Cueing Common Ecological Behaviors to Increase Environmental Attitudes

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Abstract. A major obstacle for promoting sustainable (e.g. ecological) consumer behaviors is people's negative attitude towards these. We tested the potential of a persuasion technique for improving these attitudes. We propose that cueing ecological behaviors people usually engage in, increases the accessibility of previously performed ecological behavior in the memory. As several theories suggest attitudes are inferred from previous behavior, we expected the increased ease of retrieval of ecological actions to result in more favorable attitudes towards these. Two studies confirmed this hypothesis, and further research will verify the success of the technique in promoting actual environmental behavior. Implications for setting up effective social marketing campaigns are discussed.

1 Introduction

For more than 30 year, man has recognized the need for a change in consumer lifestyle towards a sustainable equilibrium between resource consumption and the natural potential to replenish these resources, as evidenced, for example, by the report to the Club of Rome, *Limits to growth* [1] Initially, scientific efforts regarding the sustainability issue have focused almost exclusively on improving the efficiency of consumption through technological innovations, for instance in production processes and waste disposal, while neglecting to search for ways to change consumption patterns and reduce the consumption levels of individual consumers [2]. This one-sided focus might yield very limited results, as achievements based on efficiency alone often result in a rebound effect, where a gain in efficiency is overcompensated by a growth in consumption volumes [3]. It is therefore important to devote scientific studies to address the issue of promoting lifestyle changes.

Although most people think positively about a green, healthy and pollution-free environment, their attitudes towards the necessary behaviors to achieve this are usually far less favorable. Unfortunately, the theory of planned behavior [4] suggests that people's attitudes towards *ecological behavior* are more important than their attitudes towards *ecology* in determining their actual behavior [5]. Clearly, improving the former attitudes would be a first step towards promoting ecological behavior.

1.1   Attitudes

Attempting to change people's attitudes towards environmental conduct requires understanding how people construe these attitudes.   There are different sources attitudes may stem from and we will use one of them as our route to persuasion. Self-perception theory [6, 7] suggests that people may derive their attitudes from their behavior. In situations where attitudes are to be constructed on the spot, or when existing attitudes are ambiguous or weak, people may derive their attitudes towards ecological behaviors from the frequency with which they engaged in them in the past [8, 9].   Now, to estimate frequencies, people often use an *availability heuristic* (e.g.,[10]). This implies that people estimate the frequency of an event by the ease with which instances of the event come to mind. Subsequently, they base themselves on this *experienced* ease of retrieval when making a judgment about themselves [11].

Menon and Raghubir [12] proposed a mere-accessibility framework to explain this effect   They state that perceived ease-of-retrieval serves as both a source of information regarding the decision at hand and as a proxy for the diagnosticity of that information. This implies that increasing ease of retrieval of an judgmental input will affect both the availability and the perceived diagnosticity of this information, increasing the probability of using it in the subsequent judgment.

1.2   Overlap

The technique we propose will increase perceived ease of retrieval by increasing the pool one may draw from when retrieving instances of previous environmental behavior. To visualize this idea we introduce an overlap metaphor (see figure 1). The pool of behaviors people draw from when trying to retrieve instances of previous ecological conduct can be conceived as the intersection area between two sets of behaviors. One set contains all possible behaviors a given person usually displays, and the other set contains all possible ecological behaviors. It is important to keep in mind that assigning a certain behavior to one of these areas is done by each individual in a subjective manner. The sets are not necessarily a reflection of the objective reality.

The intersection of the two sets comprises all ecological behaviors a particular individual engages in. We hypothesize that the experienced ease of retrieving items from this overlap area influences the perceived size of this overlap area. An individual's self-perception as a green consumer is directly proportional to the perceived size of this overlap area. Subsequently, when people derive their attitudes from this information, they will be consistent with this self-perception.
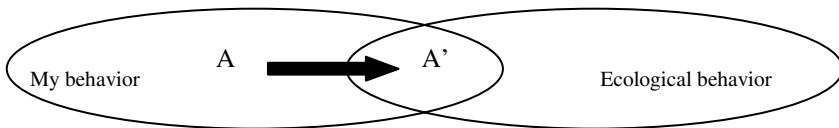

Fig. 1. The overlap methaphor. Items in the overlap area are *ecological behaviors which I perform myself* and is the pool one draws from when retrieving instances of previous environmental behaviors.

We propose that cueing ecological behaviors, which people usually perform, increases the perceived ease of retrieval of instances of previous environmental conduct. Cueing may increase the perceived ease through two routes. Obviously, cueing may have a direct influence on the ease of retrieving examples: If one is cued with 'cycling to work' one would more easily retrieve an instance of 'cycling to work' than if one is not cued.

Second, people may not label several of the ecological behaviors they engage in as such. These are instances which objectively belong in the overlap area, but are wrongly assigned to the left set (see behavior A in figure 1). If several ecological behaviors are deemed irrelevant in this way, this makes it harder to retrieve many instances of them. There are two reasons why people may disregard some ecological behaviors. People may not count the environmental behaviors which everybody engages in, like turning off lights and electrical equipment and avoid littering. Also, people may not count ecological behaviors they attribute to other reasons than their green ethics. For instance, people may not take into account 'saving energy' because they do it for economic reasons or 'sorting garbage' because it is obligatory. We assume there are several such behaviors for almost all people.

From a "logic of conversation"-perspective [14, 15], cueing these behaviors as 'ecological behaviors', may render them relevant again. In order to be accessible as evidence for past environmental conduct, the status of this kind of behaviors needs to change from merely 'something I usually do' (behavior A in figure 1) to 'something *environmental* I usually do' (behavior A' in figure 1). Relocating some of these items will increase the *perceived ease* with which ecological behaviors come to mind.

2   Studies

2.1   Study 1

In a first study we verified whether the assumed relationship between perceived overlap and attitude is valid. We measured the perceived overlap by asking our participants to list as many ecological behaviors as possible they perform themselves. Then we asked them to rate how difficult this was on a seven-point scale. Attitude towards ecological behaviors was measured with a three-item questionnaire. As an alternative and more implicit measure of attitude we asked people to associate freely with respect to the concept 'ecological behavior'.

Analog with the finding of Schwarz et al.[11], that people use ease of retrieval of instances of assertive behavior as a base to make a judgment about their own assertiveness, we hypothesized that the ease of retrieval of past ecological behaviors of the participants is related to their attitudes towards ecological behaviors.

Study 1 confirms the relationship between perceived behavioral overlap and people's attitudes towards ecological behaviors. The largest correlation we found was the one between our explicit measure of attitude and the reported difficulty of coming up with performed ecological behaviors ($r = .52$, $p < .01$, n = 42). This suggests that it is people's *perception* of the size of the overlap, rather than the size itself, which is related to their attitude, although the correlation between the number of generated instances and attitude was significant as well ($r = .42$; $p < .01$).

2.2 Study 2

Assuming that a more favorable attitude towards ecological behavior will result in more environmentally friendly behavior [16-18], we identified a factor in study 1, perceived overlap, which is associated with this attitude, and may therefore be exploited in a technique to promote environmental conduct. We propose that cueing with ecological behaviors that are usually performed by most people will increase this perceived overlap and, as a result, will improve participants' attitude.

2.2.1 Design and Procedure

In this experiment 160 undergraduate students took part in exchange for partial course credit. Using the responses collected in the behavior-listing task of Study 1, we constructed two different sets of behaviors: a high-overlap and a low-overlap set. The high-overlap set contained the eight most commonly mentioned *ecological behaviors which I do perform myself* from the behavior generation task in Study 1. The low-overlap set contained the most often mentioned *ecological behaviors which I do not perform*, another behavior generation task of Study 1, on which we did not report. A pretest showed that both sets of behaviors did not differ on *environmentally friendliness* (n=19, $t(18)$ = -.3, p = .77) Participants were randomly assigned to one of three conditions: the high-overlap, the low-overlap, or the control condition.

In the high-overlap condition, participants received the high-overlap set and had to indicate, for each of the eight behaviors included, whether or not they usually display that behavior on a seven point scale (ranging from 'I totally don't agree' to 'I totally agree'). Participants in the low-overlap condition had to indicate whether or not they usually display each of the eight behaviors included in the low-overlap set. Finally, participants in the control condition had to indicate whether or not they engaged in eight behaviors that were not related to ecology (e.g., 'reading a newspaper every day', 'often eating French fries').

We tested whether our manipulation is successful in turning participant's attitudes towards ecological behaviors more favorable and whether it changes people's self-perception as ecological consumers.

2.2.2 Results

The data of study 2 support our claim that using a positive approach in green behavior promotion, emphasizing the efforts people already do is an efficient way to support the cause at hand. We demonstrated we can manipulate the perceived overlap, and render attitudes towards ecological behaviors more favorable ($F(2,157)$ = 7.15, $p <$ .01). The attitude of the high-overlap group (M = .39) was higher than the one of the control group (M = -.30, $F(1,157)$ = 13.84, p < .01), whereas the attitudes in the low-overlap (M = -.07) condition did not significantly differ from the control group ($F(1,157)$ = 1.84; p = .23). Not only did the attitudes improve, we also observed a change in participants' self-perception as a green consumer ($F(2,157)$= 10.33; p < .01). Participants in the high-overlap group perceived themselves as more responsible consumers (M = .47) than those in the control group (M = -.11; $F(1,157)$ = 9.95, p < .01), while there was no difference between the low-overlap group (M = -.35) and the control ($F(1.157)$ = 1.48; p = .23).

3   Implications

The results of two lab studies allow us to propose some guidelines for designing effective social marketing campaigns, in all areas of sustainable behavior. Traditional social marketing campaigning often implies emphasizing how poorly we are doing in a certain area. Obviously, if it wasn't for drawing attention to a flaw in our course of action, there would be no need to campaign in the first place. We propose an alternative approach, emphasizing that people have, in fact, already adopted several changes for the better. Our data suggest that drawing attention to the ecological behavior we already engage in increases the behavioral overlap and improves our attitudes towards ecological behaviors, and we hypothesize, with an analog effect on behavior.

Second, traditional campaigns usually provide an external motivation for a behavioral change, asking people to do something for the benefit of all. It is a well-documented fact that external motivation results in reduced performance and reduced persistence of a behavior, especially when that behavior is not monitored by a punishing entity [19].   Therefore it is not surprising that social marketing efforts often have only limited success in the longer run. Increasing the ease of retrieval results in a different perception of the self and therefore might lead to internal motivated behavior, which would lead to better performance and persistence of the promoted behavior. People see themselves more as someone who is willing to do an effort for the environment, or any other cause, and act upon that self-perception.

The technique we presented in this paper is related to a class of persuasion methods, which use consistency and self-perception as drivers for the effect. Compared to foot-in-the-door related strategies [20, 21], the self-prophecy phenomenon [22], the labeling technique [23-25], and induced hypocrisy [26] our overlap technique involves a less intrusive procedure.   Unlike the mentioned strategies, the overlap technique does not require a first request (foot-in-the-door), an enquiry into future intentions (self-prophecy), the provocation of a certain behavior (labeling) or a communication emphasizing people's personal norms and making them conscious of past failure to comply with these norms (induced hypocrisy). It merely consists of cueing instances of past engaging in the target behavior. Therefore the technique is highly appropriate for application in mass communication campaigns.

References

1. Meadows, D. H., Meadows, D. L., Randers, J., and Behrens, W. W.: The limits to growth - A report for the Club of Rome project on the predicament of mankind. Universe Books, New York (1972).
2. Fuchs, D. A., and Lorek, S.: Sustainable Consumption governance: A history of promises and failures. Journal of Consumer Policy 28 (2005) 261-288.
3. Greening, L. A., Green, D. L., and Difiglio, C.: Energy efficiency and consumption - The rebound effect - A survey. Energy Policy 28 (2000) 389-401.
4. Ajzen, I.: The theory of planned behavior. Organizational Behavior and Human Decision Processes 50 (1991) 179-211.
5. McCarthy, J. A., and Shrum, L. J.: The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior. Journal of Business Research 20 (1994) 53-62.

6. Bem, D. J.: Beliefs, attitudes, and human affairs. Brooks/Cole, Belmont, CA (1970).
7. Bem, D. J.: Self-perception theory. In: Berkowitz, L. (ed.): Advances in experimental social psychology. Academic Press, New York (1972).
8. Buss, D. M., and Craik, K. H.: The act frequency approach to personality. Psychological Review 90 (1983) 105-126.
9. Holland, R. W., Verplanken, B., and Van Knippenberg, A.: On the nature of attitude-behavior relations: the strong guide, the weak follow. European Journal of Social Psychology 32 (2002) 869 - 876.
10. Tversky, A., and Kahneman, D.: Availability: A heuristic for judging frequency and probability. Cognitive Psychology 5 (1973) 207-232.
11. Schwarz, N., Strack, F., Bless, H., Klumpp, G., Rittenauer-Schatka, H., and Simons, A.: Ease of retrieval as information: another look at the availability heuristic. Journal of Personality and Social Psychology 61 (1991) 195-202.
12. Menon, G., and Raghubir, P.: Ease-of-Retrieval as an Automatic Input in Judgments: A Mere-Accessibility Framework? Journal of Consumer Research 30 (2003) 230-243.
13. Feldman, J. M., and Lynch, J. G.: Self-Generated Validity and Other Effects of Measurement on Belief, Attitude, Intention, and Behavior. Journal of Applied Psychology 73 (1988) 421-435.
14. Grice, H. P.: Logic and conversation. In: Cole, P., and Morgan, J. L. (eds): Syntax and semantics: Speech acts. Academic Press, New York (1975).
15. Schwarz, N.: Judgment in a social context: Biases, shortcomings, and the logic of conversation. In: Zana, M. P. (ed.): Advances in experimental social psychology. Academic Press, San Diego, CA (1994).
16. Kaiser, F. G., Wölfing, S., and Fuhrer, U.: Environmental attitude and ecological behavior. Journal of Environmental Psychology 19 (1999) 1-19.
17. Minton, A. P., and Rose, R. L.: The Effects of Environmental Concern on Environmentally Friendly Consumer Behavior: An Exploratory Study - Dimensions of Environmental Concern. Journal of Business Research 40 (1997) 37-48.
18. Gill, J. D., Crosby, L. A., and Taylor, J. R.: Ecological concern, attitudes, and social norms in voting behavior. Public Opinion Quarterly 50 (1986) 537-554.
19. Deci, E. L., and Ryan, R. M.: A motivational approach to self: Integration in personality. In: Dienstbier, R. (ed.) Nebraska Symposium on Motivation. University of Nebraska Press, Lincoln (1991).
20. Cialdini, R. B.: Influence: science and practice. Allyn and Bacon, Boston (Mass.) (2001).
21. Freedman, J. L., and Fraser, S. C. "Compliance without pressure: the foot-in-the-door technique.," Journal of Personality and Social Psychology 4 (1966): 195-202.
22. Spangenberg, E. R., and Greenwald, A. G.: Social influence by requesting self-prophecy. Journal of Consumer Psychology 8 (1999) 61-89.
23. Burger, J. M., and Caldwell, D. F.: The Effects of Monetary Incentives and Labeling on the Foot-in-the-Door Effect: Evidence for a Self-Perception Process. Basic and applied social psychology 25 (2003) 235-241.
24. Kraut, R. E.: Effects of social labeling on giving to charity. Journal of experimental social psychology 9 (1973) 551-562.
25. Miller, R. L., Brickman, P., and Bolen, D.: Attribution versus persuasion as a means for modifying behavior. Journal of Personality and Social Psychology 31 (1975) 430-441.
26. Aronson, E., Fried, C., and Stone, J.: Overcoming denial and increasing the intention to use condoms through the induction of hypocrisy. American Journal of Public Health 81 (1991) 1636-1638.