FOSTERING SUSTAINABLE BEHAVIOR:

BEYOND BROCHURES

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Abstract

The transition to a sustainable future will require sweeping changes in behavior. To date, most campaigns to foster these behavioral changes have been information intensive and have had little impact. Community-based social marketing is presented as an attractive alternative to conventional information intensive campaigns. This approach blends together knowledge from the field of social marketing with behavior change tools that have been investigated in psychology. Community-based social marketing is based on five steps: careful selection of the behavior(s) to be promoted; identification of the barriers and benefits to the behavior, development of a strategy that addresses these barriers and benefits; pilot testing the strategy; and finally; broad scale implementation.

The cornerstone of sustainability is behavior change. When members of a community use resources wisely, for example by recycling or taking mass transit, a community moves toward sustainability. To promote sustainability, then, it is essential to have a firm grasp of how to effectively encourage individuals, businesses and organizations to adopt behaviors that are resource efficient and/or improve resource quality.

To date, most initiatives to foster sustainable behavior have relied upon large-scale information campaigns that utilize education and/or advertising to encourage behavior change. While education and advertising can be effective in creating awareness and in changing attitudes, numerous studies show that behavior change rarely occurs as a result of simply providing information and when changes do occur they are frequently modest in nature (Geller, 1981; Geller, Erickson, & Buttram, 1983; Jordan, Hungerford & Tomera, 1986; Midden, 1983; Tedeschi, Cann & Siegfried, 1982). Community-based social marketing is an attractive alternative to information-based campaigns. Community-based social marketing is based upon research in the social sciences that demonstrates that behavior change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activities' benefits (McKenzie-Mohr & Smith, 1999).

Community-based social marketing involves five steps: 1) Selecting which behavior(s) to target; (2) Identifying the barriers and benefits to the selected behavior(s); 3) Developing a strategy that reduces barriers to the behavior(s) to be promoted while simultaneously increasing the behavior(s) perceived benefits; 4) Piloting the strategy, and 5) Evaluating the strategy once it has been broadly implemented. In this overview of community-based social marketing, each of these steps will be reviewed.

1. Step: Selecting Behaviors

It is nearly always the case that organizations seeking to address climate change or in other ways promote sustainability have a plethora of behaviors to choose from. For example, if you are wishing to enhance the energy efficiency of residential homes you might promote the installation of either low-flow showerheads or programmable thermostats, the addition of insulation to an attic, or the turning off of lights. Indeed, there are over fifty actions that a homeowner can take to increase residential energy efficiency.

An important first question, then, is "Which behavior(s) should I promote?" Clearly, not all behaviors are equally important so how do you determine which behaviors to pursue? To answer this question, begin by listing the possible candidate behaviors. In creating this list of behaviors guide yourself by two criteria: 1) No behavior on the list should be divisible (i.e., reducible to more specific behaviors); and 2) Each behavior on your list should be an "end-state behavior." End-state behaviors are often the final actions that you wish your target audience to engage in. Adding additional insulation to a home is a divisible behavior. A homeowner might add insulation to their attic, their basement or to the external shell of their dwelling. Each of these behaviors is distinct and will have their own set of barriers and benefits. For example, I recently added insulation to our attic to bring

our insulation level up to R50. This was a fairly simple process that involved a technician blowing additional insulation into our attic and took only several hours. Contrast this with adding additional insulation to the external shell of a home. In the case of my home this would involve removing the existing siding, blowing insulation into the wall cavity, wrapping the house, adding additional rigid insulation over the house wrap and then re-siding the home. Clearly, while both behaviors involve adding insulation to a home they differ dramatically.

In addition to ensuring that no behavior is divisible, you also want to ensure that each behavior is an "end-state." For instance, developing a sustainable farm management plan is not an end-state behavior, but rather a strategy that might lead to an end-state behavior, such as installing fencing to keep cattle from entering a creek. In determining whether a behavior is an "end-state" simply ask yourself "Am I hoping that someone will engage in this action as precursor to the behavior I wish to promote?" If the answer is yes, you have not selected an end-state behavior. The reason why it is important to not list actions that precede end-state behaviors is that there is no guarantee that if someone engages in the previous activity that they will actually engage in the behavior you wish to promote. If, for example, a farmer completes a sustainable management plan there is no guarantee that they will install needed fencing along a creek. Similarly, having a household conduct an energy efficiency audit does not mean that they will engage in specific energy efficiency actions, such as adding insulation to an attic. Placing non-end-state behaviors on your list suggests that you already know what you need to do to encourage an end-state behavior. A certain amount of humility is required to be good at community-based social marketing. Always, begin by listing end-state behaviors that you are considering promoting. It is not until you have determined the barriers and benefits of the behavior you wish to promote that you should be considering strategies.

Once you have created a list of non-divisible end-state behaviors you will want to compare these behaviors to one another to work out which are worth promoting. To compare the behaviors on your list you will need to collect two pieces of information regarding each behavior: 1) How much impact will the activity have?; and 2) How probable is it that my target audience will engage in the action? As shown in Figure 1 (see next page), you will want to chart each behavior, where the impact of an activity is charted on the Y-axis and the probability of an individual engaging in the action is charted on the X-axis. Note that we wish to select behaviors that have the best combination of impact and probability. More specifically, you should gravitate toward those behaviors that are in two locations on the chart. If you are interested in encouraging only one action, then you will want to choose a behavior that is in the upper right quadrant of the chart as this area represents the best interaction between impact and probability. In contrast, if you are interested in encouraging a variety of actions over time, you may wish to select a behavior in the bottom right quadrant of the chart. Behaviors in this quadrant have less impact but have high probability associated with them. Behaviors in the bottom right quadrant can often be used as actions that get an individual initially involved and can serve as stepping stones to more substantive actions being taken at a later time.

Figure 1:   Selecting Behaviors
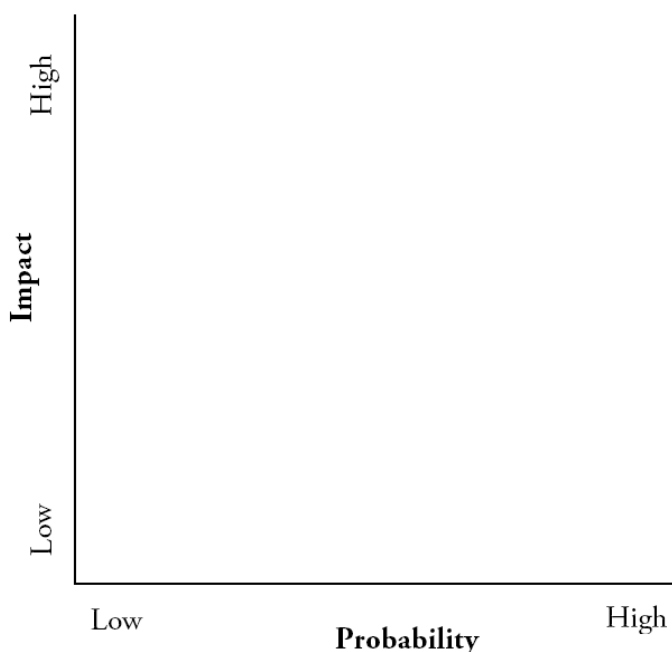
Regarding charting the behaviors, there are two methods that you can utilize. The first, and preferred method, involves obtaining technical information regarding the impact that each behavior has. For example, technical information exists with respect to the water savings associated with installing low-flow showerheads, low-flow toilets and faucet aerators. This information would be used to place these three behaviors on the Y-axis. With the first method you would obtain information on the probability of the action by investigating existing case studies where the likelihood of a target audience engaging in an action has been carefully evaluated (note that both the type of program delivered and the context within which it is delivered will affect probability).

When reliable information regarding impacts and probabilities needed for the first method does not exist, an alternative method is to survey individuals with technical knowledge and ask them to rate each behavior and then average the ratings. The same process can be utilized to approximate the probability of target audience members taking the action. These ratings, of course, should be obtained from the target audience.

2. Step: Identifying Barriers and Benefits

Research indicates that each form of sustainable behavior has its own set of perceived barriers and benefits (Oskamp et al., 1991; McKenzie-Mohr et al., 1995; Tracy, 1983-84). For example, the factors that impede individuals from composting are quite different from those that preclude more sustainable forms of transportation. Even with apparently closely

associated behaviors such as recycling, composting and source reduction, different sets of barriers and benefits have been found to be important.

Barriers to a sustainable behavior may be internal to an individual, such as one's lack of knowledge, non-supportive attitudes or an absence of motivation (Stern & Oskamp, 1987). On the other hand, barriers may reside outside the individual, as in changes that need to be made in order for the behavior to be more convenient (e.g., providing curbside organic collection) or affordable (e.g., subsidizing public transit or compost units). Multiple barriers and benefits may exist for any form of sustainable behavior. As a result, community-based social marketers begin the development of their marketing plan by identifying barriers and benefits.

Uncovering barriers and benefits involves three steps. Begin by reviewing relevant articles and reports. Next, obtain qualitative information through focus groups and observations to explore in-depth attitudes and behavior of your target audience regarding the activity. Finally, conduct a survey with a random sample of residents. The use of several different methodologies to uncover barriers and benefits is called triangulation. Triangulation allows the weaknesses of one approach (e.g., focus groups have poor generalizability) to be addressed by the strength of another approach (e.g., survey results can be more easily generalized to your target audience).

Prior to conducting a literature review, ensure that you have a clear mandate. That is, you need to know exactly what behavior(s) you are attempting to promote. For example, a mandate to promote waste reduction is too general, while a mandate to promote curbside recycling and backyard composting has the level of detail you need to focus your literature search. In conducting the literature review consult four sources: 1) Trade magazines and newsletters; 2) Reports, 3) Academic articles, and 4) Authors of reports and articles that you found particularly useful.

The literature review will assist you in identifying issues to further explore with residents of your community through focus groups, observations and the survey. Limit the size of each of your focus groups to 6 to 8 people and divide your participants into different groups based on whether they have previously engaged in the behavior (e.g., installed a programmable thermostat) or not. Further, make it easy for people to participate by providing services such as childcare and transportation. Come to the focus groups with a set of clearly defined questions that have been informed by your literature review. The facilitator of the focus groups must clearly steer the discussion and ensure that all participants feel comfortable in participating. Have an assistant who takes notes during the group. Don't provide information about your program prior to the focus groups as this information will influence the information you receive from participants. When the focus groups are completed, tabulate the responses that you received and identify barriers that are mentioned by significant numbers of participants.

Observational studies of specific behaviors are another valuable tool. By directly observing people you can more easily identify skill deficits, sequences and incentives that are al-

ready at work to reward existing behaviors. Observational studies help reduce the problems of self-report data and get the researcher much closer to the community and the behavior. Observation is also useful in evaluating behavioral compliance, particularly for behaviors where people are being asked to learn and maintain new skills.

Focus groups are useful in obtaining in-depth information but are limited by the small number of participants and the influence that the group itself has upon what each member feels comfortable saying. Surveys overcome these two limitations.

Conducting a survey consists of seven steps. First, begin by clarifying the objective of the survey. Do this by creating a survey objective statement, which indicates the purpose of the survey. This statement can be used to ensure that you have the support of your colleagues before proceeding. This statement can also act as a reference when later deciding upon the relevance of potential survey items. Second, list the specific constructs that are to be measured (e.g., such as the inconvenience are financial cost associated with a behavior). Note that at this point you are not concerned with writing the questions, but rather with identifying the "themes" or "topics" that will be covered in the questionnaire.

Third, have someone skilled in survey development write the survey for you. In writing the survey avoid "open-ended" questions since they are difficult to analyze and extend the length of the survey. Fourth, when the survey is completed, take the time to pilot it with 10 to 15 people. Piloting the survey allows you to scrutinize the wording of the questions and the length of the survey. Don't include the data you obtain from the pilot with the data you obtain from the actual survey. Fifth, select the sample. Surveys are most useful when the respondents are randomly selected from your target audience. A sample has been randomly selected when each adult in the target audience has an equal chance of being asked to participate. When this criterion is met, you can generalize your results back to the whole community with confidence. As with the focus groups, your sample should be comprised of two sub-groups: those who have engaged in the behavior already and those who have not yet done so.

Sixth, conduct the survey. You will want to conduct the survey as quickly as possible to reduce the likelihood of an event in the real world impacting upon your survey results. Providing people with a small incentive to complete the survey (e.g., a gracious letter of request and a fresh $1 bill) is a useful way to increase your response rate. Seventh, analyze the data. Unless you have someone on staff with a statistical background, you will want to have the survey data analyzed for you. In having the data analyzed, ask for a thorough description of those individuals who are engaging in the activity, as well as for those that are not (descriptive statistics). Also, ask for the factors that distinguish people who are doing the behavior, such as composting, from those who are not, and the relative importance of these factors (multivariate statistics).

Constraints on resources within the organization – including time, money and human resources -- often result in this second step, the identification of barriers and benefits, being skipped. While these constraints are real and important, failure to identify barriers will

often result in a program that either has a diminished impact or no impact at all. The identification of barriers and benefits is an essential step in the development of a sound community-based social marketing strategy. By conducting a literature review, focus groups, observations and a survey you will be well positioned to develop an effective strategy.

3. Step: Develop Strategy

Note that the primary purpose in developing a community-based social marketing strategy is to reduce the barriers to a behavior while at the same time simultaneously increasing the perceived benefits that are associated with the action. Social science research has identified a variety of behavior change "tools" that can assist with this task. This paper addresses three such tools: commitment, prompts and norms. Additional tools are addressed in the book, Fostering Sustainable Behavior (McKenzie-Mohr & Smith, 1999).

3.1 Commitment

People who initially agree to a small request, such as agreeing to wear a button saying they support the purchase of products with recycled-content, become far more likely to agree to subsequent larger requests, such as actually purchasing these products (McKenzie-Mohr & Smith, 1999).

Why does seeking commitment to an initial small request work? There are likely two reasons (Cialdini, 1993). First, when people go along with an initial request, it often alters the way they perceive themselves. That is, they come to see themselves, for example, as the type of person who believes it is important to purchase products that have recycled content. Second, most of us have a strong desire to be seen as consistent by others. Indeed, our society emphasizes consistency and people who are inconsistent are often viewed negatively. As a result, if we agree to wear a button supporting the purchase of recycled-content products, it would be inconsistent not to purchase these products when we shop.

Commitment as a behavior change tool has been utilized in a variety of studies, often with dramatic results. In considering using commitment, follow these guidelines:

- Emphasize public over written or verbal commitments. Public commitments have been found to be more effective in bringing about long-term change (Pallak, Cook & Sullivan, 1980).
- Seek commitments in groups: If possible, seek commitments from groups of people that are highly cohesive, such as a church group. The close ties of these individuals, coupled with the importance of being consistent, make it more likely that people will follow through with their commitment (Wang & Katzev, 1990).
- Actively involve the person prior to asking for the commitment. When people are actively involved, such as being asked to peer into an attic or hold a container to measure the flow-rate of a shower, they are more likely to see themselves as committed to the activity (Gonzales, Aronson, & Costanzo, 1988).

- Use existing points of contact to obtain commitments: Wherever natural contact occurs, look for opportunities to seek a commitment. For example, the best time to ask people who have purchased paint to sign a commitment -- a commitment to dispose of any left-over paint properly, or, better yet, take it to a paint exchange if one exists – is when they are making their paint purchase.

- Help people to view themselves as environmentally concerned. We can help people to see themselves as environmentally concerned, and therefore more committed to other sustainable activities, by commenting on their past actions (McKenzie-Mohr & Smith, 1999). For example, prior to encouraging people to begin composting, ask them if they recycle. If they do, note that their recycling is evidence of their concern for the environment and that beginning composting is a natural way to reduce waste even more.

- Don't use coercion. In order for this behavior change tool to be effective, the commitment has to be freely volunteered. That is, only ask for commitments when people appear to be interested in an activity (McKenzie-Mohr & Smith, 1999).

3.2 Prompts

Numerous behaviors that support sustainability are susceptible to the most human of traits: forgetting. People have to remember to turn off lights, check the air pressure in car tires, turn off the engine when waiting to pick someone up, turn down the thermostat, select items that have recycled-content, etc. Fortunately, prompts can be very effective in reminding us to perform these activities. Prompts are visual or auditory aids that remind us to carry out an activity that we might otherwise forget. In using prompts you will want to ensure that you follow these guidelines:

- Make the prompt noticeable. In order for a prompt to be effective it has to first be noticed. Make sure that your prompt is vivid (a bright color) and eye-catching.

- Make the prompt self-explanatory. All the information that is needed for someone to take the appropriate action should be conveyed in the prompt. For example, if you were using a prompt to increase the likelihood that people with odd numbered street addresses would only water their lawns on odd numbered calendar days (and vice versa), the prompt that you attach to an outside faucet could read (water your lawn only on odd numbered calendar days).

- Present the prompt in as close proximity as is possible to where the action is to be taken. If you want to encourage people to turn off lights upon leaving a room, for example, affix the prompt beside or directly on the light switch plate.

- Use prompts to encourage people to engage in positive behaviors. It is important, when possible, to encourage positive behaviors. If you want people to purchase environmentally friendly products when shopping, place prompts throughout a store that bring attention to those items rather than bringing attention to items that should be avoided. Not only is the encouragement of positive behaviors more likely to be supported by retail outlets (few would let negative prompts be posted), but positive be-

haviors also make people feel good about their actions, which increases the likelihood that the actions will be carried out in the future.

3.3 Norms

To date, few programs have emphasized the development of community norms that support people engaging in sustainable behavior. This lack of attention to norms is unfortunate given the impact they can have upon behavior. Norms guide how we should behave (McKenzie-Mohr & Smith, 1999). If we observe others acting unsustainably, such as using water inefficiently, we are more likely to act similarly. In contrast, if we observe members of our community acting sustainably, we are more likely to do the same (see Griskevicius et al. in this volume).

When considering including norms in programs you develop, keep the following guidelines in mind:

- Make the Norm Visible. For norms to influence the behavior of others they have to be aware of the norm. The very act of taking recyclables to the curbside, for example, communicates a community norm about the importance of recycling. Most sustainable activities, however, do not have the community visibility that recycling has, and norms that support the activity, therefore, have to be promoted more actively. Find ways to publicize involvement in sustainable activities, such as providing ongoing community feedback on the amount of water that has been saved by homes using water efficiently.
- Use Personal Contact to Reinforce Norms. Research suggests that internalization of norms is more likely to occur as a result of personal contact. As a consequence, use personal contact as an opportunity to reinforce norms that support sustainable behavior.

4. Step: Conduct a Pilot

As noted previously, the design of a community-based social marketing strategy begins with identifying the perceived barriers and benefits to the activity you wish to promote. Knowledge of these barriers and benefits is particularly important. Without this information it is impossible to design an effective program. In identifying barriers, be sure to conduct statistical analysis that allows you to prioritize the barriers and benefits. Knowing their relative importance will allow you to use limited resources to their greatest benefit. Once you have identified and prioritized your barriers and benefits, select behavior change tools that match the barriers you are trying to overcome. When you have arrived at a design for your program, obtain feedback on your plans from several focus groups. Look for recurring themes in their comments as they may indicate areas in which your planned program needs to be redesigned.

Once you are confident that you have a program that should affect behavior, pilot the program. In conducting the pilot, ensure that you have at least two groups; one that re-

ceives the strategy that you developed and another that serves as a comparison or control group. Randomly assign your target audience into either group to ensure that the only difference between the groups is whether or not they received the strategy you developed. In evaluating the effectiveness of your pilot, focus on behavior change rather than measures of awareness or attitude change. Further, try to measure behavior change directly rather than relying on self-reports as these reports are prone to exaggeration. If your pilot is not successful in altering behavior, revise your strategy and pilot it again. Assuming that you know why a pilot did not work, and that you now have the information you need to go straight to community-wide implementation, can be a very expensive mistake.

5. Step: Broadscale Implementation

When your pilot is effectively changing behavior you are ready to implement your strategy across the community. Evaluate the community-wide implementation by obtaining information on baseline involvement in the activity prior to implementation, and at several points afterward. This information can be used to retool your strategy as well, provide a basis for continued funding and provide important feedback to the community.

6. Conclusion

I encourage you to actively discuss your efforts in using these new techniques with others, and to make use of the on-line discussion forum that can be found at cbsm.com. Through these forums, you have the opportunity to share your successes and failures in the use of community-based social marketing, and to learn from the experiences of others who are tackling similar problems. Each time we share information and refine our techniques, collectively, we become a little wiser and move a small step closer to the sustainable future our children deserve.

References

Cialdini, R. B. (1993). *Influence: Science and practice*. New York, NY: HarperCollins College Publishers.

Finger, M. (1994). From knowledge to action? Exploring the relationships between environmental experiences, learning, and behavior. *Journal of Social Issues*, *50*, 141-160.

Geller, E. S., Erickson, J. B., & Buttram, B. A. (1983). Attempts to promote residential water conservation with educational, behavioral and engineering strategies. Population and Environment Behavioral and Social Issues, 6, 2, 96-112.

Geller, E.S. (1981). Evaluating energy conservation programs: Is verbal report enough? *Journal of Consumer Research*, *8*, 331-335.

Gonzales, M.H., Aronson, E., & Costanzo, M.A. (1988). Using social cognition and persuasion to promote energy conservation: A quasi-experiment. *Journal of Applied Social Psychology*, *18*(*12*), 1049-1066.

Jordan, J. R., Hungerford, H. R., & Tomera, A. N. (1986). Effects of two residential environmental workshops on high school students. *Journal of Environmental Education*, *18*, 1, 15-22.

McKenzie-Mohr, D., Nemiroff, L. S., Beers, L., & Desmarais, S. (1995). Determinants of responsible environmental behavior. *Journal of Social Issues*, *51*, 139-156.

Midden, C. J., Meter, J. E., Weenig, M. H., & Zieverink, H. J. (1983). Using feedback, reinforcement and information to reduce energy consumption in households: A field-experiment. *Journal of Economic Psychology*, *3*, 65-86.

Oskamp, S., Harrington, M.J., Edwards, T.C., Sherwood, D.L., Okuda, S.M., & Swanson, D.C. (1991). Factors influencing household recycling behavior. *Environment and Behavior*, *23*(4), 494-519.

Pallak, M.S., Cook, D.A., & Sullivan, J.J. (1980). Commitment and energy conservation. In L. Bickman (Ed.), *Applied social psychology annual* (pp. 235-253). Beverly Hills, CA: Sage.

Stern, P.C., & Oskamp, S. (1987). Managing scarce environmental resources. In D. Stokols, & I. Altman (Eds.), Handbook of environmental psychology (pp. 1043-1088). New York: Wiley.

Tedeschi, R. G., Cann, A., & Siegfried, W. D. (1982). Participation in voluntary auto emissions inspection. *Journal of Social Psychology*, *117*, 309-310.

Tracy, A.P., & Oskamp, S. (1983-84). Relationships among ecologically responsible behaviors. *Journal of Environmental Systems*, *13*(2), 115-126.

Wang, T. H. & Katzev, R. D. (1990). Group commitment and resource conservation: Two field experiments on promoting recycling. *Journal of Applied Social Psychology*, *20*, 265-275.