

Private Payment versus Public Praise: Effects of reward type on energy conservation

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One frequently used approach to changing human decision tendencies, is the provision of rewards for desired behavior. In our study we focus on environmental decision making, and decisions about energy consumption in particular. A recent surge of studies has shown that financial incentives may have unexpected side-effects, that diminish their effectivity. One side-effect may be the crowding out of intrinsically motivated behavior -people display behavior because they can earn money with it rather than because they are convinced it is the right thing to do.

We argue that the disadvantages that come with the use of monetary rewards may be overcome if more socially relevant rewards are used. To investigate this, we focused on two different aspects of rewards, namely the type of reward (monetary vs. non-material) and the way this reward was presented (either privately or publicly). We expected that monetary rewards had less effect than non-material ones, and that public rewards would work better than private ones to stimulate energy saving behavior.

Eighty-four employees of a Dutch company participated in this study, divided over 5 conditions: a control group that received no feedback, plus four conditions of a 2x2 design with monetary reward vs. non-material reward and public vs. private rewards as factors. We sent them weekly emails that either contained a monetary reward (between 0 and 7 dollars depending on their energy savings of that week, and that they actually received) or a grade point between 5 and 10. This email either

contained only their own score (private), or the scores of all people in their condition (public).

We measured participant's energy consumption by installing measurement devices that continuously measured their computer's electricity use. We did this for a total of 13 weeks - a baseline measurement of two weeks, a treatment period of 4 weeks in which they were rewarded, and a post-treatment period of 7 weeks to measure the long-term effects of our manipulations. We furthermore measured behavioral intentions, motivation to conserve energy, etc. at two points during the study.

Results were very interesting: as expected, we found main effects of both our manipulations: public rewards worked better than private ones and non-material rewards worked better than monetary rewards. This did not only occur for motivation measures, but more importantly, also for the energy saving. The condition that saved most energy was the public non-material condition, in which 6% mean savings were achieved. Furthermore, these differences persisted even until the end of our study, which was 11 weeks after the start and 8 weeks after we stopped our manipulations.

These are very important results: not only do they add to theorizing about the effectiveness of rewards and their relation to long term behavioral change, within the domain of environmental decisions, they also show that focusing on privately earned monetary rewards may be counterproductive, whereas public non-material rewarding does not carry such disadvantages.