Journal of Environmental Psychology 38 (2014) 271–278

Contents lists available at ScienceDirect

Journal of Environmental Psychology

journal homepage: www.elsevier.com/locate/jep

Norms, self-sanctioning, and contributions to the public good

Matthew G. Interis [a,*], Timothy C. Haab [b]

[a] Mississippi State University, Department of Agricultural Economics, USA
[b] The Ohio State University, Department of Agricultural, Environmental, and Development Economics, USA

ARTICLE INFO

Article history:
Available online 1 April 2014

Keywords:
Norms
Sanctioning
Public goods

ABSTRACT

The relationship between norms, self-sanctioning, and people's decisions about contributing to public goods is complex and often misunderstood in the public goods literature. We develop a model in which individuals self-sanction (e.g. feel guilty) for contributing less than a subjective norm level of contribution to a public good. From the model we derive the following testable hypotheses: an increase in one's perception of the norm level of contribution to the public good (1) induces negative self-sanctioning and (2) will lead one to contribute more to the public good, and (3) that contributing to the public good induces positive self-sanctioning. To test these hypotheses, we elicit stated preferences for contributions to an organization which offsets carbon emissions and a proxy for self-sanctioning, respondent "self-image." We fail to reject each hypothesis. Our results complement existing studies on how to encourage contributions to the public good.

1. Introduction

Explanations for observed levels of private provision of public goods, which are often higher than predicted by standard economic models (Andreoni, 1988; Ostrom, 2000), have evolved from simple models in which people care only about private good consumption and public good consumption (Bergstrom, Varian, & Blume, 1986) to models in which people enjoy the act of provision itself (Andreoni, 1990) to more current and ever more complex models. The reason for the growing complexity is the need to explain other phenomena associated with providing public goods, for example: adverse effects of incentives designed to increase private provision, the role of norms and social pressure on behavior, and the role of sanctioning in decision-making (Bénabou & Tirole, 2006).

Herein, we examine the interaction between norms and sanctioning. By "sanctioning" we mean voluntary punishment or rewards inflicted by one person onto another (or oneself) who engages in a certain behavior. This kind of sanctioning often takes the form of reduced or increased social approval (Holländer, 1990), moral standing (Sugden, 1984), or reputation (Bernheim, 1994).[1]

In some cases, for example Akerlof (1980), and Bernheim (1994), sanctioning leads to the *emergence* of norms in the first place. Akerlof assumes people earn a reputation value dependent upon whether or not they abide by some expected behavior. In Bernheim's model (upon which Bénabou and Tirole (2006), and Andreoni and Bernheim (2009) are based), esteem is awarded based on the perceived "type" (e.g. generous, kind, environmentally-friendly) of the individual. This desire of people to manage their reputation or esteem leads to certain behaviors which become norms.[2]

In other cases, for example Brekke, Kverndokk, and Nyborg (2003) and Bruvoll and Nyborg (2004), sanctioning is *influenced by* a norm behavior (for example, a given level of contribution to the public good). In these models, sanctioning takes the form of a lower or higher "self-image." Self-image depends not on one's perceived "type" as in Bernheim, but in the action taken itself; the more one's behavior deviates from the "norm" behavior, the lower is one's self-image. This is consistent with much of the sociology, psychology, and marketing literature on self-image or self-concept congruence, whereby the difference between people's image of themselves and their image of how they would like to be determines how likely they are to engage in a behavior (e.g. buy a particular product).[3] When one views himself negatively for behaving inconsistently

* Corresponding author. Tel.: +1 662 325 4787.
E-mail address: interis@agecon.msstate.edu (M.G. Interis).

[1] We refer to increases in prestige, etc. as positive sanctioning, and decreases as negative sanctioning.

[2] See Interis (2011) for a broader discussion on norms which includes definitions.

[3] A seminal paper in the marketing literature on this subject is Grubb and Grathwohl (1967). More modern papers include general discussion in Mehta (1999) and Fitzmaurice (2005), and Chang (2007), and Heath and Scott (1998) on, respectively, smoking and the automobile market.

http://dx.doi.org/10.1016/j.jenvp.2014.03.004
0272-4944/

with a norm behavior, this is referred to as "self-sanctioning" by Bruvoll and Nyborg (2004).

There are two main differences between the Bernheim model and the Brekke et al. model. First, in the Bernheim model sanctioning depends on others' perception of one's type which is signaled by an action, whereas in Brekke et al., sanctioning is dependent upon the action itself. Secondly, whereas in Brekke et al. a change in the norm induces sanctioning, in Bernheim it does not, at least directly. In Bernheim's equilibrium, people's perceptions of type based on an action signal and people's actions themselves must be consistent with each other. If one changes his behavior, in particular away from the norm behavior, he will suffer a penalty in terms of a damaged reputation because others infer his type to be different; if it were possible to change the norm without changing people's inferences about type, there would be no reason for individuals to alter their behavior. Both of these differences stem partially from the fact that Bernheim deals with social sanctions (e.g. changes in reputation which depend on observation of one's behavior by others), where inferences about one's true character based on an action signal play a natural role. Yet Bernheim's model could be expanded to account for self-sanctioning as well.

The primary contribution of this paper is to empirically test whether or not decisions to give to the public good are influenced by self-sanctioned norms, that is, expected behaviors for which punishment for their violation comes from oneself. Such effects on decision-making are independent of observation by others. We examine this issue using survey data in which respondents are asked if they are willing to contribute to a carbon offsetting program. Respondents were asked how much they think the average person should give and they were asked whether they themselves would be hypothetically willing to give a specified amount. The order of these two questions was randomized in order to control for the influence of the responses to one question on those of the other. The respondent's statement of how much he thinks the average person should give is taken to be the norm behavior, as perceived by that respondent, and we examine whether this perception affects his own decision to contribute. We also ask respondents to rank their own self-image, and we examine the effect of the respondent's perception of the norm contribution on his self-image.

From the psychologist's perspective, our study might be seen as an application of the self-discrepancy theory of E. Tory Higgins, John Bargh, and colleagues (e.g. Bargh, 1984; Higgins, 1987; Higgins, Bargh, & Lombardi, 1985; Higgins, Klein, & Strauman, 1985) to the economic problem of public goods provision. Our theory of how the norm contribution affects behavior could be recast in the context of a comparison between one's own actual perception of the self and one's own perception of an ought self. Although self-discrepancy theory has been tested in many studies, to our knowledge, our study is the first application of self-discrepancy theory to public goods provision.

We find that respondent norm perceptions do affect decisions of whether to contribute and that they affect respondent self-image. This suggests that while concerns for how one is perceived by others may influence provision decisions, concerns for how one perceives oneself are also important. Most papers on norms have concentrated on how one is perceived by others (e.g. Akerlof, 1980; Ariely, Bracha, & Meier, 2009; Bernheim, 1994), probably because it is more difficult to measure or make inferences about how one views himself, although Ariely et al. (2009) do mention that self-image could be absorbed by the constant term in their regression. To our knowledge, ours is the first paper attempting to empirically test the relationship between norms and *self*-sanctioning in a public goods provision setting.

2. Hypotheses

We posit that people decide how much to give to a public good in the context of a utility maximization problem similar to that proposed by Brekke et al. (2003). People choose their monetary contribution, c, to maximize their utility (i.e. well-being). In deciding their contributions, people weigh the benefits of having more of the public good and reducing negative self-sanctions (i.e. feeling better about themselves) with the costs of giving up money that could be used to purchase other things they enjoy. Central to our investigation is that self-sanctioning, s, depends on how much one contributes to the public good and the norm level of contribution to the public good, n.

$$s = s(n, c) \tag{1}$$

One way of thinking about the norm in this setup is that it has already emerged, in the sense of heterogeneous people conforming to some behavior. But then at some point, the norm became internalized such that changing the norm affects utility directly. For example, suppose that someone, so as not to appear stingy to fellow congregation members, gives an offering each week at church, which is given in a sealed envelope. The church has been struggling financially and so people have recently been asked to contribute more each week. Although his fellow congregation members do not observe how much he gives (just whether or not he puts an envelope in the dish), he now feels worse about himself if he continues to give his usual weekly contribution.

Our first hypothesis examines the interaction of one's decision about how much to give to the public good and sanctioning.

Action Independence Hypothesis: a person does not (positively) self-sanction if he contributes to the public good.

This hypothesis test determines whether contributing to the public good induces positive self-sanctioning. A rejection of the Action Independence Hypothesis suggests that contribution (c) is indeed an argument of self-sanctioning (s), and $s_c > 0$ where s_c is the partial derivative of s with respect to c.

Does a change in the norm behavior have an effect on self-sanctioning? If changing the norm does not induce self-sanctioning, there should be no resulting change in contribution to the public good since there is neither a change in utility nor a potential increase in utility from changing one's contribution.

Norm Hypothesis: the norm level of contribution to the public good affects peoples' decision-making process as follows:

(i) an increase in the norm induces negative self-sanctioning.
(ii) an increase in the norm induces one to increase his contribution to the public good.

Hypothesis (i) states that the norm contribution (n) is an argument of s, and that $s_n < 0$. That is, people negatively self-sanction when the norm contribution increases because their own contribution to the public good minus the norm contribution to the public good decreases. This hypothesis can be interpreted as testing the self-discrepancy theory of Higgins (e.g. Bargh, 1984; Higgins, 1987; Higgins, Bargh, et al., 1985; Higgins, Klein, et al., 1985) whereby dejection-related emotions such as guilt arise when one's perception of oneself differs from his perception of his ought self, that is, how he believes he ought to be. Hypothesis (ii) states that if the norm increases, people will contribute more when they revisit their decision of how much to contribute. That is, in order to offset some of the negative self-sanctioning resulting from the norm increase, they contribute more to the public good.