Community-Based Social Marketing and Sustainable Behavior

Thus far, there have been countless attempts to both understand the underpinnings of sustainable behaviors and actually motivate people to behave more sustainably. Such a task has proven extremely challenging and determining the best methods to achieve the promotion of sustainable behaviors in a durable, concrete way is still largely underway. In the past, pro-environmental interventions have used tools like social marketing and advertising campaigns to attempt to influence behavior. However, these have largely taken on an information-based approach, with the idea that educating people and spreading awareness on issues of sustainability will motivate environmentally friendly behaviors (Kennedy, 2010). While a lack of knowledge is important to address, it is only one part of often multifaceted problems; this is why information alone is not enough to effectively change behavior. Often in these campaigns, time was not taken to research and identify what the actual barriers or benefits are to certain behaviors (Martin, Ross, & Irwin, 2015). This is the main difference between social marketing/advertising and community-based social marketing (CBSM), which was, in effect, created out of the desire to make these environmental campaigns more effective by bridging the gap between knowledge and action (Streimikiene & Vveinhardt, 2015).

CBSM is a pragmatic approach based in social psychology with the goal of promoting sustainable behavior through identifying barriers and benefits to those sustainable behaviors at the community level (McKenzie-Mohr, 2000). The process of CBSM involves 5 main steps. First, specific behavior(s) to promote are chosen. Then, past literature is explored *in addition to* actively conducting research. This process seeks to better understand the barriers and benefits that have been identified regarding the behavior of interest. Some major barriers that commonly inhibit sustainable action include a lack of motivation, forgetting to act, a lack of social pressure, a lack of knowledge, and structural barriers (external barriers that can serve as inconveniences; e.g., time, money, etc.) (Aronoff, Champion, Lauer, & Pahwa, 2013). The methods primarily used to identify different barriers are observational studies, focus groups, or surveys. This step is often skipped due to budget and time concerns, but it is absolutely crucial. Barriers can be both internal and external to the individual, may be multiple and complex in nature, and are often activity specific (McKenzie-Mohr, 2000). As such, designing a program without uncovering what barriers are preventing the public from engaging in an activity is futile, and it will be unlikely that those barriers will be overcome and subsequently result in behavior change. Next, strategies are developed to address the identified barriers. The strategies are behavior change tools that are psychological in nature. These tools are implemented based on the barriers identified, however the tools are often much more effective if used in conjunction. These tools include social norms, commitment, prompts, incentives, feedback, social diffusion, goal setting, and convenience (McKenzie-Mohr, & Schultz, 2012). The strategies are then piloted on a small segment of the community to test their effectiveness. The intervention is then evaluated in terms of affecting behavior change. This is measured in a direct and tangible way, for example comparing residential electricity consumption before and after intervention (McKenzie-Mohr, 2000). If the strategies implemented were successful (i.e., behavior change was evident), then they can be implemented across a community. Not using all 5 steps of the CBSM model or assuming barriers instead of assessing them can result in overall ineffectiveness of an intervention (Cole & Fieselman, 2013).

CBSM has been widely used and successful in a variety of sustainability issues, such as in the areas of energy and water conservation, protection of air/water quality and wildlife habitat, and waste and emissions reduction, to name a few. For instance, in a study conducted at Kansas State University involving energy conservation, CBSM was used to identify barriers to reducing energy consumption with the overarching goal of creating a more sustainable campus community. The section of campus targeted for this study was university lab settings, and interviews were conducted with faculty, students, and others who were involved with lab spaces to identify barriers to energy efficient behaviors. It was found that the largest barriers were in the categories of lack of motivation, lack of social pressure, and lack of knowledge about energy conservation actions. Based on these results, it was proposed that increasing intrinsic motivations through the use of group commitment as well as increasing social norm pressure would be the most effective strategies for future implementation, with the idea that creating a culture of normative sustainable behavior would create pressure to conform and thereby greater participation in energy saving behaviors (Aronoff, 2013).

Another study focused on addressing barriers and motivators regarding tree stewardship in a residential neighborhood in Los Angeles. Barriers and benefits were identified through focus groups, and subsequently surveys were crafted and conducted door-to-door. The largest barriers identified were lack of felt responsibility to take care of city trees, not wanting to pay for the expense of water, and the difficulty of carrying a heavy watering bucket. Several pilot strategies were created to alleviate these barriers, such as using testimonials to communicate residents’ values, using vivid communication through graphics to demonstrate the low cost of maintaining a tree, and suggestion of the use of a hose instead of a bucket. Results showed that after the pilot, soil moisture, tree, health, and presence of mulch had all increased compared to baseline levels, indicating significant behavior change (de Guzman, Malarich, Large, & Danoff-Burg, 2018).

A third example took a different direction in using CBSM to identify the barriers and benefits to attending a family nature club (FNC). This study is unique in that it attempts to understand how CBSM could be applied more widely to promote a social movement organization (the FNC in this case study) rather than the usual focus on individual action; and it also presents the idea that in addition to extrinsic reasons for behavior change traditionally present in CBSM programs, people can also be intrinsically motivated towards sustainable behavior. Groups of families were taken on outings to a variety of nearby natural areas over a period of 9 months. Survey and interview data revealed barriers such as time constraints and discomfort around strangers. Some strategies used to encourage family participation were convenience by scheduling events at a consistent time, social norms modeled by club leaders, and feedback in the form of childrens’ social and emotional reactions witnessed by parents. Although results showed that participation barriers were still high after intervention, their success was still similar to other voluntary programs using CBSM and dealt with some challenging barriers, such as personal preferences not to go outdoors in the winter or that they do not enjoy interacting with groups of strangers. Additionally, unlike in many other studies, this study reported benefits as well as barriers, such as those who attended several FNC events enjoyed meeting new people and feeling a new sense of community (D'Amore & Chawla, 2017).

To focus more specifically on the use of CBSM in waste reduction, the most researched area appears to be in promoting recycling behavior. One study conducted at Pacific University Oregon targeting faculty and staff used CBSM to uncover barriers behind the behaviors of paper reduction, increasing commingled recycling and purchasing environmentally preferred products (EPP) in an attempt to make the offices across the university more environmentally friendly. First, a 9 month pilot was conducted in a single department to gather data on the barriers, and then a broader university-wide campaign was developed afterwards. Benefits identified were cost and resource and time savings, but were not further researched during the study. Tools to overcome barriers were developed through reviewing past literature, observations, a pilot, and survey data. Surveys revealed that the main barrier to reusing paper was confidentiality; for commingling some barriers were lack of convenience and lack of proper signage; for purchasing EPP it was things like increased cost. Some strategies used to overcome these barriers mainly involved prompts, a sustainable office pledge, and deskside recycling box distribution. For example, to address confidentiality, a prompt was designed to remind people to reuse only “non-confidential” scrap paper. After the intervention, 74% of faculty and staff reported through surveys that they had a change in the recycling-related behaviors being measured. However, both recycling and waste audits conducted after the intervention did not show a significant difference compared to before intervention (Cole & Fieselman, 2013).

A lesser researched area within waste reduction using principles of CBSM is the reduction of food waste, however a few examples do exist. In a longitudinal study, CBSM techniques were used to create an information leaflet that was distributed in an urban residential community in Sweden, with the goal of identifying barriers toward food waste recycling (composting). Researchers hypothesized that the information leaflet would both increase the amount of food waste recycling and decrease the general amount of household food waste produced. The primary barriers identified through surveys and interviews with residents were found to be lack of information, and difficulty telling the difference between different sorting stations. To overcome these, the leaflet in and of itself solved the lack of information barrier; it presented information with the strategy of vivid communication, making phrases tangible and relatable for its audience. A picture of the correct sorting station was also included in the leaflet. Additionally to overcome the ever-present barrier of inconvenience, residents were provided with several paper bags to allow them to begin composting. Results showed that there was significantly less food waste collected after the information leaflet pilot versus before. When measured again 8 months later, results still showed a significant difference between the control and treatment groups despite this effect deteriorating slightly over time (Linder, Lindahl, & Borgström, 2018). This study is unique in that it takes into consideration that information interventions have been recognized as ineffective in the past and makes an attempt to improve upon them by incorporating CBSM strategies. This study also took an objective measurement over time in the form of food waste audits in order to measure actual behavior change, whereas many other longitudinal studies appear to merely take self-report measures.

Another study used CBSM to identify barriers to taking home leftover food in doggy bags when eating out in restaurant settings in a city in New Zealand. This study was important as besides in schools and hospitals, not much literature has addressed how to deal with food waste outside of a household setting. Through surveys and focus groups asking about attitudes and behaviors toward doggy bags, it was found that the main reasons for not taking a doggy bag was that people felt there was not enough food left on the plate for it to warrant taking it home in addition to a lack of convenience and social stigma. Attitudes toward the concept of doggy bags however were found to be overall positive and with the main benefit identified as saving money. Suggested by focus group participants, some ideas proposed to promote the use of doggy bags included making customers aware they were available, making the doggy bags environmentally friendly, and promoting portion sizes and healthy eating. Tools the researchers considered implementing included making doggy bags appear more socially acceptable through advertisement and creating subtle prompts in the form of table topper cards that could be placed on tables in restaurants to remind customers to ask for a doggy bag. Additionally, it was thought that the benefit of doggy bags saving money could be exploited by using persuasive messaging framed in monetary terms (Mirosa, Liu, & Mirosa, 2018). However, this study only accomplished preliminary research and did not actually implement the strategies into a pilot study.

 Another case of food waste diversion was a study done in a college setting in a specific dining area at Pacific Lutheran University (PLU), with the goal of implementing CBSM strategies to foster student behavior in composting and recycling. The largest barriers identified through observation were lack of signage and instructions, and inconvenient location of composting and recycling bins. Some benefits identified were helping the environment, saving money, and instilling future values. Strategies that were used to deal with barriers and benefits included vivid communication, prompts, social norms, and incentives. Acting as both the tools of effective communication and prompts, posters were designed to be clearly worded, color coded, and provided pictures of what could and could not be composted or recycled; these posters acted as good reminders by being placed directly in the area where the waste was disposed. Social norms were capitalized on in that the school is evidently already known for valuing sustainability, so people would act according to this value. Additionally, those who use the posters are modeling behavior for other students, creating a norm others will follow. Some incentives included that the school would save money as well as show their support for sustainability. Results found through measuring waste before and after the intervention that a large proportion (94%) of what was previously being sent to the landfill was diverted, especially through composting food waste (Smith, 2015).

 Overall, CBSM has presented itself as successful in achieving sustainable behavior change across a broad array of environmental issues. Results of using CBSM properly are extremely promising and appear superior to past techniques used, specifically in comparison to information-based campaigns, in tackling current and future sustainability challenges. However, there are several limitations to consider. As previously mentioned, CBSM can be very time consuming as well as expensive, which may deter many from using it despite its effectiveness. CBSM is also very context dependent (Linder et al., 2018). Even working within the same issue of sustainability, it may require a different approach to addressing barriers from community to community. Because CBSM is context-specific and the studies thus far take place in the field, it is somewhat difficult to control for threats to internal validity (Martin et al., 2015). Because of the lack of control in a real world setting and the inability to have random assignment, it is harder to assign cause and effect. So, it would be interesting to test a CBSM model in a controlled lab experiment, if at all possible.

It also seemed evident across studies that minimizing barriers were considered more than capitalizing on benefits, and some studies only gave brief mentions of them or did not mention benefits at all. Although addressing barriers is important, it may be wise in future studies to give near equal weight to already present motivators, as they may be just as impactful. Additionally, some of the case studies did not appear to use the whole CBSM model, or in the very least did not detail sections such as how and what barriers were identified. Despite recommendations from the founder of this model himself that it is crucial to investigate barriers rather than assume them in order to affect behavior change (McKenzie-Mohr, 2000), some researchers still appeared to do this regardless. Lastly, although it seems that CBSM has been shown to effectively change behavior, it is unclear how long these effects last. In the longitudinal study presented earlier in this report, results showed that the effectiveness of the study diminished over time (Linder et al., 2018). It was also mentioned that longitudinal studies that are conducted using CBSM often use self-report measures instead of measuring actual behavior change through some tangible means (Linder et al., 2018), so the results of studies that measure long-term behavior change in this way may need to be taken with a grain of salt. It is mentioned again by the founder of CBSM that it is much preferred to measure behavior change in a direct way rather than an indirect measure such as a self-report (McKenzie-Mohr, 2000), so this may again be an example of some research not taking into consideration the recommended methods.

With these considerations in mind, I would like to propose a study in food waste diversion, specifically in high schools, potentially as a future capstone for the Sustainability Certificate Program at UGA. In reviewing current research, I found many studies in relation to food waste, however very few of them involved CBSM. The studies I did find that related to both food waste and CBSM in schools were conducted in college settings, with no mention of high schools; so, research in this setting may be a valuable addition to the current literature.

Specifically, I would target food waste reduction behavior in the Athens Community Career Academy in Athens, GA. This academy is a go-between building that provides breakfast and lunch to two different high schools in the county. Informed by a chef who works as a culinary professor at the academy, it appears that kids are required to take food from each food group due to USDA protocol, regardless of whether they are planning to eat it. As a result, much food is going straight from kids’ trays directly into the garbage. The cafeteria currently has a yellow bin that is used to collect edible food waste, and the collected food is then used in part to prepare meals in the culinary course. After visiting the academy, it was clear through observation that trash cans were placed in a much more convenient location compared to the yellow bin: the trash can was placed right after the lunchline whereas the yellow bin was much farther away. In talking to a few students informally, one thing they mentioned in relation to why students may choose to throw out food rather than use the yellow bin was social norms: friends walk to the trashcan together after the breakfast or lunch period and throw out their food. In conducting this literature review, there was also little to no mention of food rescue as a means of food waste diversion in general, let alone in schools; so, research is also needed on this topic.

To implement a CBSM model in the academy, I would target the specific behavior of food waste diversion through understanding barriers and benefits to using the yellow bins. The common barriers to food waste reduction I could identify through reviewing literature appear to be lack of knowledge and inconvenience; this was further supported through observation. Additionally, as noted above, social norms may be at play. Further identification of barriers is needed in order to properly choose strategies to affect behavior change, and I propose this be done through surveying students.

Although it is important to not make assumptions about the barriers, I will be extrapolating on some strategies based on the information I currently know. According to past research, a common strategy used for waste reduction in general is prompts (McKenzie-Mohr, 2011). I would create a prompt to be placed directly on the bin, similar to the composting and recycling study at PLU. Vivid communication would also be used in conjunction with the poster prompt, ensuring that elements of clear language and color coding pictures of which foods are allowed to be diverted are included. Since the concept of the behavior as well as the school setting appear to be similar, where students sort items into a bin, there is no reason (yet) to believe that this could not be translated to a bin for food rescue in high schools. Another strategy I would include in the pilot would be making the behavior more convenient. The simplest way to do this would be to place a yellow bin next to each trash can. At the moment there is only one yellow bin, so it may be best that the number of yellow bins was increased to match the number of trash cans. Lastly, to address social norms, I would use a combination of modeling and public commitment. There are several disciplines represented at the Career Academy, such as business and law, STEM, and culinary programs. Within each of these disciplines, there are several students that serve as leaders in a student ambassador program. I would recruit these people to model proper food waste diversion behavior for the duration of the pilot. Since they are already leaders, their participation in the program may set an example for others to follow. I would also create a public commitment in the form of a large poster with student signatures demonstrating a pledge to use the yellow bins properly, which could be displayed in the cafeteria; this would doubly serve as a prompt. To evaluate the effectiveness of the pilot, a waste audit could be performed before and after intervention to see if there is a decrease in food going to landfills. If successful, this program could then potentially be more broadly implemented to high schools in Clarke County. Results should continue to be measured over time through the direct measure of food waste audits to ensure continued effectiveness.

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