

Do Good Deeds Make Bad People?

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Abstract: Committing to a virtuous act in a preceding choice can reduce negative self-attributions associated with behaving less virtuously in the succeeding decision. Psychological research and behavioral economics strongly suggest that pre-existing intrinsic motivations of individuals play a major role in determining their subsequent choices when faced with a voluntary or mandatory virtuous ‘act’. In this paper, we report the results of a pilot experimental study examining licensing effect in the environmental realm, using a 2 (mandatory or voluntary nature of the virtuous act) X 2 (intrinsically or non-intrinsically motivated individuals) between subjects design. We found that intrinsically motivated and non-intrinsically motivated subjects reacted adversely to the two policy scenarios. The licensing effect occurs when combining intrinsically (resp., non-intrinsically) motivated individuals and mandatory (resp. voluntary) conditions.

Key words: *Licensing effect, environmental policies, behavioural incentives*

JEL: *Q50, D03, D04*

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1. Introduction

Does a commitment to a virtuous act encourage us to behave more virtuously or free us to behave less virtuously in subsequent acts? For example, Monbiot (2009) reports the story of a couple who 'earned so many vouchers from recycling at Tesco (a U.K. retailer) that they were able to fly to the Caribbean for a holiday. The greenhouse gases caused by these flights outweigh any likely savings from recycling hundreds or thousands of times over.' A small and recent, but growing body of experimental research (in numerous areas) has been devoted to understanding how people license themselves based on prior behaviors to pursue inconsistent goals (e.g., Khan and Dhar, 2006; Sachdeva et al., 2009; Mazar and Zhong, 2010; Chiou and al., 2011). For instance, Chiou and al. (2011) showed that smokers who believed they were taking a dietary supplement smoked more cigarettes than did controls, presumably because they think the supplements will protect them against smoking's ill effects. Nevertheless, as far as we know, no study has examined what happens if the 'virtuous' act is imposed on individuals or freely chosen by them. Psychological research and behavioral economics strongly suggest that pre-existing or intrinsic motivations play a major role in determining people's subsequent choices when faced with a voluntary or mandatory virtuous 'act'.

In this paper, we report the results of a pilot experimental study examining licensing effect in the environmental realm. Our 2 (mandatory or voluntary nature of the virtuous act) X 2 (intrinsically motivated or non-intrinsically motivated individuals) between-subjects design extends the literature in at least two dimensions. First, we test whether the licensing effect occurs when the virtuous act is voluntarily or mandatorily generated. Indeed, in the environmental realm people frequently face either an obligation to adopt some behaviors (e.g., speed limits to reduce pollution) or are simply encouraged to adopt others (e.g., Earth hour). Second, we examine the effect of the way the virtuous act is generated (voluntarily or mandatorily) according to whether individuals are either intrinsically motivated or not. We are aware of no other study of this type in the licensing effect literature.

A mixed set of results emerges from our experiment. We found that intrinsically motivated or non-intrinsically motivated subjects reacted adversely to the two policy scenarios. More precisely, the licensing effect occurs when combining intrinsically (non-intrinsically) motivated individuals and mandatory (voluntary) conditions.

The remainder of the paper is organized as follows. The next section overviews the related literature and introduces our hypotheses. Section 3 exposes the empirical strategy. The results are presented and discussed in section 4. Section 5 provides some policy implications and concludes.

2. Overview of related literature and hypotheses

According to prospect theory (Kahneman and Tversky, 1979), people do not have absolute preference, but rather preferences that are relative to some anchor point. If one of the key contributions has been to empirically prove that preferences are endogenous, the relation between passed actions and subsequent decisions remains largely unexplored.

The idea of a licensing effect has been emerging recently. The literature in marketing and psychology hold some recent works (Table 1) showing that moral licensing can operate by committing to a virtuous act in a preceding choice, which reduces negative self-attributions associated with donating less or behaving less virtuously in the succeeding decision.

Khan and Dhar (2006) studied individuals' decision process in terms of luxury products consumption. They first found out in a pretest that luxury products are associated with less moral attributes. They then demonstrated how an initial situation referring to a charity act, could influence preferences for unnecessary or extravagant items in subsequent decisions. The results of their experience show that preference for luxury items was significantly higher in the case of a preceding charity action (license condition), than in the case where no prior charity action (control condition) had to be undertaken first (i.e. 57.4% selected a luxury item in the license condition vs. 27.7% in the control condition). Also, participants rated themselves significantly more positively on a 7 points scale within four attributes¹ (i.e. "I am compassionate", "I am sympathetic", "I am warm", and "I am helpful") in the licensing condition, meaning that an initial altruistic intent boosts the self-concept and may liberate people to choose more indulgent options (i.e. average of feelings was 5.76 in the license condition vs. 4.79 in the control condition).

Studying this behavioural mechanism in the case of altruism and charity donation, Sachdeva, Iliev and Medin (2009) found that moral regulation mechanisms might happen in the reverse order and create a compensation effect (behaving 'indulgently' first and then compensate with a more virtuous act). The authors hypothesized that priming people with positive and negative traits in a first stage will affect subsequent moral behaviour in terms of donation to a charity found. Their results show

¹ These items were utilized because they indicated a high degree of reliability in terms of coefficient alpha (Cronbach's $\alpha=0.84$)

that among the 46 individuals who participated in the survey, those who wrote something positive about themselves gave one fifth as much as those who wrote a story referring to negative traits (average amount of donation was \$1.07 over \$10 in the positive condition vs. \$5.30 in the negative condition). They observed that if people feel as if they have been less ethical than they should, they might compensate by behaving more morally in a subsequent context. The authors included this set of compensatory behaviours under a blanket term of “moral cleansing”, which refers to actions people engage in when their moral self-value has been threatened.

Mazar and Zhong (2010) examined the moral licensing effect in the field of the environment. The authors addressed two main questions: 1) the impact of exposure vs. purchase on moral licensing effect and 2) how far the regulation process may lead people to behave unethically. First, the results show that participants who were merely exposed to the green store shared more money in the dictator game than those who were merely exposed to the conventional store (average amount shared was \$2.18 over \$6 in the green store exposure condition vs. \$1.59 in the conventional store exposure condition), whereas participants who had purchased in the green store shared less money than those who purchased in the conventional store (average amount shared was \$1.76 over \$6 in the green store purchase condition vs. \$2.12 in the conventional store purchase condition). Second, the results also demonstrate that participants who chose to buy products from the green array were more likely to purposefully behave dishonestly such as cheating and stealing in a subsequent task. Mazar and Zong (2010) concluded that green products can establish enough moral capital to encourage clear transgressions such as lying and stealing.

We could resume this literature review in three main points. First, a licensing effect does occur and it matters in various domains. Second, it can happen in the reverse order ('compensation effect'). Third, when a high level of moral capital is 'credited', it can even lead to dishonesty and encourage clear moral transgressions.

Table 1. Experimental studies devoted to the licensing effect

Authors and publication year	Experimental design: virtuous act and subsequent choices	Type and nature of subjects	Main results
<i>Khan and Dhar (2006)</i>	Single-factor (help a friend vs. control) between-participants design, followed by a dictator game	80 Students	Participants in the licensing conditions gave less than participants in the control group (Mean of donation= \$1.20 over \$2 vs \$1.70)
<i>Sachdeva, Lliev and Medin (2009)</i>	Two-factors (personal story writing using: negative traits vs positive traits vs neutral traits), between-participants design, followed by a dictator game	46 Students	Participants who wrote a positive story about themselves gave less than the two other groups (Mean of donation= \$1.07 over \$10 vs \$5.30 for those in the negative condition and \$2.71 for those in the neutral condition)
<i>Mazar and Zhong (2010)</i>	2 (store: conventional vs. green) x 2 (action: mere exposure vs. purchase) between-participants design, followed by a dictator game	156 Students	Mere exposure to green products increases pro social behavior whereas purchasing them licenses (Mean of donation= \$2.12 over \$6 vs \$1.76)
<i>Mazar and Zhong (2010)</i>	Single-factor (store: conventional vs. green) between-participants design, followed by a lying and stealing games	90 students	Participants in the green store took in total (due to both lying and stealing) on average \$0.83 more than those in the conventional store (over \$2.93).
<i>Chiou, Wan, Wu and Lee (2011)</i>	Single-factor (credentials: with or without) between-participants design	80 Students	Credentials created by vitamins use can increase smokers' comfort with consuming more cigarettes. Increased invulnerability is associated with attitudes towards dietary supplements (r=0.39, P < 0.001).
<i>Jordan, Mullen, and Murnighan (2011)</i>	2 (target: self, other) x 2 (recall: moral, immoral) between-participants design	168 Students	Recalling (im)moral behavior affects an individual's reported moral behavior and moral intentions but also affects an individual's actual (im)moral behavior. The morality ratings are positively correlated with the magnitude of cheating (r = .34, p = .002) These effects did not emerge when recalling other's im(moral) behavior.

Behavioral hypotheses

Rewarding or imposing constraints on individuals can push them to adopt behaviors that will not be adopted otherwise. In plausible circumstances, demonstration of authority such as rules and laws could build norms, by suggesting that an event is important enough to justify a costly intervention (Nyborg, 1999). Nevertheless, if intrinsic motivations preexist, introducing additional external incentives (e.g. authoritarian decision; monetary rewards) to reinforce the intrinsically motivated behavior can backfire (Frey and Oberholzer-Gee, 1997; Frey and Jegen, 2001; Bowles, 2008). A growing literature argues that external interventions crowd out intrinsic motivation (Bénabou and Tirole, 2006) and some empirical evidence has been given by various authors in support (e.g., Gneezy and Rustichini, 2000; Volland, 2008; Bowles, 2008). The crowding out effect is more likely to occur when external interventions are controlling (rather than supportive), the degree of participants' self-determination is low (rather than high) and the level of trust and reciprocity within a society is low (Volland, 2008). For instance, Chang and Lai (1999), found that a rise in monitoring intensity tends to lower, rather than enhance, work effort. In relation with the previous literature, we formulate our two main hypotheses:

H1: A mandatory 'virtuous act' by intrinsically (non-intrinsically) motivated individuals increases (decreases) the licensing effect.

H2: A voluntary 'virtuous act' by intrinsically (non-intrinsically) motivated individuals decreases (increases) the licensing effect.

The design of our experiment is presented in table 2. We investigate how two subgroups of the population (intrinsically motivated vs. non-intrinsically motivated) react to the way the 'good deed' (mandatorily vs. voluntarily) is generated. We explore whether the licensing effect occurs and draw some policy implications regarding the use of voluntary or mandatory instruments.

Table 2. Between subjects research design used to control for the conditions leading to the licensing effect

Scenarios	Conditions	
	Intrinsically motivated individuals	Non-intrinsically motivated individuals
Mandatory 'virtuous act'	Licensing effect	No licensing effect
Voluntary 'virtuous act'	No licensing effect	Licensing effect

3. Experimental design

In the spring of 2011, we conducted a set of pen and paper experiments with students at high education institutions of Montpellier (South of France) from both business-related majors and environmental-related majors. In line with previous analyses (Frank, 2003; see also Frank, 1993 and references therein), we assume that students self-select and it is well-known that students choose their majors at least partly because of their interests for the studied domains². We contend that individuals enrolled in environmental-related majors are intrinsically motivated regarding environmental issues whereas individuals enrolled in business-related majors are non-intrinsically motivated regarding the same issues³. These two types of students should allow us to capture the potential effect of intrinsic motivation over our experimental design. Participants were not informed previously that they will participate in an experiment to avoid any selection bias. Students were already there for their lectures and the experiment was presented as a classroom activity at the end of the lecture. Experiments lasted less than 5 mn. Participants were not informed about the nature of the experiment we would be conducting or the treatment to which they would be assigned. In each 30 students group, students were promised a 30€ prize by drawing lots. This incentive compatibility method was preferred because of the well-known bias leading people to overweight small probabilities (Chen and Jia, 2005; Burns, Chiu and Wu, 2010).

A subject's experience followed three steps⁴. First, the monitor read the instructions aloud and all subjects received closed envelopes containing a questionnaire corresponding either to (i) a dictator game where they can share the 30€ prize with an environmental union without any previous commitment to a virtuous act (=control group); (ii) the possibility to commit voluntarily to an environmentally friendly act followed by the previously described dictator game (=treatment one); (iii) the mandatory act followed by the previously described dictator game (=treatment two). Table 3 gives an overview of our experimental design. Both mandatory and voluntary acts were based on cheap talk framing.

- The voluntary framing states: << 1/ You have the opportunity to get involved in a pro environmental program one hour per week during a month. Do you wish to engage? => Yes or No. 2/ On a 1 to 9 scale, select the satisfaction level that best describes yours after that decision>>

² This point is consistent with Frank's finding (2003). Frank's (2003) survey on Cornell graduates show that 88 percent of socially concerned respondents would prefer a job for the American Cancer Society rather than for Camel Cigarettes with an average compensating wage premium of about \$ 24.000 per year. Cornell graduates were invited to choose between pairs of hypothetical jobs where the job nature was the same but the employers' social responsibility reputation was different.

³ For sake of exposition, we distinguish intrinsically motivated and non-intrinsically motivated but we are conscious that the reality is more nuanced. In short, we contend that business-students also truly care about the environment, but maybe not as strongly as environment-students.

⁴ Detailed instructions are available upon request.

- The mandatory framing states: << 1/ **Your University decides to settle a mandatory pro environmental program in which you have to get involved** one hour per week during a month. 2/ On a 1 to 9 scale, select the satisfaction level that best describes yours after that decision>>.

The satisfaction scale's records aimed mostly at making sure that subjects put some attention on the imagined act. Since both conditions (mandatory and voluntary) are based on cheap talk, it should theoretically not make any difference in participants' willingness to donate. Nevertheless, we believe that just imagining committing to a virtuous act is sufficient to induce a licensing effect. Beside, everything was done to avoid attracting the attention of subjects regarding questionnaire variations (e.g., identical envelopes, similar questionnaire size, and identical questionnaires on a given row). Second, participants were given one minute and thirty seconds to fill in the questionnaires anonymously. After the time elapsed, sheets were collected and the winning number was announced. The amount corresponding to the winner's decision was put inside an empty envelope and given to the winner by the professor at the end of the lecture.

Table 3. Experimental Design

Control	Treatment 1 Mandatory condition A pro environmental deed <u>has to be done</u>	Treatment 2 Voluntary condition A pro environmental deed is <u>proposed</u> (1=Accept; 2=Refuse)
Dictator Game. (Measuring the Willingness to Donate) Part of the potential earnings to be given in favor of a pro environmental project		

4. Results

A total of 185 Master students participated in this study, including 123 subjects from business-related majors (*Mean age = 22.70, SEM⁵ = 0.20*) and 62 students from environmental-related majors (*Mean age = 20.77, SEM³ = 0.11*). All subjects were unfamiliar with experimental economics. Gender characteristics proved to be well balanced across treatment groups. Below, we summarize our two main results (figures are presented in table 4).

R1: Intrinsically motivated individuals donated significantly less than non-intrinsically motivated individuals after a mandatory virtuous act. Difference is significant at the 5% level, $t(61) = 2,569$, $p = 0,012$. This supports our first hypothesis H1.

R2: Intrinsically motivated individuals donated significantly more than non-intrinsically motivated individuals after a voluntary virtuous act. Difference is significant at the 5% level, $t(30) = 2,214$, $p = 0,034$. This supports our second hypothesis H2.

Our first main result indicates that licensing effect happened in the mandatory scenario with intrinsically motivated individuals, whereas our second main result points out that licensing effect happened in the voluntary scenario with non-intrinsically motivated individuals. In sum, intrinsically and non-intrinsically motivated individuals reacted adversely to the two policy designs. Figure 1 illustrates our findings.

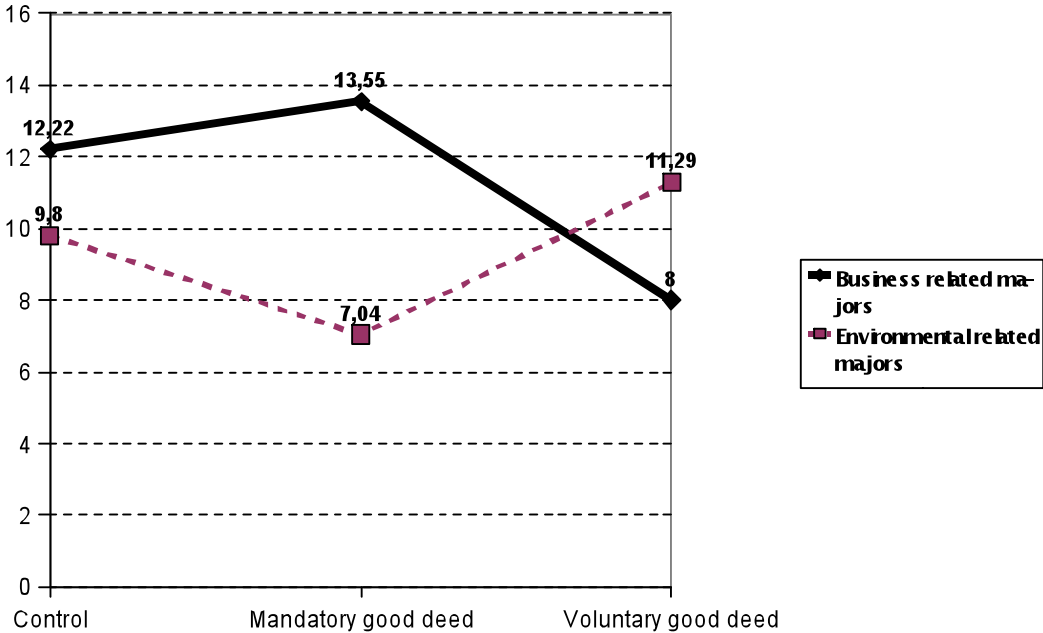


Figure 1. Average willingness to donate to the environmental union under different conditions

⁵ Standard Error of the Mean

Table 4 summarizes the results. The columns in table 3 correspond to different outcomes (willingness to donate), each of which is recorded separately among intrinsically vs. non-intrinsically motivated individuals. The top row reports means for the control group (neither voluntary nor mandatory virtuous act in a first stage). The next two rows explore means for the treatment one (voluntary virtuous act first), separating results in two lines: those who refused to commit to the virtuous act and then, those who accepted to commit. The final row reports means for treatment two (mandatory virtuous act first).

Table 4. Average willingness to donate to the environmental union and SEM³ under different conditions

	Environmental related majors (<i>Intrinsically motivated individuals</i>)	Business related majors (<i>Non-intrinsically motivated individuals</i>)
Control group		
No virtuous act	9,8 (2,354)	12,22 (1,657)
Voluntary condition (Treatment one)		
No virtuous act (refuse)	12,13 (4,23)	10,523 (2,54)
Voluntary virtuous act ⁶	10,77 (2,181)	5,21 (1, 448) ⁷
Mandatory condition (Treatment two)		
Mandatory virtuous act	7,04 (1,884)	13,55 (1,518)

5. Policy implications and conclusion

First of all, our contribution is an additional stone supporting the fact that actions must not be considered in isolation but as influencing each other. The influence is not only related to the nature of the action (good versus bad deed) but also the way it is generated. We have shown that the licensing effect is influenced by the way the 'virtuous' act is generated according to whether individuals are intrinsically motivated or not.

The study aimed to experimentally test for conditions that are assumed to influence the licensing effect. We conclude that the presence of intrinsic motivation and the way the virtuous act is generated (voluntarily or mandatorily) are two important conditions explaining the occurrence of

⁶ Participation rate in the voluntary condition was slightly higher for intrinsically motivated individuals than for non-intrinsically motivated individuals (62% vs. 50%).

⁷ We checked for a revenue effect, but low income ratio in this condition is equivalent to the whole sample (low income= 42% and high income= 58% vs 46% and 54% for the whole sample)

licensing effect. We found that intrinsically motivated individuals donated significantly less than non-intrinsically motivated individuals after a mandatory virtuous act. Conversely, intrinsically motivated individuals donated significantly more than non-intrinsically motivated individuals after a voluntary virtuous act. The licensing effect arises when combining intrinsically (non- intrinsically) motivated individuals and mandatory (voluntary) conditions. Overall, intrinsically and non-intrinsically motivated individuals reacted adversely to the treatment variables. Mandatory condition does not work well with intrinsically motivated individuals but it does work well with non-intrinsically motivated individuals. The voluntary scenario performs better with intrinsically motivated individuals but licenses non-intrinsically motivated individuals. These encouraging but preliminary results call for further investigations, especially to test their robustness.

The main implication of these findings suggests the need to target policies according to population subgroups and avoid 'one-size-fits-all' policies in the environmental realm. Indeed, it seems necessary to characterize and elicit whether subgroups of the population are intrinsically motivated to tailor policy instruments accordingly. Further research may not only suggest methods to avoid licensing effect, but also hold the promise of helping to design settings that foster tailored policies. Also, this challenging point may raise equity issues where subgroups would face different instruments.

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