Journal of Environmental Psychology 38 (2014) 84–93

Contents lists available at ScienceDirect

Journal of Environmental Psychology

journal homepage: www.elsevier.com/locate/jep

Social mobilization of climate change: University students conserving energy through multiple pathways for peer engagement

Maged Senbel*, Victor Douglas Ngo, Erik Blair

School of Community and Regional Planning, University of British Columbia, 433-6333 Memorial Rd., Vancouver, BC V6T 1Z2, Canada

ARTICLE INFO

Article history:
Available online 14 January 2014

Keywords:
Environmental behavior
Climate change
Youth engagement
Energy conservation
Social media
Peer behavior

ABSTRACT

This research examines the leveraging of information, digital, and social media to increase peer interaction and participation in an energy conservation campaign. We analyzed a competition between 6500 students living in 20 residences across six university campuses in British Columbia to reduce energy consumption from a baseline level. Using a mixed methods approach, we sought to determine the overall effectiveness of the competition in reducing short and medium-term energy reduction and sought to uncover the motives for participation. We found that students tended to join the competition because multiple pathways of participation were available to them. Participants were motivated by the actions and stories of their friends and did not pay attention to the actions or competition scores of strangers. Our findings suggest that employing entertainment engagement that enables multiple pathways for participation with mechanisms for knowing the behavior of peers may be effective in shifting long-term energy consumption.

1. Introduction

Climate change policies and actions continue to grow across different levels of government and a variety of institutions and non-governmental organizations. A number of groups, particularly youth, are underrepresented in most forms of collaborative deliberation on climate change. Because today's youth will be disproportionately affected by future climate change, their absence from climate change discourse is particularly troubling. Digital and social media present an opportunity for engaging youth in diverse ways that both match their own interests and preferences and are experientially meaningful to them. The urgent priorities of climate change planning make the rapid dispersal of digital media attractive for its potential to reach diverse populations, shift social norms, and accelerate change. This research contributes to our understanding of youth engagement in climate change action by examining the use of a variety of new media to affect youth behavior related to building energy conservation.

Despite the popularity of digital media as a social mobilization tool for political direct action, there is little examination of its use in advancing climate change or environmental planning discourse and action. While there is some research on the positive impacts of user exposure to real-time visual feedback of energy consumption (Fischer, 2008; Foster, Lawson, Blythe, Cairns, & Pool, 2010; Petersen, Shunturov, Janda, Platt, & Weinberger, 2007) there is little evidence or discussion in the literature of the continued impact of short duration competitions on long-term participant behavior. Testing the use of digital and social media in energy reduction competitions and measuring their impacts on environmental behavior would be an important next step in the advancement of research in this field. This was the goal of the research presented here.

To test the use of integrated digital media for social mobilization, we partnered with a number of organizations to support, design, deliver, and examine a student residence energy competition called Do It In the Dark. We sought to understand how the provision of multiple pathways of engagement using integrated media fostered broad participation in energy conservation behavior and whether it contributed to any long-term attitudes and behaviors towards climate change action. Our research question was therefore twofold. What was the outcome of the student residence energy competition in terms of both resident participation and energy reduction?

2. Background

Individual citizens feel ill informed, ambivalent, and disempowered when it comes to taking action on complex issues like climate change (Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007; Lorenzoni & Pidgeon, 2006; Moser, 2010). Tools that make climate change tangible, that are based on scientific data, and that include feasible actions for individuals to take, can counter this

* Corresponding author. Tel.: +1 604 822 9158; fax: +1 604 822 3787.
E-mail addresses: maged.senbel@ubc.ca (M. Senbel), victor.ngo@alumni.ubc.ca (V.D. Ngo), eblair@shaw.ca (E. Blair).

0272-4944/$ – see front matter © 2014 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.jenvp.2014.01.001

ambivalence (Moser, 2010; Nicholson-Cole, 2005). Moser (2010) calls for empowerment through dialogic forms that involve citizens in crafting visions of a more sustainable society as opposed to assuming that citizens would simply accept visions from higher authorities.

Traditional approaches to climate change education are based on a deficit model that assumes an individual has a gap in understanding suggesting that the one-way transmission of information from expert to learner is most effective to bridge an individual's deficit (Cooper, 2011). As a result, interventions to promote sustainable behavior are often based on the assumption that by improving the knowledge of an issue through programs such as mass media campaigns, behavior will change. Some studies suggest that raising environmental consciousness and awareness can lead to engaging in environmentally responsible behavior (Milfont, Duckitt, & Cameron, 2006), while other studies find a weak relationship between education and shifts in behavior (MacKenzie-Mohr, 2000; Shove, 2010). Nolan et al. (2008) found that individual behavior is more strongly influenced by the actions of peers than as a response to information. Social validation, whereby people tend to be influenced by the actions of others carries over in web-based environments (Guadagno, Muscanell, Rice & Roberts, 2013). Cialdini (1984) found that people tend to honor commitments to goals, they tend to do what others do, and are persuaded by people they like.

Habit and contextual limitations are often just as important as consciously held intentions in affecting people's consumptive behavior (Maio et al., 2007; Shove, 2010). Generic behavior change campaigns may also affect people in different ways and may have unintended consequences (Maio et al., 2007), and engaging in one type of environmentally friendly behavior does not necessarily predispose people to engage in other environmentally friendly behavior (Thøgersen & Crompton, 2009). Instead, behavior change interventions require the application of models of decision-making that are appropriate to the specific behavioral contexts (Wilson & Dowlatabadi, 2007), a combination of strategies (Stern, 2000) and a grounding in social psychological theory (Maio et al., 2007).

Abrahamse, Steg, Vlek, and Rothengatter's (2005) review of the social and environmental psychology literature on interventions to promote household energy conservation found that combining antecedent strategies with consequence strategies was the most effective in leading to reductions in energy consumption. An antecedent intervention influences one or more underlying determinants prior to behavior and includes commitment, goal setting, information, and modeling. A consequence intervention influences determinants after the occurrence of behavior, by means of providing a consequence that is contingent on the outcome of the behavior and includes mechanisms for feedback and reward (Abrahamse, Steg, Vlek, & Rothengatter, 2007). Discursive practices that encourage people to think and talk about consumption as an issue of personal and political struggle (Hobson, 2003) would be an antecedent strategy; whereas financial savings or rewards for reduced consumption would be a consequence strategy.

Digital or web-based social networks are an obvious venue for discursive practice, dialogue, and the mutual construction of knowledge towards climate action (O'Neill & Boykoff, 2010). Social media networks, whereby users can create profiles and identify others with whom they share information (Boyd & Ellison, 2008), have been a vehicle for significant activism in the service of social justice and social change (György, 2012; Khondker, 2011). They have the capacity to foster and empower local community especially if communities are already formed and motivated to connect in order to advance local rather than remote or outside agendas (Ashton & Thorns, 2007). However, social networking is not a panacea for interactivity and dialogue and requires careful planning (Waters, Burnett, Lamm, & Lucas, 2009). Identities on social networks are carefully crafted and guarded (Boyd & Ellison, 2008), and networks can both exclude large social groups and be used to perpetuate segregation of social groups (Boyd, 2009). While communities of practice can form on social networks in ways that promote environmental education (Singh, 2011), digital networks are mostly used to accentuate existing connections or relationships (Boyd & Ellison, 2008). The content and the context of networking therefore have to be well crafted and deliberately tailored towards the audience whose energy conservation is required.

When social networks are used for education, they become a place where users generate content and discourse about the work, thereby creating a discursive environment (Madge, Meek, Wellens, & Hooley, 2009). Studies on the use of social media in advancing environmentally responsible behavior indicate that competition with immediate feedback in a social network context is a motivator for participation (Foster et al., 2010; Mankoff et al., 2010). Shared digital content for promoting reduced energy consumption works best when participants have a sense of control over their own goals, and when they include continuous or frequent visualized feedback that indicates how close participants are to attaining their goals (Mankoff et al., 2010). Vlogs, or shared reflective video logs, are a form of social media that also fosters a discursive environment in which a common purpose can emerge. While the popularity of individual vlogs tends to correlate with specific personality traits, such as extroversion and conscientiousness (Biel, Aran, & Gatica-Perez, 2011), they can generally be effective as a learning tool if they stem from highly structured content prompts and when the content is more important than the quality of production (Dixon, 2009). Even though the environments tend to be fantastical and fictitious, video games can also be used to advance important social goals such as health (Baranowski, Buday, Thompson, & Baranowski, 2008). Frank (2006) calls for a "youthful style of working" in her literature review of youth participation in planning processes. She found that youth responded well to techniques that were social, dynamic, interactive, expressive, constructive, and challenging (Frank, 2006).

There are a number of examples of energy reduction competitions that tightly integrate information and communication technologies for college students (Brewer, 2013; Brewer, Lee, & Johnson, 2011). College students in residence are an important target demographic because they typically come from households with higher than average incomes and will go on to form households with higher than average incomes. A number of studies have identified the hegemonic culture of consumerism as a major impediment to reduced consumption (American Psychological Association, 2010; Taylor, Funk, & Clark, 2006). Indeed the higher the income the more likely the consumer will see luxuries as necessities (Taylor et al., 2006). Their participation in consumer culture adds relevance to the long-term potential impact of student attitudinal and behavioral change.

Targeting university students in energy reduction competitions is particularly attractive for a number of additional reasons. First, because leaving the childhood home to go to college creates sufficient disequilibrium in a person's life that their consumer behavior may change (Moschis, 2007) and may cultivate new long-term habitual behavior. Persistent habits are a major impediment to climate change action (Klockner, Matthies, & Hunecke, 2003), and the first year of university is a time of transition that may allow the introduction and inculcation of new habitual behavior. Second, educating students about the relationship between various everyday actions and the production of greenhouse gases increases student commitments to energy conservation (Emanuel & Adams, 2011). Third, targeted social marketing, which is exactly what competitions attempt, is more effective than education alone in