits condition. Participants in the neutral-words condition received a list of words referring to inanimate objects, such as book, keys, and house. Participants in the positive-traits condition received a list containing a set of positive traits, such as caring, generous, fair, and kind, and participants in the negative-traits condition copied a list of negative traits, such as disloyal, greedy, mean, and selfish. After completing the copying task, participants were asked to write a brief story about themselves that included all the words they had just copied. They were told that writing the story might be easier if they visualized how each of the words was relevant to their lives. Then, participants completed a filler task before the dependent measure. For this measure, the experimenter explained that in an effort to increase social awareness, the lab conducting the study usually asks participants if they would like to make a small donation (up to $10) to a charity of their choice. The participants were told that they could write down the name of a charity of their choice and an amount that they would pay upon receiving a confirmation e-mail from the experimenter. Finally, participants were debriefed and thanked for their participation.

Results and Discussion

The dependent variable in this experiment was the amount participants indicated they would donate to a charity. We compared the average donation across conditions using a one-way analysis of variance (ANOVA). Participants in the neutral condition donated an average of $2.71 (SE = 0.85). However, the amount donated increased to $5.30 (SE = 1.17) in the negative-traits condition and fell to $1.07 (SE = 0.47) when participants were primed with the positive traits,

$F(2, 43) = 5.690$, $p_{rep} = .97$, $\eta_p^2 = .209$. These results are consistent with our prediction that participants whose moral identity was salient would donate significantly less than those whose moral identity was threatened.

EXPERIMENT 2

In Experiment 1, participants acted more altruistically after writing a story encompassing negative traits than after writing a story involving neutral or positive traits. Moreover, they were the least generous when they wrote about positive traits. These results demonstrate separate moral-licensing and moral-cleansing effects. However, Experiment 1 did not specifically address how these effects occurred. Qualitative differences in the content of the handwritten stories indicated that the self-concept may not have been activated in the same way in the positive- and negative-traits conditions. For instance, in the positive-traits condition, participants had a tendency to directly relate the traits to themselves (e.g., "most people would say that I am a caring person"), whereas in the negative-traits condition, the words were usually used in reference to other people (e.g., "my roommate is often very selfish").[2] The goal of Experiment 2 was to more clearly identify the role of the self in the moral-licensing and -cleansing effects.

Participants

Thirty-nine undergraduate students (23 females, 16 males; mean age = 18.7 years) from Northwestern University participated in this study in partial fulfillment of a course requirement.

Procedure and Materials

Participants were assigned to the positive- or negative-traits conditions. These conditions were the same as in Experiment 1 except that participants were also randomly assigned to write specifically about either themselves or someone they knew. We did this to control for the

perspective in the stories so that we could isolate the moral-cleansing and -licensing effects in the context of activation of the self-concept.

Results and Discussion

Once again, the dependent variable was the amount participants indicated they would donate. We ran a 2 (condition: positive or negative traits) × 2 (perspective: self or other) between-subjects ANOVA on this measure. A significant interaction between condition and perspective revealed that the effect of the different word types was apparent only in participants who were told to write about themselves, $F(1, 35) = 4.73$, $p_{rep} = .90$, $\eta_p^2 = .119$. The donations of participants who wrote about someone they knew did not differ depending on whether they wrote about positive or negative traits (M = \$4.55, SE = 1.42, vs. M = \$3.30, SE = 1.27), but participants who wrote only about themselves gave significantly less when they had written a story containing the positive, rather than the negative, traits (M = \$1.11, SE = 0.73, vs. M = \$5.56, SE =1.55). It appears that the effects we observed were not simply due to a priming effect of the trait words. Rather, the effects were present only when the self-concept was activated. This study provides direct evidence in support of our claim that altruistic behavior is influenced by changes in the moral self-concept.

EXPERIMENT 3

In the previous experiments, our only measure of altruistic behavior was the donation amount pledged by participants. In Experiment 3, we wanted to extend our findings to a different domain of prosocial behavior. We used a cooperative decision-making task in an environmental context to assess whether people would show moral cleansing and licensing when they were asked to cooperate with others for the good of the environment.

Participants

Forty-six students (24 females, 22 males; mean age = 19.4 years) from Northwestern University participated in this experiment as partial fulfillment of a course requirement.

Procedure and Materials

As in Experiment 1, we randomly assigned participants to the positive-traits, negative-traits, or neutral-words condition.[3] They completed the same handwriting and storytelling exercises as in the previous studies. After the filler task, the experimenter administered the new dependent measure, which was disguised as an independent study (adapted from Tenbrunsel & Messick, 1999). Participants were told that they were managing a manufacturing plant that was releasing pollutants into the air via smokestacks. The release of pollutants could be averted by running filters at a monetary cost, and under pressure from some environmental lobbyists, all the managers of such plants had agreed to run their filters 60% of the time, at a cost of $1.2 million. Participants could choose to stick with the agreement and run the filters 60% of the time, or they could choose to run the filters for any 10% interval between 0% and 100%, with each interval carrying a cost of $0.2 million. For example, the price tag associated with running filters 40% of the time was $0.8 million. Participants circled what percentage of the time they would run the filters. To examine the specific role of the self in any effects obtained, we also asked participants to predict the percentage of managers who would cooperate with the agreement. We expected that participants would show compensatory moral behavior when they were asked about their own cooperation, but not about the cooperation of other managers.

Participants were also asked a host of other questions that served as secondary prosocial measures (e.g., what participants thought the responsibility of a plant manager in such a situation was and how likely they thought it was that they would be caught if they did not adhere to the agreement). Finally, participants were probed for suspicion and debriefed.

Results and Discussion

The primary variable of interest in Experiment 3 was the percentage of time participants chose to run the environmental filters. If they decided to cooperate with the agreement, then they would choose to run the filters 60% of the time. Any deviation below this number was a defection from the agreement, whereas anything above 60% was "extra" cooperation. Participants in the neutral condition said they would run the filters 67% of the time, on average. Those in the negative-traits conditions chose to run the filters 73% of the time, but those who wrote about the positive traits were the least cooperative and said they would run the filters only 56% of the time, $\underline{F}(2, 43) = 3.59$, $\underline{p}_{rep} = .90$, $\eta_{\underline{p}}^2 = .143$. In addition, all our secondary variables of interest showed similar effects (see Tables 1–3). Participants who wrote about the positive traits were significantly more likely than participants in either of the other two conditions to indicate that plant managers should place the profitability of the plant ahead of environmental concerns, $\chi^2(4, \underline{N} = 40) = 9.83$, $\underline{p} < .05$. They were also more likely to view the decision about how much to run the filters as a business decision than as an environmental or ethical decision and were less likely to think that they would be caught if they did not adhere to the agreement, although these differences were not statistically significant.

The conditions did not differ in the predictions of what other managers would do ($\underline{M}$s = 61.6, 62.7, and 49.6 for the positive, negative, and neutral conditions, respectively; $\underline{p} > .40$; see Table 1). This finding serves as additional evidence that the moral-licensing and -cleansing effects occur only when the concept of the self is activated and do not necessarily arise when a general moral schema is activated.

GENERAL DISCUSSION

In three experiments, we found that priming people with positive and negative traits strongly affected moral behavior. We contend that these primes led participants to feel morally licensed or debased. To compensate for these departures from a normal state of being, they behaved either less morally (moral licensing) or more morally (moral cleansing). We measured moral behavior by soliciting donations to charities and by looking at cooperative behavior in an environmental decision-making context. In Experiment 2, we also showed that moral behavior or the lack thereof is related to changes in how individuals perceive themselves. Participants showed the moral-cleansing or -licensing effects only when they wrote about themselves, and not when they wrote about other people.

In these studies, we manipulated moral self-worth using a single method. Future work should attempt to address this limitation by using additional means of making moral or amoral identity salient. For example, an ease-of-retrieval manipulation might be used. Previous work has shown that people take the amount of effort required to retrieve an instance in which they displayed a particular characteristic as an indication of how representative that characteristic is of themselves. For example, being asked to retrieve seven instances of when they behaved assertively leads people to believe that they are less assertive than being asked to retrieve two instances of such behavior, because retrieving two instances is easier (Schwarz et al., 1991). Similarly, asking people to recall several instances in which they have acted ethically, compared with asking them to recall a single instance, should make them feel more moral and therefore licensed to behave less morally.

The present research also does not address the question of whether people simply refrain from engaging in moral behavior in cases of moral licensing or are actually more liable to behave immorally. This is an important question to consider because the answer may indicate the

strength of the licensing effect in motivating moral behavior. One possibility is that the licensing effect arises because of an accrual of "moral currency," which allows people to more or less passively engage in more secular sorts of activities until that currency has been spent. However, the more insidious possibility is that moral licensing lowers the bar of what is considered to be an amoral activity so that people are more likely to do immoral things that yield various types of secular benefits. These experiments show the first possibility to be true, because people refrained from doing something outwardly good in the negative-traits condition, but our experiments do not show if moral licensing allows people to do something that is prima facie bad. A way to test this possibility might be to use cheating as a dependent variable and examine whether morally licensed individuals are more likely than others to cheat on a task that entails some sort of instrumental benefit.

Although our focus in this work has been on the moral-licensing effect, we have also proposed a new perspective on altruistic behavior as being controlled by a negative-feedback mechanism. We suggest that people aspire to maintain a comfortable moral self-image. Deviation from this level in either direction, either when the view of the self as a moral individual is threatened or when this comfortable level is surpassed, results in compensatory behaviors. It might seem counterintuitive that morality should be thought of as involving a negative- rather than a positive-feedback loop. For example, it seems plausible that if people feel that they are moral, they should engage in more behavior that confirms this self-perception. Because altruistic behavior is costly to engage in, however, it makes sense that there would be some sort of mechanism for limiting it.

An important caveat is that there are clearly some instances in which attaching a moral value to an issue leads to increasing concern for that issue. Many forms of social and political

activism follow this trajectory (Cable, Walsh, & Warland, 1988; Stern, Dietz, Abel, Guagnano, & Kalof, 1999; Thomas, 1986)—but perhaps only to a certain extent. Activists differ in their level of connection to the issue (Abramowitz & Nassi, 1981), and activism tapers off for some people. On the basis of the model we have presented here, we suggest that people who satisfy their level of moral aspiration may feel morally licensed to disengage (relatively) from their cause, such that people with lower aspiration levels disengage more easily or more quickly than those with high aspiration levels.

Moral cleansing and licensing appear to be pervasive and everyday phenomena. Much has been written about moral cleansing, including the various religious practices that require bodily purification in response to sins. For instance, the Ganges River holds a sacred place in Hindu mythology because it is believed that taking a bath in its waters purges one of all sins and purifies the soul (Darian, 1978; Zhong & Liljenquist, 2006). Examples of moral licensing are less obvious but still may be identifiable. Researchers looking at expenditure surveys have noted that when charitable giving becomes financially more valuable, because of changes in the tax code, churchgoers tend to give more and also attend church less (Gruber, 2004). Others have found that when advisors disclose a conflict of interest to their clients, they feel licensed to give even more biased advice (Cain, Loewenstein, & Moore, 2005).

A key difference between moral cleansing and licensing, however, is that one (moral cleansing) is beneficial for society as a whole. That is, it is preferable that people attempt to repent for their sins by engaging in prosocial behavior. Moral licensing is more troublesome, as society does not benefit from people feeling entitled to more than their share because they happen to have proved their self-worth on a prior occasion. Moral licensing might even lead to various kinds of noncooperative behavior (Hardin, 1988).

How does one avert the danger of moral licensing? One way might be to turn effortful moral actions into routine ones. Behaviors (e.g., recycling) that are inconvenient at first become easier when they have been converted to habits (Dahlstrand & Biel, 1997). As a habit becomes stronger, the process involved in deciding to engage in that behavior becomes easier, and the link to one's personal attitudes toward that behavior also become stronger (Verplanken, Aarts, van Knippenberg, & van Knippenberg, 1994). Relatively automatic behavior may not warrant the same sort of compensation as effortful behavior. Yet getting to the point at which that behavior is automatic seems to be tricky—if attaining the "warm glow" of a good deed is one of the factors motivating engagement in moral behavior, and if routine behavior does not create the warm glow, then what motivation might one have to transform the costly moral behavior into a routine one?

This study is a step toward thinking of moral behavior as being embedded within a larger system that contains competing forces. Moral or immoral action may emerge from an attempt to find balance among these forces.

REFERENCES

Abramowitz, S.I., & Nassi, A.J. (1981). Keeping the faith: Psychosocial correlates of activism persistence into middle adulthood. Journal of Youth and Adolescence, 10, 507–523.

Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. The Economic Journal, 100, 464–477.

Batson, C.D., & Shaw, L.L. (1991). Evidence for altruism: Toward a pluralism of prosocial motives. Psychological Inquiry, 2, 107–122.

Cable, S., Walsh, E.J., & Warland, R.H. (1988). Differential paths to political activism: Comparisons of four mobilization processes after the Three Mile Island accident. Social Forces, 66, 951–969.

Cain, D.M., Loewenstein, G., & Moore, D.A. (2005). The dirt on coming clean: Perverse effects of disclosing conflicts of interest. Journal of Legal Studies, 34, 1–25.

Carlsmith, J.M., & Gross, A.E. (1969). Some effects of guilt on compliance. Journal of Personality and Social Psychology, 11, 232–239.

Cialdini, R.B., Schaller, M., Houlihan, D., Aips, K., Fultz, J., & Beaman, A.L. (1987). Empathy-based helping: Is it selflessly or selfishly motivated? Journal of Personality and Social Psychology, 52, 749–758.

Dahlstrand, U., & Biel, A. (1997). Pro-environmental habits: Propensity levels in behavioral change. Journal of Applied Social Psychology, 27, 588–601.

Darian, S.G. (1978). The Ganges in myth and history. Honolulu: University Press of Hawaii.

Dunning, D. (2007). Self-image motives and consumer behavior: How sacrosanct self-beliefs sway preferences in the marketplace. Journal of Consumer Psychology, 17, 237–249.

Eisenberg, N., & Shell, R. (1986). Prosocial moral judgment and behavior in children. Personality and Social Psychology Bulletin, 12, 426–433.

Fehr, E., & Fischbacher, U. (2003). The nature of human altruism. Nature, 425, 785–791.

Gruber, J. (2004). Pay or pray? The impact of charitable subsidies on religious attendance. Journal of Public Economics, 88, 2635–2655.

Hardin, G. (1988). The tragedy of the commons. Science, 162, 1243–1248.

Khan, U., & Dhar, R. (2007). Licensing effect in consumer choice. Journal of Marketing Research, 43, 259–266.

Monin, B., & Miller, D.T. (2001). Moral credentials and the expression of prejudice. Journal of Personality and Social Psychology, 81, 33–43.

Reed, A., Aquino, K., & Levy, E. (2007). Moral identity and judgments of charitable behaviors. Journal of Marketing, 71, 178–193.

Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. Journal of Personality and Social Psychology, 61, 195–202.

Stern, P.C., Dietz, T., Abel, T., Guagnano, G.A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. Human Ecology Review, 6, 81–97.

Tenbrunsel, A.E., & Messick, D.M. (1999). Sanctioning systems, decision frames, and cooperation. Administrative Science Quarterly, 44, 684–707.

Tetlock, P.E., Kristel, O.V., Elson, S.B., Green, M.C., & Lerner, J.S. (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. Journal of Personality and Social Psychology, 78, 853–870.

Thomas, C.B. (1986). Values as predictors of social activist behavior. Human Relations, 39, 179–193.

Trivers, R.L. (1971). The evolution of reciprocal altruism. The Quarterly Review of Biology, 46, 35–57.

Verplanken, B., Aarts, H., van Knippenberg, A., & van Knippenberg, C. (1994). Attitude versus general habit: Antecedents of travel mode choice. Journal of Applied Social Psychology, 24, 285–300.

Zhong, C.-B., & Liljenquist, K. (2006). Washing away your sins: Threatened morality and physical cleansing. Science, 313, 1451–1452.

/fn/[1]**See Batson and Shaw (1991) for a review of nonevolutionary theories of altruistic behavior"?**

/fn/[2]We analyzed the content of the stories in all three experiments reported here in a number of ways. In addition to looking at the perspective in the stories, we examined how participants used the different traits. In the majority of cases when participants did use the negative traits in relation to themselves, they did so in negational terms (e.g., “I try not to be a selfish person”). We also had independent, blind coders rate the stories for how moral the authors of the stories seemed (no differences between conditions were found). None of the qualitative differences in the content of the stories had an effect on the dependent variables reported here.

/fn/[3]Only assignment to the positive- and negative-traits conditions was random and contemporaneous; the neutral condition was run at a later time, although participants were still randomly assigned to it.

TABLE 1

Condition	Percentage of time participants would run filters	Percentage of time other managers would run filters	Likelihood of getting caught	Amount of environmental damage caused by not running filters
Negative traits	73.0 (4.30)*	62.7 (6.92)	6.64 (0.43)	6.20 (0.60)
Positive traits	55.6 (4.65)*	61.6 (7.17)	5.80 (0.50)*	5.88 (0.52)
Neutral	66.7 (5.04)	49.6 (5.47)	6.80 (0.42)	5.97 (0.55)

Mean Ratings for Selected Dependent Variables in Study 3

Note. Judgments of the likelihood of getting caught and the environmental damage caused by not adhering to the agreement were made on 10-point scales. Standard errors of the means are given in parentheses. A mean followed by an asterisk is significantly different from the mean in the cell below, $p < .05$.

TABLE 2

Participants' Perceptions of the Responsibility of a Plant Manager in Experiment 3

	Response			
Condition	To run the plant profitably	To run the plant profitably and protect the environment	To protect the environment and run the plant profitably	Total
Positive traits	3	11	2	16
Negative traits	0	6	6	12
Neutral	0	10	2	12

Note. The table reports how many participants in each condition endorsed each of the response options.

TABLE 3

Participants' Characterization of the Nature of the Decision to Run Filters in Experiment 3

Condition	Type of decision					
	Personal	Business	Ethical	Environmental	Total	χ^2
Positive traits	1	5	9	1	16	4.78, $p > .40$
Negative traits	1	3	8	3	15	
Neutral	0	7	6	1	14	

Note. The table reports how many participants in each condition endorsed each of the response options.