

**Social norms in context:
Leveraging framing to enhance the effectiveness of a behavioral intervention**

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Background

Social norms have been shown to impact behaviour in a wide variety of contexts (Bicchieri, 2006) and constitute an important informal enforcement mechanism for achieving beneficial collective outcomes (Nyborg et al., 2016). For this reason, the dynamics of norm proliferation within populations has become of increasing interest to researchers in many fields. Social norm interventions, or the disclosure of information regarding the behaviour or attitudes of others, have attracted attention from policymakers as a promising low-cost strategy to encourage the adoption of welfare-improving behaviour and facilitate the spread of corresponding norms (Cialdini et al., 2006; Schultz et al., 2008; Allcott, 2011). Normative considerations are particularly important in the context of social dilemmas in which purely self-interested individuals have, according to traditional neoclassical theory, no intrinsic motivation to cooperate.

While social dilemmas are typically thought of as either problems of provision or appropriation, it has been observed that the same dilemma can in fact be characterized within the context of either frame (Cox et al., 2013). The atmosphere, for example, is typically conceived of as a shared resource that must be preserved through refraining from engaging in carbon-intensive activities. However, the resource can equally be conceived of as one that must be created and maintained by preferentially engaging in carbon-neutral activities. While in both frames of this dilemma, prosocial behavior may amount to the same action (e.g. biking to work), the way in which an individual is implicated with respect to the resource differs in each case. Consequently, the prosocial norm evoked in each frame manifests differently according to whether a dilemma is characterized as a problem of appropriation or provision. In the first instance, the prosocial norm prescribes that one *refrain from* extracting wealth from the resource (e.g. by refraining from using a car to commute), whereas the prosocial norm in the second instance consists of an injunction that one *contribute to* the shared wealth of the resource (e.g. by using a bike).

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Given evidence that norms may be responsible for the changes in behaviour that arise across framing conditions (Dufwenberg et al., 2011; Gächter et al., 2015; Krupka & Weber, 2013; van Dijk et al., 2000; Bernold et al. 2014), we investigate the extent to which the observation above may open an opportunity for policymakers to leverage the effectiveness of social norm interventions. Should we find evidence that the effectiveness of normative information differs across frames, this would suggest that framing could be used as a tool to maximize the effectiveness of social norm interventions. Towards this end, we investigate whether valence framing impacts the effectiveness of a social norm intervention on prosocial behaviour. We accomplish this by employing a between-subjects design to manipulate empirical expectations and original endowments in the simplified framework of a dictator game with no role or payoff uncertainty.

Experimental Design and Hypotheses

This experimental work will be carried out on a targeted sample of approximately 1000 participants using Amazon Mechanical Turk in conjunction with oTree.¹ In the coming weeks,² we will conduct an experiment that consists of two games: a giving game and a taking game that are structurally equivalent in the range of payoff outcomes and their respective theoretical predictions. In each game, we introduce a social norm intervention in which participants are informed that most other workers in a previous session of the experiment transferred a certain amount of money to the participant with whom they were paired. Departing from previous studies, we also vary the intensity of the intervention, as we introduce treatments designed to elicit both high and low empirical expectations in each decision frame.³ We expect that these social norm interventions will lead to significantly more prosociality in both the taking and giving treatments relative to the baseline conditions. Our main research interest, however, is the relative degree to which these interventions affect behaviour in each frame.

Although some studies find no significant difference in prosocial behaviour across frames that differ in valence (e.g. Apestequia & Maier-Rigaud, 2006; Dreber et al. 2013), a good deal of evidence indicates that social dilemmas of positive valence, in which group members must contribute to the creation of a resource, tend to generate higher levels of cooperation than dilemmas of negative valence, in which group members must exercise self-restraint in order to preserve a resource (Andreoni, 1995; Willinger & Ziegelmeyer 1999; Bougherara et al., 2008; Khadjavi & Lange, 2015). Alevy et al. (2014) find that introducing observability in a dictator game increases

¹ Amazon Mechanical Turk offers a number of advantages and is used by a growing number of social scientists to perform incentivized experiments (Buhrmeister et al. 2011).

² Results will be available for the conference.

³ Note that we accomplish this experimentally without deception. In two additional treatments, we use the strategy method in order to investigate the extent to which the effectiveness of the social norm intervention is sensitive to the hypothetical nature of the information provided. Any differences between hypothetical and non-hypothetical treatments could yield an important methodological contribution concerning the study of these interventions.

prosocial behaviour in a giving game, but has no effect on prosociality in a taking game. Given this result, as well as indications that prosocial motivations appear to be more salient in frames of positive valence, we expect a social norm intervention will be more effective in the giving game than in the taking game.

To facilitate an investigation of not only whether, but *how* valence framing may lead to different reactions to social norm interventions, we elicit participants' beliefs (i.e. their normative and empirical expectations) as well as their social preferences. To elicit beliefs we follow incentivized methods in the experimental economics and social psychology literature (Bicchieri & Xiao, 2009; Krupka & Weber, 2013), and to elicit preferences we use the incentivized Social Value Orientation measure developed by Murphy and Ackermann (2014). Thus, in addition to the main research question, our experimental design will allow us to explore the impact of valence framing and social norm interventions on preferences and beliefs, as well as the impact of framing on the relationship between beliefs and preferences and behaviour. Further avenues of exploration made possible by this dataset include effects related to gender, age, education, income, geography, and political affiliation, as well as the possible impacts of empirical and normative expectations on social preferences, of role (dictator vs. receiver) on expectations and preferences, and of empirical expectations on normative expectations.

Implications

This work can have important theoretical as well as practical implications. Following in the line of inquiry that examines the ways in which non-pecuniary factors affect behaviour, the results we obtain here can inform theoretical accounts of decision-making that address the interactions between framing, normative information, and beliefs and preferences. By advancing our knowledge of the conditions under which social norm interventions may be most effective, we can also add to the capacity of policymakers to leverage prosocial motivations in order to improve social outcomes.

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