



Nudging sustainable consumption: The use of descriptive norms to promote a minority behavior in a realistic online shopping environment



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ABSTRACT

Our research examined effective ways of presenting true descriptive norm information about sustainable consumption in a realistic online shopping environment, even when the current norms for purchasing green products are low. In Experiment 1, participants presented with both “strong” and “weak” formulations of descriptive norms purchased more eco-labeled products and spent more money in comparison with a control condition. Using a different population, Experiment 2 confirmed these results for strong norms, but not for weak ones, and eliminated product salience and differential recall of norms as explanations for these effects. Overall, these findings suggest that even though current levels of green consumption may be relatively low, they can be truthfully described in ways that promote sustainable consumption in a shopping environment with real incentives. These methods can be easily adopted by supermarket chains and department stores.

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1. Introduction

Daily consumption habits in developed countries appear to have significant impacts on our environment. Pollution of phreatic tables by chemical fertilizers or massive carbon emissions may be counted as examples of the negative consequences of modern methods of intensive agriculture and conventional industrial processes. In this context, a major challenge for social scientists is to ease the transition towards more sustainable methods of production and consumption (Oskamp, 2000; Schmuck & Vlek, 2003). While purchasing environmentally responsible products often implies immediate costs for the individual in terms of financial losses or the costs of behavioral change, sustainable consumption should produce longer term benefits for the community (e.g., resource conservation, reduction of greenhouse gases). This places the individual in a social and temporal dilemma regarding the management of limited communal resources (Hardin, 1968; Joireman, 2005; Van Lange & Joireman, 2008). How might we get around this obstacle?

Social psychologists have long recognized two major kinds of social influence: informational and normative (Deutsch & Gerard, 1955). A common “informational” strategy to encourage environmentally responsible behavior has been to provide consumers with numerical information about a product's carbon footprint. However, this strategy has met with limited success (Spaargaren, van Koppen, Janssen, Hendriksen, & Kolfshoten, 2013) and it is unclear whether such informational feedback would work successfully in domains such as grocery shopping. Although some stores (e.g., Casino in France) have begun to display carbon information on product packaging, it is still very difficult for consumers to evaluate the impact of their purchases on the environment in an easy and swift way.

However, a simple and recognizable feature that can be exploited in the grocery shopping context is that some products are presented as “green” and are readily perceived by consumers as such. For example, in Casino supermarkets in France there are three kinds of products that fall into the green category: “AB” (*Agriculture Biologique*) and “Bio” (i.e., two organic certifications) food products, as well as chemical products (e.g., washing powders) that have been certified as meeting European Union (EU) standards of environmentally responsible manufacturing. Products belonging to these three categories are presented on the Casino supermarket

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Fig. 1. Ecolabels used in the present study.

website with distinctive green eco-labels (cf. Fig. 1).

In addition to giving product information, these eco-labels may confer a certain social value on products, insofar as pro-environmental behaviors are socially approved (Félonneau & Becker, 2008). As these labels are likely to be recognizable to French consumers, we investigated the power of social norms as “nudges” (Thaler & Sunstein, 2008) to influence the purchasing of such “green” products. To do so, we use an experimental paradigm (*GreenShop*) that presents actual products in a realistic online shopping interface.

The aim of the present studies is to develop and test a methodology for presenting true and effective descriptive norms in a population where the prevalence of the target behavior (sustainable consumption) is initially low. Before detailing the *GreenShop* procedure, below we first review prior work on the use of social norms to influence environmentally responsible behavior.

1.1. Using norms to encourage pro-environmental behaviors: focus theory and the salience of descriptive and injunctive norms

Social psychology has shown that social norms constitute an important source of social influence since the origins of the discipline, through the studies of Sherif (1935) on normalization or Asch (1951) on conformity. Cialdini and Trost (1998) make a clear distinction between descriptive norms and injunctive norms. Descriptive norms refer to the perception of the prevalence of a behavior (what most others do, what is done), whereas injunctive norms designate what constitutes commonly approved and disapproved conduct in a certain culture (what ought to be done). For Cialdini, Reno, and Kallgren (1990), descriptive norms constitute decisional shortcuts, whereas injunctive norms introduce the prospect of social rewards and sanctions. These authors analyzed the effects of social norms on behavior in terms of the focus theory of normative conduct, which proposes that norms do not influence behaviors in the same way at all times and in all situations. Indeed, norms will motivate behavior primarily when they are activated, which is more likely if they have been made salient. Thus, persons who are contextually focused on normative considerations are most likely to act in norm-consistent ways. Focus theory predicts that if only one of the two types of norms (descriptive or injunctive) is prominent in an individual's mind, it will exert the stronger influence on behavior.

Although some studies have focused on the influence of subjective norms on shopping behavior for organic products (e.g. Gotschi, Vogel, Lindenthal, & Larcher, 2009), as far as we know there are no studies examining the direct influence of descriptive norms on the purchasing of sustainable grocery products. Descriptive norms have however proved to be effective in inducing pro-environmental behaviors such as energy conservation (e.g., Kantola, Syme, & Campbell, 1984), littering (Cialdini et al., 1990), recycling (Schultz, 1999) and transportation behavior (Kormos, Gifford, & Brown, 2015). For example, an experiment conducted in California on domestic energy saving compared the efficiency of

four messages printed on door hangers in order to encourage 290 households to use fans instead of air conditioning (Nolan, Schultz, Cialdini, Goldstein, & Griskevicius, 2008). The most effective message in reducing energy consumption was the social norm intervention informing participants that 77% of San Marcos residents often use fans instead of air conditioning to keep cool in the summer, (with the following mention: “Your Community's Popular Choice!”).

However, it should be noted that descriptive norms may sometimes have unwelcome effects on environmental behavior. A major problem is that letting people know that an undesired behavior is common (e.g. littering, environmental theft) in a given situation may actually lead them to increase their tendency to produce that behavior (Cialdini, 2003). This is neatly demonstrated by Schultz, Nolan, Cialdini, Goldstein, and Griskevicius (2007) in their study of the effects of social norm feedback on household electricity consumption. When a descriptive norm alone was presented, they observed a classic effect of “normalization” (Sherif, 1935) where consumers moved closer to the norm: High consumers reduced their consumption, but low consumers increased theirs. However, when an injunctive norm message was provided with descriptive norm information, the households consuming less energy continued to consume at low rates.

The above findings raise important questions about how to design such interventions in other domains of environmentally responsible behavior. Although there is often widespread agreement that the environment should be protected (suggesting a high injunctive norm), the number of people who actually engage in sustainable consumption in some domains may be rather low (suggesting a low current consumption norm). For example, according to a survey conducted by the French Institute of Statistics (INSEE, 2013), only 29% of low-income households in France declared that they had bought organic products during the previous month in 2012. This suggests that sustainable consumption in this domain is probably not very widespread in the student population (which we target below), as students generally have a low income. Given that the true base-rate of sustainable consumption in our target group is likely to be low, can we nevertheless design effective norm-based interventions that “nudge” this population to purchase more green products?

There are a number of ways of countering the potentially negative effects of norms describing minority behaviors on the desired behavioral outcome. One is to focus people's attention on injunctive norms that counteract the unwelcome effect of descriptive norms (e.g. Schultz et al., 2007). A second is to present relevant descriptive norm information only to those one wants to influence, such as consumers whose energy use is higher than average (e.g. Kantola et al., 1984). A third is to present descriptive norms that are framed positively in order to create an effective message. For example, Goldstein, Cialdini, and Griskevicius (2008) conveyed a descriptive norm (“Almost 75% of guests who are asked to participate in our new resource savings program do help by using their towels more than once”) that accentuates the actual rate

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