Energy Displays and Environmental Behavior: The Role of Social Values and Psychological Distance of Climate Change

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This research explores environmental behavior and the utility of energy displays. The British government, through energy companies, proposes to rollout smart meters across Britain by 2020. Research has shown deployment of these devices may help consumers to reduce between 5 and 15% of their energy use, however evidence varies between trials and there has been little systematic investigation of *when* and *why* people change their behavior. This research aims to examine the impact of values (Schwartz, 1992) and psychological distance (Liberman & Trope, 2009) on environmental behaviors. Values such as power and universalism can be affected in opposite ways when thinking about money (Vohs, Mead, & Goode, 2010) and environment (Schwartz, 1992). We will hence explore how framing energy displays in terms of costs (£)**,** carbon (CO_2) emissions or kilowatt hours (KWh) affects behavior. In particular we will examine the role of social values and psychological distance of climate change in these effects.

Method

Study 1 (N=370) was a cross-sectional study of predictors of environmental behaviors among 1st-year students living in halls at the University of Nottingham. Participants filled in measures of their values and goals, psychological distance of climate change, and environmental behaviors.

Study 2 (N=120) was a web-based experiment. A pre-test at the point of recruitment established baseline scores of values. Subsequently, participants were asked to report their home energy use for one day, and were given feedback either in terms of costs, CO_2 emissions, or KWh. Then they filled in measures of their values, and their environmental behaviors were measured indirectly through a budget allocation task.

Results

Energy behavior and more generally environmental behaviors are affected by people's values (power and universalism) and psychological distance of climate change (study 1). In study 2, people in the "Costs" and "KWh" conditions think equally about environmental and financial reasons to limit their energy use, whereas people in the "CO_2" condition think mostly about environment. In the "CO_2" condition, results suggest that people tend to find benevolence values more important, and to wish to donate more to some environmental charities.

Discussion

Our research provides a greater impact into when and why energy feedback may affect behavior. Importantly, we are interested in how this feedback should be framed, e.g. whether on the cost impact or on the environmental impact of energy use. Note that one of the key policy questions concerning smart meters rollout is whether to have carbon units on the meters as a basic requirement. In particular our research explores impacts above and beyond direct effects on energy use by considering wider environmental behavior and spillover effects.

References

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