

Shaping Pro-Environment Behaviors

Psychologists help shape the words that will help others to be more environmentally friendly.

What the Research Shows

What works better: Keep Off the Grass or Save the Planet? Psychologists are discovering the types of words and messages that encourage environmentally friendly behaviors. Field research - whether in hotels or literally in the field - are helping everyone from the U.S. Forest Service to conservation-minded businesses to safeguard natural resources more effectively.

Applying theories from social psychology to environmental problems, researchers at Arizona State University tested the power of social norms in influencing behavior. Robert Cialdini, PhD, and two graduate students worked with a local hotel on a program to encourage lodgers to reuse wet towels. The researchers randomly assigned cards with one of five different messages to 260 guest rooms, each with one of the following messages:

- "Help the hotel save energy"
- "Help save the environment"
- "Partner with us to help save the environment"
- "Help save resources for future generations"
- "Join your fellow citizens in helping to save the environment"

The last message, which described a social norm, was the most successful: Forty-one percent of the guests who got those cards recycled their towels. Next best were the messages urging environmental protection and the benefit to future generations, which led to about 31 percent reusing towels. Least successful: The message emphasizing the benefit to the hotel. Only one in five guests with that card reused their towels.

Researchers have found a second type of effective message suitable for other situations. Patricia Winter, PhD, a research social scientist with the Wildland Recreation and Urban Culture Research Unit at the USDA Forest Service's Pacific Southwest Research Station in Riverside, Calif., has tested variations on the tried-and-true "Keep Off the Grass" motif and found them to be effective. These injunctive-proscriptive messages tell people directly what not to do.

Winter evaluated various signs that encourage visitors to stay on established trails in California's Sequoia and Kings Canyon National Parks. Signs stating "Please don't go off the established paths and trails in order to protect the Sequoias and natural vegetation in this park" were the most effective: Only five percent of hikers went off the trail.

However, when signs said, "Many past visitors have gone off the established paths, changing the natural state of the Sequoias and vegetation in this park" some 18.7 people went off the path. Without any signs,

30.9 percent strayed. In this case, describing a negative social norm didn't work as well as issuing a direct request.

Cialdini found similar results: In the Petrified Forest National Park in Arizona, he found that fewer people stole petrified wood from the park when signs indicated the appropriate behavior, in this case, not doing something: "Please don't remove the petrified wood from the park, in order to preserve the natural state of the Petrified Forest."

What the Research Means

Cialdini's colleagues found their hotel results consistent with the social psychological theory that when people are figuring out what to do in a new situation, they take their cue from what seems to be other people's normal behavior - the social norm. Thus, descriptive norm messages that say, "Everybody's doing it!" to promote conservation-minded actions may be most effective.

Meanwhile, in situations requiring people not to do something, injunctive-proscriptive messages ("Don't go off the trail" and "Don't take the wood") seem to work. In fact, Winter found that an injunctive-proscriptive message was twice as effective in deterring off-trail hiking as a descriptive-prescriptive message ("Stay on the trail.") Given this evidence, she believes that in this situation, saying "Don't do this" is the most direct route to gaining compliance.

How We Use the Research

Psychologists are finding that even slight variations in wording can shape behavior powerfully, making it important to write the right kind of message on the right kinds of signs. Given the urgency of conserving natural resources, including energy, this research can help all interested parties, public and private, to more effectively encourage pro-environmental behaviors.

Significantly, not only are certain messages more effective, but some can actually backfire. The studies showed that descriptive-proscriptive messages, which describe undesirable actions as the norm, have unintended power. If signs are going to describe the actions of others, they should present only positive behaviors as the norm.

Winter and psychologist Shawn Burn, PhD, of California Polytechnic State University in San Luis Obispo have developed a handbook to help environmental managers in local government, national parks and the like to develop scientifically sound pro-environment interventions. The handbook encourages resource managers and community leaders to apply social-science findings to remove barriers to pro-environmental behavior and to develop interventions that promote those behaviors, including carefully designed persuasive messages. Similarly, Canadian environmental psychologist Doug McKenzie-Mohr, PhD, delivers workshops and training to communities to explain community-based social marketing strategies.

The research also implies that the typical "save the planet" awareness campaigns aren't useful for shaping specific behaviors due to their lack of specificity. Research into effective persuasion, Winter explains, has shown that specific messages - the right specific messages -- are much more likely than abstract messages to shape behavior. By adapting new insight into the power of social norms for doing the right thing, and the strength of negative injunctions for not doing the wrong thing, environmental interests can promote essential behaviors in a more effective way.

Sources & Further Reading

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Crafting Normative Messages to Protect the Environment

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ENVIRONMENTAL THEFT

In situations already characterized by high levels of socially censured conduct, the distinction between descriptive and injunctive norms offers a clear implication: It is a serious error to focus an audience on the descriptive norm (i.e., what is done in those situations); **instead, public service messages should focus the audience on the injunctive norm (i.e., what is approved or disapproved in those situations).**

Take, for instance, the case of Arizona's Petrified Forest National Park, which suffers from the estimated theft of more than a ton of wood per month by visitors.

New arrivals quickly learn of the past thievery from prominently placed signage: "Your heritage is being vandalized every day by theft losses of petrified wood of 14 tons a year, mostly a small piece at a time."

Although it is understandable that park officials would want to instigate corrective action by describing the dismaying size of the problem, such a message ought to be far from optimal. According to an informed normative account, it would be better to design park signage to focus visitors on the social disapproval (rather than the harmful prevalence) of environmental theft.

Recently, my colleagues and I sought to examine this hypothesis—that in a situation characterized by unfortunate levels of socially disapproved conduct, a message that focuses recipients on the injunctive norm will be superior to messages that focus recipients on the descriptive norm (Cialdini et al., 2003).

To test our expectation, we gained permission from Petrified Forest National Park officials to place secretly marked pieces of petrified wood along visitor pathways. During five consecutive weekends, at the entrance to each path, we displayed signage that emphasized either descriptive or injunctive norms regarding the theft of petrified wood from the park.

The descriptive-norm sign stated, "Many past visitors have removed petrified wood from the Park, changing the natural state of the Petrified Forest." This wording was accompanied by pictures of three visitors taking wood.

In contrast, the injunctive-norm sign stated, "Please don't remove the petrified wood from the Park, in order to preserve the natural state of the Petrified Forest." This wording was accompanied by a picture of a lone visitor stealing a piece of wood, with a red circle-and-bar symbol superimposed over his hand.

Our measure of message effectiveness was the percentage of marked pieces of wood stolen over the 5-week duration of the study. As predicted, the descriptive-norm message resulted in significantly more theft than the injunctive-norm message (7.92% vs. 1.67%).

Using Normative Messages to Reduce Off-Trail Hiking

Pat Winter (PSW) recently completed a study that examined the effectiveness of normative messages in reducing off-trail use. The study was based on the focus theory of normative conduct, which states that norms influence behavior when they are salient to an individual. It was a follow-up to a series of studies conducted in collaboration with Bob Cialdini and colleagues at Arizona State University. In this study the impact of the framing of normative messages was examined through signs posted along trails in Sequoia and Kings Canyon National Parks. Messages were aimed at encouraging visitors to stay on the established trails.

The first two conditions regarded the actions of others and were either positively worded (descriptive-prescriptive),

"The vast majority of past visitors have stayed on the established paths and trails, helping to preserve the natural state of the Sequoias and vegetation in this park."

or negatively worded (descriptive-proscriptive),

"Many past visitors have gone off the established paths and trails, changing the natural state of the Sequoias and vegetation in this park."

The third and fourth conditions stipulated the desired or undesired behavior in the following forms:

"Please stay on the established paths and trails, in order to protect the Sequoias and natural vegetation in this park." (injunctive-prescriptive) and

"Please don't go off the established paths and trails, in order to protect the Sequoias and natural vegetation in this park." (injunctive-proscriptive).

In the fifth condition (control) no experimenter-introduced sign was used. Park signs normally in the settings were present across all conditions.

Digital video recordings of trail use were obtained for two-hour time blocks, randomly assigned to either morning or afternoon sessions along four trails. A total of 2,838 observations of hikers were gathered.

The majority of hikers stayed on the trail (83%). Younger hikers (those appearing to be under 16 years of age) were more likely to go off trail than were adults. Significant differences by experimental condition were found.

The injunctive-proscriptive message ("Please don't go off...") was associated with the lowest percentage of off-trail hiking (5.1% of hikers went off-trail) when compared with all other experimental conditions (16.1%).

In comparison, the descriptive-proscriptive message ("Many past visitors have gone off...") was associated with the highest levels of off-trail use (18.7% of hikers went off-trail), when compared to all other experimental conditions combined (11% of hikers went off-trail).

Findings suggest managers would not want to use messages that refer to an undesirable behavior as something that occurs frequently. To be most effective in reducing undesirable acts, managers would politely state what visitors are not to do in a setting and would include a brief justification.

For more information about this study contact Pat Winter at 951-680-1557 or pwinter@fs.fed.us

Publications and Products related to this subject:

Winter, P.L. 2005. **The impact of normative message types on depreciative activities.** *Investigator's Annual Report*. Available: science.nature.nps.gov/research. 2 p.