

Does it make a difference who tells you to conserve energy? : exploring the effect of social agency on psychological reactance

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Does It Make a Difference Who Tells You To Conserve Energy? Exploring the Effect of Social Agency on Psychological Reactance

Roubroeks, Maaïke; Midden, Cees; Ham, Jaap
University of Technology Eindhoven, Netherlands, The

Nowadays, more and more persuasive technology is developed that attempts to persuade people to perform a specific behavior. For example, a robotic agent might be developed that stimulates energy conservation behavior. In response to such messages, people can comply and adapt their behavior in the proposed direction. However, people can also experience psychological reactance, which may lead to the complete opposite of the target behavior (e.g., using more energy). In the present study, we were interested in the social nature of psychological reactance. According to Social Agency Theory, more social cues lead to more social interaction. We suggest that this also holds for psychological reactance. We argue that there is a positive relation between the level of social agency of the source of a message and the level of psychological reactance that this message can arouse. In an online study, participants received low-controlling or high-controlling advice about energy conservation. This advice was delivered either solely as text, as text with a still picture of a robotic agent, or as text with a brief film clip of the same robotic agent. Results showed that a high-controlling advisory message resulted in more reactance than a low-controlling advisory message. Confirming our expectancies, stronger social agency of the messenger led to more psychological reactance. Implications are discussed.

M.A.J.Roubroeks@tue.nl

Conserving Energy without Cognitive Effort or Conscious Attention? The Power of Ambient Persuasive Technology to Stimulate Energy Conservation Behavior

Ham, Jaap; Midden, Cees; Beute, Femke
Eindhoven University of Technology, Netherlands, The

Persuasive technology can increase energy conservation behavior by for example providing interactive factual feedback embedded in user-system interactions. However, people often lack motivation or cognitive capacity to consciously process such relative complex information (e.g., numerical consumption feedback). Here, we argue that Ambient Persuasive Technology can be employed to provide feedback that needs less cognitive resources, can persuade the user without receiving the user's conscious attention, and in general be more influential than more focal forms of persuasive technology. In Experiment 1, some participants received energy consumption feedback by means of a light changing color (more green=lower energy consumption, vs. more red=higher energy consumption) and others by means of numbers indicating kWh consumption. Results indicated that ambient feedback led to more conservation than factual feedback. Also, as expected, only for participants processing factual feedback, additional cognitive load lead to slower processing of that feedback. In Experiment 2, participants received feedback through smiling or sad faces. Results indicated feedback effects even when these faces were presented for 22 ms, which prohibits conscious perception of these stimuli. These studies shed light on fundamental characteristics of Ambient Persuasive Technology, and suggest that it can have important advantages over more focal persuasive technologies without losing its persuasive potential.

j.r.c.ham@tue.nl