Promoting Sustainable Behavior: An Introduction to Community-Based Social Marketing

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Most programs to foster sustainable behavior continue to be based upon models of behavior change that psychological research has found to be limited. Although psychology has much to contribute to the design of effective programs to foster sustainable behavior, little attention has been paid to ensuring that psychological knowledge is accessible to those who design environmental programs. This article presents a process, community-based social marketing, that attempts to make psychological knowledge relevant and accessible to these individuals. Further, it provides two case studies in which program planners have utilized this approach to deliver their initiatives. Finally, it reflects on the obstacles that exist to incorporating psychological expertise into programs to promote sustainable behavior.

> *Don't let us forget that the causes of human actions are usually immeasurably more complex than our subsequent explanations of them.*
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> —Fyodor Dostoevsky

I have a simple wish. Each time I journey to the library to review new contributions to the environmental psychology literature, I hope that I will see an individual whom I know, from either a nongovernmental organization, or the Department of the Environment, or the city, who works on environmental programs. My wish is that I will find this individual reviewing the literature and contemplating how best to apply it to program delivery. I have carried this wish for a decade now and it is yet to be realized. Consequently, I have become increasingly convinced that despite our desire to contribute to the attainment of a sustainable future, our publications contribute far more to career advancement than they do to environmental

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betterment. We have created a psychological literature that is largely invisible to those who can most benefit from it. Lack of visibility, however, does not equal irrelevance. Changing individual behavior is central to achieving a sustainable future. Accordingly, psychology is of considerable relevance to the delivery of effective environmental programs. Desirable goals, such as lowering greenhouse gas emissions, reducing waste, and increasing energy and water efficiency can be met only if high levels of public participation are achieved. Despite the apparent importance of psychological knowledge to effective program design, program planners have yet to widely access or utilize it. Indeed, my experience in working with these individuals has led me to believe that most are not aware that our literature exists or of its relevance to their efforts. I expect that the pressures that exist to publish in academic journals has led to few attempts to make our expertise accessible to those who can most benefit from it. Until we do this we can feel self-righteous in conducting environmental research, but I doubt that we are participating in a truly meaningful enterprise. In short, until we reach out to the individuals who design and deliver environmental programs, our efforts will remain invisible to those who can most benefit from them.

This article presents one attempt to make psychological knowledge visible and relevant to program planners. It outlines a process, community-based social marketing, for developing and delivering environmental programs that is based on psychological expertise. This process has now been presented via workshops, publications, and a Web site (www.cbsm.com) to several thousand program planners in Canada (Kassirer & McKenzie-Mohr, 1998; McKenzie-Mohr, 1996; McKenzie-Mohr & Smith, 1999). This article also presents two attempts by planners to apply this information and reflects on the challenges faced in its application.

To date, most programs to foster sustainable behavior have been information-intensive. In these campaigns, media advertising and the distribution of printed materials are used to foster behavior change. Information-intensive campaigns are usually based on one of two perspectives on behavior change. With the first, program planners assume that by enhancing knowledge of an issue, such as global warming, and encouraging the development of attitudes that are supportive of an activity, such as using mass transit, behavior will change. Unfortunately, a variety of studies have established that enhancing knowledge and creating supportive attitudes often has little or no impact upon behavior. For example:

- Householders who were interested in enhancing the energy efficiency of their homes participated in a comprehensive workshop on residential energy conservation. Despite significant changes in knowledge and attitudes, behavior did not change (Geller, 1981).
- Householders who volunteered to participate in a 10-week study of water conservation received a booklet that described the relationship between water use and energy use, and methods were described that

could conserve water. Even though great attention was given to preparing the booklet, it had no impact upon water consumption (Geller, Erickson, & Buttram, 1983).

- Two surveys of Swiss respondents found that environmental attitudes and knowledge were poorly associated with environmental behavior (Finger, 1994).

- When 500 people were interviewed regarding their personal responsibility for picking up litter, 94% acknowledged responsibility. When leaving the interview, however, only 2% picked up litter that had been "planted" by the researcher (Bickman, 1972).

The second perspective suggests that behavior is strongly influenced by economic motives. When planners adopt this perspective, they are apt to deliver programs that highlight the economic advantages of engaging in a specific activity, such as installing compact fluorescent bulbs, assuming that the public is "rational" and will act in their economic self-interest. As before, information-intensive programs that have been based on this perspective have also been largely unsuccessful. For instance, California utilities annually spend $200 million to foster residential energy efficiency through the purchase of energy-efficient innovations, such as programmable thermostats, or through lifestyle changes, such as turning down air conditioning before leaving for work (Costanzo, Archer, Aronson, & Pettigrew, 1986). Despite this expensive advertising campaign, household energy use has remained essentially unaltered. Similarly, when the Residential Conservation Service (RCS) was brought into existence by an act of the U.S. Congress in 1978, utilities were mandated to provide their customers with free home energy audits, low-cost loans, and information on contractors and suppliers. Evaluations of this effort suggest that on average energy use per household was reduced by 2–3% (Hirst, 1984; Hirst, Berry, & Soderstrom, 1981; U.S. Department of Energy, 1984). Considering that millions of dollars were spent on the RCS and that energy savings of substantially more than 2–3% are attainable, this initiative can only be viewed as a failure. A U.S. National Research Council report concluded that the RCS overlooks "the rich mixture of cultural practices, social interactions, and human feelings that influence the behavior of individuals, social groups and institutions" (Stern & Aronson, 1984).

Information campaigns likely proliferate because it is comparably easy to air radio or television advertisements or distribute printed material. Advertising, however, is often a very expensive way of reaching people. In one extreme case, a California utility spent more money on advertising the benefits of insulation than it would have cost to upgrade the insulation of targeted homes (Pope, 1982). The failure of mass-media campaigns to foster sustainable behavior is due to some extent to inadequate design of the messages, but more importantly to an underestimation of the difficulty of changing behavior (Costanzo et al., 1986). Costanzo et al. note

that most mass-media campaigns to promote energy efficiency are based upon traditional marketing techniques in which the sustainable activity is viewed as a "product" to be sold. Advertising, they indicate, is effective in altering our preference to purchase one brand over another. Altering consumer preferences, however, is not creating new behavior. As they note: "These small changes in behavior generally require little expense or effort and no dramatic change in lifestyle" (p. 256). In contrast, promoting engagement in a new activity, such as walking or biking to work, is much more complex. An array of barriers to these activities exist, such as concerns over time, safety, weather, and convenience. The diversity of barriers that exist for any sustainable activity means that information campaigns alone will rarely bring about behavior change.

In Canada, community-based social marketing has emerged as an attractive alternative to information-intensive campaigns. This emergence can be traced to a growing understanding on the part of program planners that conventional campaigns, which rely heavily or exclusively on media advertising, can be effective in creating public awareness and improved understanding of issues but are limited in their ability to foster behavior change (Aronson & Gonzales, 1990; Costanzo et al., 1986; Yates & Aronson, 1983).

Community-Based Social Marketing

Community-based social marketing is composed of four steps: uncovering barriers to behaviors and then, based upon this information, selecting which behavior to promote; designing a program to overcome the barriers to the selected behavior; piloting the program; and then evaluating it once it is broadly implemented (McKenzie-Mohr & Smith, 1999). Community-based social marketing merges knowledge from psychology with expertise from social marketing (see also Geller, 1989). Social marketing emphasizes that effective program design begins with understanding the barriers people perceive to engaging in an activity (see, for example, Andreasen, 1995). Social marketing also underscores the importance of strategically delivering programs so that they target specific segments of the public and overcome the barriers to this segment's engaging in the behavior.

Uncovering Barriers and Selecting Behaviors

Reduction of the municipal solid waste stream can occur from a variety of activities, such as recycling, source reduction, or reuse. Similarly, lowering greenhouse gas emissions can be achieved by such actions as using alternative transportation (carpooling, bicycling, telecommuting) or lowering household energy use (upgrading insulation levels, installing low-flow showerheads, or closing blinds before leaving for work). Although it might be desirable to promote all of these

behaviors, resources rarely exist to foster public participation in a wide range of activities. Consequently, it is necessary to make an informed decision regarding which behavior(s) to promote. With community-based social marketing, the decision regarding which behavior(s) to promote is based primarily upon the answer to three questions. First, what is the potential impact of the behavior? That is, what level of reduction in greenhouse gases are achievable, for example, through modal transportation shifts or the purchase of more-energy-efficient vehicles? Second, what barriers exist to engaging in these activities? In deciding which behavior to promote, it is important to know what the barriers are to broad public participation in the activity. In a limited number of cases, the psychological literature has already identified barriers (see, for example, McKenzie-Mohr, Nemiroff, Beers, & Desmarais, 1995; Schultz, Oskamp, & Mainieri, 1995), though frequently this information needs to be contextualized. For instance, in colder climates winter can be a significant barrier to year-round backyard composting, whereas weather may not be a consideration at all in other areas. In many cases, barriers have not been identified (see Stern & Oskamp, 1987, for a review of the environmental psychology literature), necessitating that preliminary research be conducted prior to deciding which behavior(s) to promote. In identifying barriers, social marketers often identify differences between individuals who engage in the activity and those who do not. Several research methods can be utilized to uncover these differences, including focus groups, observational studies, and survey research. Further, statistical techniques, such as discriminant analysis and logistic regression, can be particularly useful in identifying and prioritizing differences. For example, these techniques were used to distinguish householders who engage in backyard composting from those who did not (McKenzie-Mohr et al., 1995). This research revealed that in comparison to noncomposters, individuals who compost perceive reducing waste as being more important, and composting as less unpleasant, inconvenient, and time consuming.

Barriers to a behavior may be either internal (e.g., lacking the perceived skill to install a programmable thermostat) or external (e.g., absence of programmable thermostats locally; see Stern, this issue). Also, numerous barriers exist for any behavior, and these barriers appear to be behavior specific (McKenzie-Mohr et al., 1995; Oskamp, 1995; Tracy & Oskamp, 1983–84). That is, what impedes an individual, for example, from walking to work is distinct from what might preclude her from closing the blinds each morning or purchasing products with recycled content. Accordingly, the genesis of a sound community-based social marketing strategy is identifying barriers. Without detailed knowledge of barriers, it is highly unlikely that an effective strategy can be developed. Psychological expertise in research methods and statistical techniques can contribute significantly to the uncovering of barriers and the development of sound strategies.

The third question to be asked in determining which behavior(s) to promote is whether the resources exist to overcome identified barriers. An important

consideration in contemplating the answer to this question is whether the behavior is one-time (e.g., purchasing an energy efficient vehicle) or repetitive (e.g., closing blinds each day before leaving for work). In general, it is more difficult to alter and maintain repetitive behavior changes than it is to bring about one-time changes in behavior (see for example, Kempton, Darley, & Stern, 1992; Kempton, Harris, Keith, & Weihl, 1984).

Designing Strategies

An effective social marketing strategy removes barriers to the behavior to be promoted. For example, in fostering the purchase of products with recycled content, the King County Commission in Washington State first identified barriers to their purchase and then systematically removed them (Herrick, 1995). Survey and focus group research indicated the existence of five barriers to the purchase of these products. The commission felt that little could be done with respect to two of these barriers: the perception that these products cost more and were of inferior quality. The three other barriers, low awareness of which products had recycled content, suspicion regarding environmental claims of manufacturers, and the difficulty of quickly identifying these products while shopping, could, however, be overcome. Although this program utilized traditional media and in-store advertising, it relied primarily upon a shelf prompt that advertised that a product had recycled content. The results from this social marketing strategy demonstrate the importance of first identifying barriers and then systematically removing them. Analysis of electronic inventories of participating retail stores indicated that purchases of recycled-content products rose 27% as a consequence of this social marketing strategy. This successful program has now been adopted by a number of cities throughout the United States.

Psychological expertise can be readily applied to removing barriers to behavior change (see McKenzie-Mohr & Smith, 1999, for an overview of how this knowledge can be applied to program design). For example, when low motivation exists to engage in a sustainable behavior, it can be enhanced through the use of commitment strategies (see Katzev & Wang, 1994) or incentives (see Gardner & Stern, 1996). When individuals do not perceive an activity as being the "right thing to do," knowledge regarding the use of injunctive and descriptive norms can be applied (see, for example, Cialdini, Reno, & Kallgren, 1990). Numerous other applications of psychological knowledge to strategy design can be made (see Bator & Cialdini, this issue, for further examples).

Piloting

Following the development of a strategy, it should be piloted prior to being broadly implemented. Once again, psychological expertise in research methods

and statistics can lead to cost-effective and definitive pilots. With community-based social marketing, pilots are repeated until the desired level of behavior change has been achieved.

Evaluation

Despite the expense of delivering many environmental programs, evaluations of their effectiveness are infrequent. Community-based social marketing stresses the evaluation of implemented programs. Further, it emphasizes the direct measurement of behavior or its consequences (e.g., energy use) rather than relying on self-report measures.

Case Studies

Community-based social marketing has now been applied in a variety of projects across Canada. Here are two examples (others can be found at www.cbsm.com and www.toolsofchange.com).

Backyard Composting

The province of Nova Scotia recently announced a ban of all organic materials from landfills. In response, municipalities throughout the province are developing initiatives to remove organics from the waste stream. In King and Annapolis County, local officials decided to promote backyard composting as their preferred method of meeting this ban. Following the principles of community-based social marketing, they first conducted survey research to identify local barriers to backyard composting and determine present levels of backyard composting. This research identified that a surprisingly high number of residents (56%) were composting. Further, this research indicated that in comparison with composters, those who were not composting perceived it to be inconvenient and unpleasant, not the "right thing to do," and lacked basic knowledge on how to compost. Based on a review of the psychological literature, the program planners developed a unique initiative to leverage current levels of composting and overcome identified barriers. Given the high number of householders who were already composting, it was decided to leverage this participation in encouraging others to backyard compost. Students contacted local residents by telephone and asked them if they presently composted. Those who did were asked to make two commitments. The program planners reasoned that one explanation for the absence of community norms supporting backyard composting was the relative invisibility of composting compared to other activities, such as curbside recycling. Accordingly, those who composted were asked to commit to placing a decal on the side of their blue box or garbage container indicating that they composted. As a form of commitment, the act of

placing a decal on the side of their blue box or garbage container served to increase the likelihood that the household would compost more effectively, while at the same time fostering the development of descriptive social norms (Cialdini et al., 1990) in which composting is seen as appropriate behavior.

Based upon previous research that has successfully utilized commitments to spread the adoption of a new technique, grass cycling (Cobern, Porter, Leeming, & Dwyer, 1995), a similar approach was used in this project. Householders who composted were asked to speak to their neighbors about composting and provide them with a package that dispelled perceptions that it was unpleasant and inconvenient, and provided requisite information on how to compost. While fully 81% agreed to place a decal on their blue box or garbage container, very few were willing to speak to their neighbors. This reluctance was a significant setback to the delivery of the program and underscores the importance of piloting strategies before broad implementation.

Those who indicated on the telephone that they did not compost were asked if they would be interested in beginning to compost. Those who expressed interest were visited by an employee who addressed the specific barriers that had been identified in the survey research. Although funding did not allow evaluation of this project, a pilot project that had been conducted the previous year, upon which this larger project was partially based, revealed that 80% of those household residents who had expressed an interest in composting were found to be composting in a follow-up several months later (K. Donnelly, personal communication, 1999).

Encouraging Water Efficiency

As a consequence of lawn watering, summer water use can rise 50% relative to other times of the year. In an effort to offset the cost of building a new water-processing plant, Durham Region, Ontario, developed a community-based social marketing strategy to reduce water use by 10% (Durham Region, 1997). Through survey techniques and direct observation, barriers to water-efficient lawn care were identified. Pilot households were divided into two groups. Householders in the first group were visited by a student employee on bicycle who spoke to residents about efficient water use. Although psychological knowledge was not used to shape the presentation of this information, residents were provided with a water gauge (one identified barrier was that residents were unaware of when they had watered their lawn adequately) and a prompt that was to be placed over the outside water faucet that reminded residents to water their lawn on either odd or even calendar days based upon their house numbers and to water their lawns only when it had not rained in the previous week. Further, these residents were asked to sign commitments that they would water their lawns only on odd or even days and that they would limit their watering to one inch per week (72% of those approached made these commitments). Meanwhile, those householders who were in the

"information only" condition were provided with an information packet on efficient water use. Compared to baseline measurements, observation of residents indicated that those householders who were visited by cyclists decreased watering by 54%, whereas those in the "information only" control group increased lawn watering by 15%. Further, watering lawns for longer than 1 hour decreased by 66% when householders were visited by a cyclist, whereas it increased by 96% in the other condition. In total, this program cost $88 (Canadian) to deliver per household, for a total program cost of $80,000. Durham Region calculates that the achieved reduction in peak water consumption allowed 250 new homes to be serviced with a savings in water plant development costs of $945,000.

Reflections

In the experience of the author, psychologists are most likely to have an influence in the area of program design. That is, program planners are receptive to techniques that they can employ easily, such as the use of commitment strategies or vivid communications, into the delivery of their programs (see Bator & Cialdini, this issue, for further examples). The other components of community-based social marketing—identifying behaviors and their barriers, piloting, and evaluation—are far less likely to be utilized. It is useful to reflect on why program planners are less likely to incorporate other central aspects of sound program design and delivery.

Although identifying barriers is a critical step in deciding whether it is wise to attempt to promote a specific behavior as well as craft a social marketing strategy, significant pressures exist to skip this step. Indeed, in a recent review of Canadian environmental programs, most programs were found not to identify barriers prior to developing strategies (Kassirer & McKenzie-Mohr, 1998). A variety of reasons exist for not identifying barriers. Three of the most common include

- Program planners are likely to believe that the barriers to an activity are already well known.
- Most programs must be delivered within a short period of time, which makes conducting barrier research a challenge.
- The organizations that deliver these programs suffer from financial constraints that make additional work difficult to justify.

Social psychological research suggests that we readily form personal theories regarding the behavior of others and then search selectively for information that confirms our beliefs. This suggests that program planners are apt to believe that they already fully understand the barriers to an activity, independent of whether they actually do. Although as psychologists we may not be able easily to persuade them that their personal theories may be in error (particularly when programs are not evaluated and, therefore, do not provide feedback on their efficacy to their

designer), we are more likely to be effective if we can provide research findings on the barriers to an activity that they are interested in promoting. To date, psychological research on barriers primarily has been confined to energy efficiency and waste reduction. We quickly need to develop knowledge regarding the barriers to a much broader set of activities. Further, we need to participate in interdisciplinary efforts to identify the most important activities to research.

Conducting barrier research will add significantly to the length of time required to deliver a project. In many cases, it is reasonable to assume that collecting this information can add 4 to 8 weeks to the length of a project. Further, obtaining this information can add substantially to the cost of delivering a program. This additional time and cost are likely to pale, however, compared to the time and cost of redelivering a program because the first attempt failed to change behavior. It would be useful if we could provide return-on-investment (ROI) information that compared the relative success of projects in which barriers were first identified with those in which they were not.

As with identifying barriers, time and financial constraints also limit the likelihood that programs will be piloted or evaluated. Given that psychological research has revealed that many programs do not change behavior, adopting pilots and evaluations is particularly important.

Over the last several years, I have been attempting to make psychological knowledge more accessible to program planners through delivering workshops and writing specifically for them and by developing a Web site (www.cbsm.com) that allows easier access to relevant information. For example, the Web site provides a guide to fostering sustainable behavior and searchable databases of relevant articles, case studies, and graphics. Further, the site provides the opportunity for program planners to share information with one another and with psychologists through a discussion forum. The feedback that I have received on these attempts to make psychological knowledge more visible suggests that program planners are willing recipients of this information and are anxious to have a dialogue with psychologists regarding program delivery. To ensure that this happens, we need to make certain that attempts by psychologists to work more actively with program planners are not an impediment to tenure and promotion.

Conclusion

To date, little attention has been paid to ensuring that psychological expertise regarding behavior change in general, and fostering sustainable behavior in particular, is shared with program planners. Substantial opportunities exist to work with these individuals in promoting a wide range of sustainable behaviors. As environmental psychologists we need to consider how best to share our expertise with program planners and ensure that our efforts are well integrated with their needs. Behavior change may be central to the transition to a sustainable future, but

psychological knowledge has yet to become central to the development of initiatives to foster sustainable behavior.

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