



Norm enforcement in social dilemmas: An experiment with police commissioners[☆]



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ARTICLE INFO

Article history:

Received 17 February 2014

Received in revised form 24 March 2015

Accepted 30 March 2015

Available online 15 April 2015

JEL classifications:

C92

H41

D63

Keywords:

Norm enforcement

Sanctions

Rewards

Voluntary contribution mechanism

Police

Experiment

ABSTRACT

Do individuals trained in law enforcement punish or reward differently from typical student-subjects? We analyze norm enforcement behavior of newly appointed police commissioners in both a game with positive externalities (based on a Voluntary Contribution Mechanism) and a similar game with negative externalities. Depending on the treatment, a reward or sanction institution is either exogenously or endogenously implemented. Police commissioners cooperate significantly more in both games and bear a higher burden of the sanction costs compared to non-police subjects. When the norm enforcement institution is endogenous, subjects favor rewards over sanctions, but police subjects are more likely to vote for sanctions. Police subjects also reward and sanction more than the others when the institution results from a majority vote. Our experiment suggests that lab evidence on social dilemma games with positive or negative externalities and enforcement institutions is rather robust.

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1. Introduction

When a police officer pulls you over, a reward for not breaking the law is usually the last thing on your mind. Yet, in recent years numerous police forces around the world have experimented with “positive

ticketing”, which involves giving out reward tickets and vouchers for good behavior.¹ These reward programs go against the old paradigm of the corrective policing model (Becker, 1968).

One obvious reason why police almost exclusively use sanctions is that it seems unnatural to reward those who comply with the law—rewards are usually reserved for going above-and-beyond a norm, if

[☆] We are particularly grateful to the Ecole Nationale Supérieure de la Police (ENSP) and in particular H. Martini and D. Lambert who helped make these experiments possible. We thank participants at the ASFEE meeting and the AFSE Congress in Lyon for useful comments. We thank E. Priour for programming the experiment and E. Derigo and Z. Dai for valuable research assistance. The financial support of ANR (National Research Agency) for the CONFLICT program is gratefully acknowledged (ANR_jc25-02-08). This research was performed within the framework of the LABEX CORTEX (ANR-11-LABX-0042) of Université de Lyon, within the program “Investissements d’Avenir” (ANR-11-IDEX-007) operated by the French National Research Agency (ANR). The usual disclaimer applies and the authors are solely responsible for the content of this analysis.

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¹ For example, drivers in Sandy, Utah, were given vouchers for movie tickets for safe driving behaviors in 2013, and drivers in the south of France were given 20 Euro gas tickets for driving below the blood alcohol limit during 2014 New Year's celebrations. Youth in Decatur, IL might receive a free food voucher for using crosswalks or skateboarding in designated areas, and Toronto Police have articulated hopes that positive ticketing will help facilitate communication and build trust in addition to encouraging good and legal behaviors (see <http://www.positiveticketing.ca/default.aspx>). While often targeted at youth, such programs may reward anyone behaving virtuously or simply not breaking the law. A positive ticketing program pioneer, Ward Clapham (a retired Canadian Mountie), estimates that over 25 countries currently use such programs to at least some extent (see <http://news.msn.com/world/police-hope-positive-tickets-will-reduce-crime>).

they are given at all. There may be additional reasons why police prefer sanctions to rewards for norm enforcement. Firstly, there may exist a pure framing effect: sanctions may resonate more with norm enforcement in “destructive” contexts compared to “constructive” contexts. Norm violations involving active destruction may trigger more negative emotions than norm violations involving passive acts of omission (e.g., failure to contribute to a public good). Secondly, sanctions may be more effective than rewards at norm enforcement when norm violation involves the destruction of wealth. Finally, one may conjecture the existence of a pure police-specific effect. Specifically, police officers are more exposed to destructive contexts and disorderly elements of society. As such, they may have a stronger inclination to use sanctions (Skolnick and Fyfe, 1995).²

Social dilemmas are popular for studying cooperation and social norms because group welfare is at odds with the dominant strategy of selfish free riding behavior. Early laboratory experiments have shown that initial contributions in Voluntary Contribution Mechanism games are substantially above the Nash prediction, but decline steadily as the game is repeated (Isaac et al., 1984; Andreoni, 1988; Ledyard, 1995). Research has also shown that, in otherwise parallel games, there is a reduced willingness to cooperate when externalities are negative rather than positive, because the warm glow is stronger than the cold-prickle (Andreoni, 1995). However, cooperation can be sustained in the long run when punishment is available (Yamagishi, 1986; Fehr and Gächter, 2000; Gächter et al., 2008). Punishment is typically directed at those who violate the norm of cooperation, which is given by the average group contribution level. This finding is robust to various environmental conditions (Maslet et al., 2003; Bochet et al., 2006; Anderson and Putterman, 2006; Carpenter, 2007). Other studies have attempted to investigate the effectiveness of reward mechanisms to enforce the norm of cooperation (Dickinson, 2001; Andreoni et al., 2003; Walker and Halloran, 2004; Sefton et al., 2007; Rand et al., 2009; Sutter et al., 2010; Dugar, 2013). Most of them show that rewards are somewhat less effective than sanctions in enforcing cooperation.

The originality of our paper is threefold. First, we experimentally investigate the effectiveness of punishment and reward institutions not only in a constructive (Giving Game) social dilemma context but also in an equivalent destructive (Taking Game) context. In the Giving Game non-cooperation is failing to contribute to a public account, whereas in the Taking Game, non-cooperation involves active withdrawals from a common account. The two games are linear public good/bad games with the same dominant strategy Nash equilibrium of no cooperation.³ While the effect of sanctions/rewards is well documented in a positive frame, their effectiveness is less well-established when the social dilemma is negatively framed. Using Common Pool Resource (CPR) games, some find that sanctions improve cooperation (Ostrom et al., 1992; Casari and Plott, 2003; van Soest and Vyrastekova, 2006), but others find the opposite result (Janssen et al., 2010; Cason and Gangadharan, forthcoming). In the same vein, the use of rewards to enforce cooperation in a CPR context has received less attention (exceptions include Vyrastekova and Van Soest, 2008; Stoop et al., 2013), even though its relevance to the real world is clear. One novelty of our design is that we can compare the impact of the various norm enforcement mechanisms in constructive versus destructive, but otherwise identical, linear social dilemmas. This allows us to test for social dilemma framing effects on sanctions and rewards.

² The comments of a police officer in the “Pops for Cops” program in Decatur, IL, illustrate this point: “Like many professional law enforcement officers, I brought a certain mentality to the job. I wanted to hunt down criminals – chase bad guys, kick in doors, get the bust. It was hunter vs. hunted... I can't escape the realities of my job – I have to hunt down criminals. But could I also work on the other end of the spectrum? Could I build positive relationships strong enough to keep youth out of trouble?”

³ Our Taking Game is therefore distinct from the Common Pool Resource game that represents a non-linear social dilemma game with an interior equilibrium in the choice space (Ostrom et al., 1992).

The second originality of our paper is that we enroll a representative sample of new French police commissioners to form mixed groups with participants from a standard student subject-pool. Our aim is to analyze whether police commissioners behave differently in terms of institutional choices and norm enforcement. This population is perfectly suited for our study because police commissioners have self-selected into a ‘mission-oriented’ occupation in the destructive context of crime deterrence, and because their training and core function are in law enforcement (Besley and Ghatak, 2005). Additionally, some of these commissioners had completed their training two years prior to our experiment, while others were still in training. This allows us to examine whether some experience with crime and enforcement affects behavior in our games. When comparing commissioners with non-police subjects, our intuition is that commissioners may have a stronger preference for sanctions due to both their occupational selection and explicit training to favor sanctions over rewards (Raganella and White, 2004; Wu et al., 2009).^{4,5} Our artefactual field experiment therefore contributes to discussion regarding the external validity of experiments by comparing career professionals with student-subjects (Dyer et al., 1989; Cadsby and Maynes, 1998; Cooper et al., 1999; Alatas et al., 2009; Carpenter and Seki, 2011). In his survey, Frechette (2015) finds no evidence that conclusions based on standard student-subject pools cannot generalize to professionals, as well as to the literature on how experience affects framing effects (e.g., Gächter et al., 2009; List, 2003).

Finally our third contribution is to vary the way the enforcement institution is implemented (exogenously or endogenously through a majority vote) so that we can test whether, as government agents, police commissioners are more willing to utilize an institution when it results from a democratic choice. We thus contribute to the literature on endogenous institutions in social dilemmas (Güerker et al., 2006; Tyran and Feld, 2006; Kosfeld et al., 2009; Sutter et al., 2010; Putterman et al., 2011; see Vyrastekova and van Soest, 2003 for a common pool context).

Our experiment consists of four treatments in both Giving and Taking Game contexts: Baseline, Reward, Sanction, and Vote. The Baseline treatment of the Giving Game is a linear public good game (public bad in the case of the Taking Game) without any enforcement institution. In the Sanction (Reward) treatment, a new stage is added. After being informed of each group member's contribution, subjects can sanction (reward) others at personal cost. Finally, in the Vote treatment, subjects vote in a preliminary stage for their preferred institution (Reward and Sanction), and the majority vote determines the institution that is implemented for all rounds.

Our results show that socially desirable behavior (i.e., contributing in the Giving Game or non-extracting in the Taking Game) is higher in the positive compared to the negative context; the existence of norm enforcement increases socially desired behavior; and police subjects contribute more (extract less) than non-police subjects. We also find that, after controlling for a possible selection bias in the decision to use the institution, the intensity of both sanctions and rewards is higher

⁴ After running our experiment, we became aware of another study of trust and norm enforcement conducted with applicants to the German police by Friebel and Kosfeld (2013). The two studies differ in several respects. First, their study focuses on how individuals self-select into an occupation based on their behavioral characteristics. Instead, we focus on comparing the use and efficacy of norm enforcement institutions in various environments given that subjects are police or non-police. We do not try to determine whether the behavior of police subjects is due to behavioral self-selection into the occupation or whether it results from the training in law enforcement they receive. Second, their subject-pool consists mainly of students in the final year of the high school, who may apply to the police. Instead, most French police commissioners hold a Masters degree. Third, their design is based on a trust game with a third-party and individuals can use both rewards and sanctions in the same periods (in ours it is one or the other), and it does not include endogenous institutions. Our studies are therefore complementary.

⁵ Prendergast (2007) shows that among public employees, if social workers are more likely to be biased in favor of their clients, police officers are more likely biased against their clients, i.e. those who break the law. If behavior in law enforcement transposes to norm enforcement, commissioners may be more inclined to sanction than reward.

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