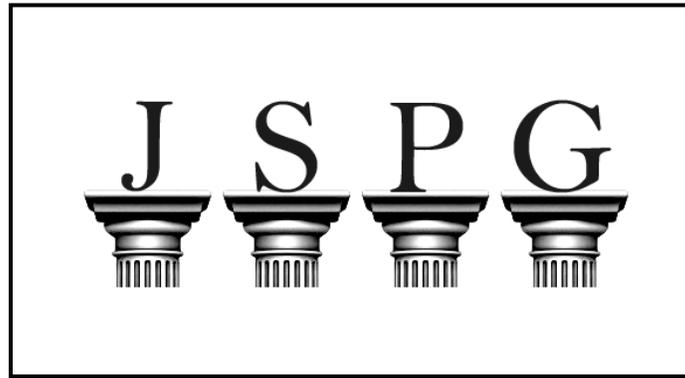


# **The Journal of Science Policy & Governance**



POLICY ANALYSIS:

**ADDRESSING THE “GO GREEN”  
DEBATE: POLICIES THAT ENCOURAGE  
SMALL GREEN BEHAVIORS AND  
THEIR POLITICAL SPILLOVER  
EFFECTS**

BY

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## **Executive Summary**

While there are numerous supporters of initiatives that promote small green behaviors, there are also critics who debate the effectiveness of these actions in addressing global climate change. The critics claim that people often choose to perform easy green behaviors to rationalize their inaction in other ways, which is detrimental to garnering support for political action. The supporters emphasize the cumulative effects of small green behaviors, including the likelihood of these actions spilling over into further green behaviors as well as greater political concern about climate change. The relationship between green behaviors and political attitudes should be considered more closely, since increased political engagement and support for large-scale sustainability policies is the ultimate goal of both the critics and the supporters.

Theoretical and empirical research from psychology suggests that green behaviors are likely to spillover into people's political attitudes, particularly if people come to identify as "green". Additionally, social identities such as "environmentalist" are a key predictor of political engagement and activism. In reviewing relevant regulatory initiatives, it is clear that when behaviors are altered, perceptions and opinions surrounding the policy issue also change. Yet, it is difficult to review the green behavior policies collectively since each has different incentives and is aimed at varied behaviors in diverse cultural contexts.

I propose that policies aimed to elicit small green behaviors should be designed with political spillover in mind. To best achieve the link between green behaviors and political support for climate-related issues, initiatives should (1) identify behaviors that are both effective at reducing emissions and present the fewest barriers to change, (2) clearly express the environmental benefits of the behavior above all other incentives, and (3) explicitly link performance of this behavior with being a "green" person.

## **Introduction**

Green has become a new buzzword. Cities, companies, and universities are all creating plans to make themselves more “green” (e.g., AT&T, 2011; City of Chicago, 2009; University of Florida; 2009). Often these initiatives are aimed at small, personal behavior changes as part of the solution to slowing global climate change. Some green behaviors (such as using more energy efficient appliances or tuning up one’s car) can lead to fairly significant personal emissions reductions; however, many of the green behaviors promoted by these campaigns (such as recycling and turning off lights) make only modest reductions in greenhouse gas emissions, and people tend to overestimate the effectiveness of these small green behaviors (Attari, DeKay, Davidson, & de Bruin, 2010; Whitmarsh, 2009). This may leave many to wonder: What is the real motivation behind campaigns to recycle our coffee cups or to carry our own reusable bags?

Two sides have formed in the debate over whether or not encouraging people to “go green” will accomplish any long-term environmental goals (Reynolds, 2010). The prevailing theory behind these initiatives is that the small steps people take to “green” their lives will lead them to later take larger, more effective actions to protect the planet (e.g., Gifford, Kormos, & McIntyre, 2011; Hounsham, 2006). These actions may also spillover into people’s political attitudes towards climate-related issues (e.g., Thøgersen & Noblet, 2012; Willis & Schor, 2012). Political mobilization is arguably more critical to climate change mitigation than individual behavioral changes. Therefore, if green behaviors do affect individuals’ political attitudes, then these seemingly less consequential behaviors may have a larger overall effect on reducing greenhouse gas emissions.

Yet many others voice words of warning, cautioning that green behaviors may not always have a direct relationship to the goal of a more sustainable world. The actual environmental

effects are contested for several reasons, related to the likelihood of people performing several environmental behaviors and to the need to prioritize political efforts (e.g., Szasz, 2007; Tidwell, 2009; Weber, 2006). Due to the large number of policies that are designed to address small green behaviors and to the strength and prominence of voices speaking out against such initiatives, this is a key policy area in need of analysis and resolution.

First, this paper describes the debate between the critics and supporters of personal green behavior programs. Then, it focuses specifically on one aspect of debate, regarding positive spillover from green behaviors into political attitudes and actions. Next, it reviews the psychological theories and research that address attitude change and identity in terms of motivating political support. It will also review evidence from existing regulatory programs regarding changes in people's attitudes. Finally, the information from the review will be used to address the debate and make some concluding recommendations for policies aiming to achieve increased political support through the promotion small green behaviors.

### **Setting up the Debate**

#### The critics: "Going green is a waste of time..."

There are several reasons why some argue that focusing on small green behaviors is not a good use of time and energy.

*Mismatch between actions and intentions.* There is often a divergence between actions that would make the most environmental impact and those taken by the public to mitigate climate change. First, there is some indication that even when people are motivated to take action for climate change, the behaviors they choose to take do not actually match up with behaviors that make significant emissions reductions. For example, while recycling is perceived by the public as the best way to address climate change, other actions such as energy conservation or

transportation behaviors would actually have a larger impact (Whitmarsh, 2009). Similarly, curtailment behaviors (e.g., turning off the lights) are mentioned more often than more impactful energy efficiency changes (e.g., installing efficient appliances) when people are asked how they can reduce their energy use, and people vastly underestimate the energy use of many large-impact behaviors (Attari et al., 2010). This is a broad problem in that individuals often lack knowledge about the beneficial impacts of different green behaviors, and therefore are unsure which behaviors to perform (Gifford, 2011).

*Negative behavioral spillover.* Some experts propose that focusing on small green actions will not lead to spillover into other more significant green behaviors because people will be satisfied with the personal changes they have already made. Risk researchers refer to the single-action bias in which people are likely to take one (and only one) behavior to help alleviate feelings of risk from climate change (Hansen, Marx, & Weber, 2004; Weber, 2006). Thøgersen and Crompton (2009) instead argue that the reason green behaviors are unlikely to spill over is because green behaviors are often based on a contribution ethic. By taking one action, people feel they have already done their environmental “good deed for the day”, and do not need to perform other more complicated (and impactful) behaviors. Additionally, the over-emphasis on small, personal changes may serve to exaggerate the effectiveness of these behaviors, which generally result in rather minimal emissions reductions. For example, research has shown that people sometimes justify their environmental inaction by pointing to the other small green behaviors they have performed (Diekmann & Preisendörfer, 1998), indicating that people may perform small green behaviors in lieu of making more difficult (and often more effective) behavioral changes. Additionally, when people perform one green behavior, they tend to report feeling less personal responsibility to take more actions (Thøgersen, 1999).

There have been more direct findings demonstrating that when people perform certain green behaviors, such as improving the energy efficiency of their home, they tend to also show energy-wasting rebound effects (Gottron, 2001; Greening, Green, & Difiglio, 2000). Rebound effects refer to a household's increased energy usage due to lower costs of using an appliance, for example turning up the heating or air-conditioning in one's newly weatherized home. While Greening et al. (2000) found that these rebound effects can be as large as 50% of the energy saved (in the case of space cooling), the effects are generally less than 30% (found for space heating, lighting, and transportation). Rebound effects might also occur across conservation behaviors. For example, in a recent field study at an apartment complex, researchers found that a competition campaign they designed did successfully decrease water usage among the tenants; however, those who conserved water tended to also increase their electricity consumption (Tiefenbeck, Staake, Roth, & Sachs, 2013). George Marshall (2007), the founder and director of the Climate Outreach and Information Network, points to national polls in the UK that show people are willing to recycle, but overestimate its effectiveness in addressing climate change. He contends that, "people can adopt the simplest solutions as a part of a deliberate denial strategy that enables them to feel virtuous without changing their real behaviour."

*Distraction from political action.* In a slightly different vein, Mike Tidwell (2009), executive director of the Chesapeake Climate Change Action Network, blames "go green" movements for political apathy, arguing that focusing on individual behaviors distracts people from taking necessary collective political action and reaching out to their elected officials to demand large-scale policies. Similarly, others have argued that by focusing on personal behaviors and consumer choices, response to the environmental crisis becomes individualized, leaving little room for people to consider institutional problems or to consider collective political

actions (Maniates, 2001; Szasz, 2007). Gernot Wagner (2011), an economist for the Environmental Defense Fund, similarly argues that a focus on personal changes will divert people from collective action and from rallying for needed economic regulations. These experts contend that green behavior changes will not spillover into political action or lead people to pressure their leaders to bring the issue of climate change to the political table.

The supporters: “Going green matters...”

Other experts advise that focusing on an array of small and manageable personal behaviors can be a good first step to addressing global climate change. Their evidence ranges from predictions of accumulated emissions-reductions to theorizing and empirically examining the ways green behaviors can impact individual’s other relevant attitudes and behaviors. These various positions unite to provide support for campaigns and policies that encourage small green behaviors.

*Behavioral wedges.* Some researchers focus on the actual reductions possible by taking so-called “small” household behaviors, referred to as the “behavioral wedges” (Dietz, Gardner, Gilligan, Stern, & Vandenbergh, 2009). No one solution will greatly decrease greenhouse gas emissions, but many people performing a variety of different green behaviors will each reduce a small “wedge” of the total emissions, and these wedges will add up. Supporters of individual behavior change argue that the promotion of private-sphere behaviors is the best way to begin reducing carbon emissions quickly, with technology we already have and at comparably little cost (Dietz et al. 2009; Vandenbergh, Barkenbus, & Gilligan, 2008). Some of the changes they suggest are large-scale household changes, such as using more efficient appliances and cars, and weatherization of homes. However, other behaviors are small habitual activities related to driving style (efficient driving, trip-chaining, maintaining tire pressure) and electricity reduction (line drying of clothing, reducing standby electricity usage, CFL bulbs). They estimate both the

plasticity of each behavior (due to the amount of barriers that prevent people from changing) along with the actual emissions reductions from each action. Using this information, a conservatively estimated model projected 20% reductions of U.S. household emissions per year by year-10 (starting from 2008), which is approximately 7.4% of U.S. national emissions (Dietz et al., 2009).

*Positive behavioral spillover.* Although many green behaviors only lead to minimal emissions reductions on the global scale, there is often an assumption that these small steps will spillover into more ecologically significant green behaviors (e.g., Hounsham, 2006). Researchers have examined when the performance of different green behaviors are related, and there have been generally mixed results. Various green behaviors generally show some, small positive correlations with each other (e.g., Lee, deYoung, & Marans, 1995; Thøgersen, 2004). Some studies find that different types of green behaviors do not appear to be connected by one, measurable explanatory variable (e.g., Pickett, Kangun, & Grove, 1993; McKenzie-Mohr, Nemiroff, Beers, Desmarais, 1995). However, other research has found a general factor, such as environmental values (e.g., Stern, Dietz, Abel, Guagnano & Kalof, 1999; Schultz et al., 2005), an environmental identity (Whitmarsh & O'Neill, 2010), or broadness of one's moral circle (Bratanova, Loughnan, & Gatersleben, 2012) to be the link connecting environmental behaviors across several domains. While there may be some spillover from one small green behavior to other similar behaviors, certain actions are easier to perform than others depending upon the context, and the barriers that differ from one behavior to another can often reduce the association between behaviors (Thøgersen, 2004). In terms of conservation interventions, Hutton (1982) demonstrated that people who were given a free, low-flow shower head in their homes were more likely to perform other green behaviors that were indicated in a pamphlet. However, few

other intervention studies measure the direct effect that performing a new green behavior has on the likelihood of performing other green behaviors.

*Positive spillover into politics.* Other experts contend that the focus on small green behaviors could lead people to endorse larger-scale political changes, which are needed to truly address climate change. There are those who suggest that green behaviors, such as conscious consumption through boycotting environmentally harmful products, are actually individual political actions that raise awareness and encourage further political activism (Barnett, Clarke, Cloke, & Malpass, 2005). In response to Marshall's (2007) Op-Ed in *The Guardian*, political activist and journalist Bibi van der Zee (2007) claims that members of the environmental movement might be overzealous in the vast social restructuring they demand. She also points out that the campaigns for small green behaviors are often orchestrated by small grassroots groups, creating social networks for action that can be reactivated, and perhaps giving people their first taste of collective action

Although there is some evidence that past environmental activism is indeed a good predictor of future environmental activism (e.g., Fielding, McDonald & Louis, 2005), the real question is, can "going green" really increase the political actions people take on behalf of climate change? It seems this is an under-investigated area in behavioral research. Although there is not yet much empirical evidence showing that green behaviors can influence people's political opinions and actions, many social scientists do support this claim. In a response to green behavior critics, more than twenty social scientists signed an essay in which they specifically state that personal and political actions to protect the environment grow together, and one does not undermine the other (Roberts, 2007). Coming from this position, Michael Vandenberg, director of the Climate Change Research Network, indicated on an NPR interview that, "There

are a number of reasons why we might assume that if people take small individual steps [to go green], it actually contributes to additional support for political change or for governmental change. But the research is very thin on that. And that's an area that we need to do further work on" (NPR, 2009).

Recent research has begun to address this question. Some have found that the boycotting of non-environmental products and the consistent purchasing environmentally-friendly products ("buycotting") are both related to greater activist behaviors, predicted above and beyond someone's prior activism (Willis & Schor, 2012). Specifically, younger Americans who both perform socially-responsible consumption and identify as part of a collective with like-minded others are more likely to participate in traditional political engagement (Gotlieb & Wells, 2012). Thøgersen and Noblet (2012) found that when people held stronger environmental social identities, they performed more personal green behaviors, and that these green behaviors led to greater support for wind power. They concluded that promoting small green behaviors may help increase acceptance of larger-scale sustainability initiatives, such as renewable energy. Other researchers have found that an environmental social identity predicted environmental activism, and that performance of environmental political behaviors mediated this relationship (Dono, Webb, & Richardson, 2010).

The political spillover from green behaviors is an important issue to consider more deeply. Much of the attention in the debate surrounding the promotion green behaviors has asked if green behaviors spill over into one another, yet both sides of the debate may be satisfied if a body of evidence can demonstrate that green behaviors spill over into people's political opinions and actions. This would mean that small green behaviors could have a more significant environmental impact than they do individually, through building support for emissions-reducing

policies. Additionally, this would demonstrate that green behaviors are not a distraction, but instead can help increase the political actions taken in response to climate change.

### **Relevant Psychological Theories**

Several psychological theories would predict that performing green behaviors will spill over into people's political attitudes surrounding related environmental issues. This section reviews the theories surrounding both the influence of behaviors on attitude change, as well as the role of identity in taking political action.

#### When Behavior Leads to Attitude Change

There is some psychological support for the contention that “going green” could impact an individual's attitudes regarding climate change. Specifically, self-perception theory has shown that engaging in a behavior can influence a person's attitude towards related issues (Bem, 1967). The theory suggests that people often get to know themselves in the same way they get to know other people. People gauge what others believe by looking at what they say and do, and similarly, when people are asked their opinion on a topic, they often look to their past behaviors to determine their attitude. Research has shown that when people perceive their past behaviors as environmentally-friendly, they report stronger positive attitudes towards environmental policies (Chaiken & Baldwin, 1981) and green consumer products (Cornelissen, Pandelaere, Warlop, & Dewitte, 2008). Additionally, those who perceive themselves to have acted in a green manner are also more likely to perceive themselves as an environmentalist or a green consumer (Chaiken & Baldwin, 1981; Cornelissen et al., 2008). Therefore when people take personal action to reduce their negative impact on the planet, they may come to see themselves in a new way, as more “green”, and form attitudes that reflect this new identification.

Similarly, the foot-in-the-door phenomenon predicts that performing one small behavior makes a person more likely to perform another, related behavior (Freedman & Fraser, 1966). The motivation to continue complying is commonly given a self-perception explanation: People use their past behavior as a cue to their attitude, and thus are more likely to perform another similar behavior since they now view themselves as the kind of people who act in this way (Burger & Caldwell, 2003; DeJong, 1979; Scott 1977). The foot-in-the-door technique has been employed in different socially-responsible behavior contexts such as offering increasing assistance to the homeless (Burger & Caldwell, 2003), or agreeing to more effortful assistance in a local recycling campaign (Scott, 1977). Foot-in-the-door is most successful when it is paired with cognitions about commitment to a way of action (Hornik, 1988) or when the action is perceived as being performed for environmental reasons and therefore reflective of an environmental identity (Cornelissen, Dewitte, Warlop, & Yzerbyt, 2007; Cornelissen et al., 2008)

Finally, cognitive dissonance theory also explains why people's attitudes may be influenced by their overt behaviors (Festinger, 1957). The theory posits that when our actions fail to align with our attitudes, we feel an uncomfortable tension. To relieve this tension, people are likely to alter either their attitudes or their future behavior to better align with the past behavior they performed. Some studies focus specifically on hypocrisy as one form of cognitive dissonance, finding that that when people are forced to notice how their behavior defies their attitudes, it effectively changes their future behavior (Aronson, Fried, & Stone, 1991). This intervention strategy has been used to alter green behaviors, specifically to induce people to shorten their shower times and therefore conserve water (Dickerson, Thibodeau, Aronson, & Miller, 1992). In the realm of environmental political concern, self-identified liberals have been found to respond with cognitive dissonance when they perceive their past actions were

environmentally detrimental, while conservatives do not show such a response (Lacasse, under review). When liberals are reminded of their environmentally harmful behaviors, they place higher importance on climate-related political issues and show greater support for emission-reducing policies than when they are reminded of their past green behaviors. There is a general agreement that both self-perception and cognitive dissonance theories are useful in explaining the impact of behaviors on attitudes. Self-perception processes occur when people perform behaviors that are only slightly discrepant from their attitudes or when attitudes are rather weak, while cognitive dissonance processes happen when people perform a behavior that goes against their well-formed or strongly held attitudes (Fazio, Zanna, & Cooper, 1977; Olson & Stone, 2005).

While these theories suggest that there may be positive spillover from the performance of small green behaviors, they also provide several caveats to when the spillover is predicted to occur. For example, self-perception theory would suggest that green behaviors are only predicted to lead to environmental attitude change if people performed the behavior for environmental reasons (Thøgersen & Crompton, 2009). If the behavior was performed for other reasons (e.g., to save money), then the person will not be perceived that their action reflects a concern for the environment, and spillover into environmental attitudes is less likely to occur. Recent research has supported this spillover claim, showing that people presented with environmental reasons for car-sharing were more likely to recycle than people presented with only monetary or both monetary and environmental incentives for car-sharing (Evans et al., 2012). Similarly, assigning the label of “environmentally-friendly” to people after they purchase a green product motivates them to make further green purchasing choices (Cornelissen et al., 2007). Therefore, perceiving

one's behaviors as performed for environmental reasons can increase the likelihood of positive behavioral spillover.

Additionally, personal characteristics, such as political leaning, can determine whether reminders of environmentally harmful actions lead to cognitive dissonance (Lacasse, under review). Therefore, environmental attitudes are not always altered by performing green behaviors, but attitudes are more likely to change among some people and in certain contexts. These exceptions may help explain some of the mixed findings in the field, and provide guidelines for how to design more effective green behavior campaigns.

### Theories of Identity and Political Action

Self-perception and foot-in-the-door theories explain that when people perform a new behavior, it changes the way they perceive themselves. For example, in Freedman and Fraser's (1966) original foot-in-the-door study, they asked participants to put up increasingly large signs that supported safe driving. They extrapolated that agreeing to put up an initial small sign altered the way people thought about themselves, saying:

Once he has agreed to a request, his attitude may change. He may become, in his own eyes, the kind of person who does this sort of thing, who agrees to requests made by strangers, who takes action on things he believes in, who cooperates with good causes (Freedman and Fraser, 1966, p. 201).

While not explicitly using the concept of identity, these theories are implicating changes in the way the self is perceived. The literature on social movements and political engagement often underscores the importance of identity as a motivating force to get people involved with different causes. Since changes in behavior impact self-perceptions, it is fruitful to examine how identity can further influence political attitudes and behavior.

Identity is multifaceted and different conceptualizations of collective identity lead to various predictions within the political realm (Ashmore, Deaux, & McLaughlin-Volpe, 2004). The most basic form of identification is self-categorization, which refers to placing one's self in a particular social group. Once someone has self-categorized (e.g., as an environmentalist), then the implications of this identity begin to be expressed. Specifically, behaviors that reflect one's social category are an important part of many collective identities, as these behaviors can serve to help gain acceptance or show solidarity with a group. This research compliments self-perception theory, in that past behaviors can serve as a way of knowing about one's identity, and future actions serve as ways of presenting the identity to the self and to others.

Much of the research on mobilizing people to support social change focuses on the role of collective identity. The social identity model of collective action posits that identity plays a key role through contributing directly to collective action, and also through its links with emotional feelings of injustice and beliefs regarding the efficacy of the group's actions (van Zomeren, Postmes, & Spears, 2008). Similarly, the dual pathway model of collective action proposes that both collective identity and calculation of the costs and benefits of acting are important predictors of when people will take political action (Stürmer, Simon, Loewy, & Jörger, 2003). More specifically, identity has an effect through motivating people to show others that they are a good group member.

Although many social movements are tied to directly to groups with stable, un-changing identities (e.g., women's movement, civil rights movement, gay-rights movement), the need to be a good group member can also be strong for members of opinion-based groups, such as groups that support environmental causes. Opinion-based groups are often more than just people who hold a shared opinion, but are instead a genuine group in the self-categorization sense. They

perceive other members as similar to the self, as holding similar goals, and as greatly different from other groups (Bliuc, McGarty, Reynolds, & Muntele, 2007). Since performing green behaviors impacts self-perceptions, identifying with labels such as “green” and “environmentalist” can serve as a valid basis for collective action, and research has shown that identification with an environmental group is a fairly good predictor of intentions to engage in environmental activism (Fielding, McDonald, Louis, 2005). Additionally, connections between green behaviors, perceptions of the self, and political attitudes have also been found. Greater performance of green behaviors predicted stronger identification as a “green” person, which in turn predicted the importance people placed upon climate-related political issues in comparison to other national issues (Lacasse, under review).

### **Environmental Initiatives: When Laws Can Change People’s Minds**

Policies and laws regarding small green behaviors do exist, and this is where important research can be conducted on how changing behaviors (due to the implementation of a new law) actually alter people’s attitudes regarding climate-related issues. Some legislative instruments to consider are initiatives in a variety of places intended to increase recycling, reduce one-use plastics bags, or similar regulatory mechanisms.

There is a fair amount of research suggesting that changes in policies surrounding personal behaviors not only impact the likelihood of performing the behavior, but also affect people’s cognitions, understandings, and opinions surrounding the policy issue. Considering public health initiatives, there are several studies demonstrating that citizens are less favorable towards cigarettes after laws are passed that ban smoking in public places. For example, Orbell et al. (2009) not only found that cigarette smoking decreased three months following a ban in England, but also that perceptions of smoking-related illnesses and perceptions of social norms

discouraging smoking both increased. Similarly, Massachusetts' teenagers from towns with strict restaurant smoking regulations perceived that fewer adults smoked and that smoking was less acceptable compared to adolescents from towns with weak regulations (Albers, Siegel, Cheng, Biener, & Rigotti, 2004). Across four countries, stricter secondhand smoke policies predicted greater support for a comprehensive ban and stronger attitudes about the danger and unacceptability of smoking (Borland et al., 2006).

There is also evidence surrounding the impact of policies on individual well-being more directly. The way policies define airport noise problems has been shown to shape people's perceptions and irritability due to the noise, as well as to alter the language people use to discuss the issue (Bröer, 2007). In the realm of human rights, U.S. states with policies that offer civil protections to lesbian, gay, and bisexual (LGB) citizens had lower rates of psychological disorders and of co-morbidity among disorders in LGB residents than states without such policies (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010).

Some empirical research has been conducted on personal behaviors and attitudes before and after the implementing of regulatory policies surrounding green behaviors. A study that investigated the prevalence of litter before and after a recycling program implemented in Baton Rouge, Louisiana discovered that while recyclable litter declined, the program did not affect the amount of non-recyclable litter on the streets (Reams, Geaghan, & Gendron, 1996). In a different recycling paradigm, Thøgersen (2003) found that a Danish program in which residents paid by the weight of their garbage (thereby encouraging people to save money through recycling and composting) enhanced people's internal motivation to recycle through increased self-efficacy and personal norms to recycle. Sharp, Høj, & Wheeler (2010) interviewed respondents in South Australia before and after a ban on one-use plastic bags was put into effect. The ban led to

significant decreases in plastic bag usage, and 54% of people showed increased support for a plastic bag ban after it took effect. However, a 41% of respondents actually reduced their support for the ban and 33% did not believe that the ban was positively helping the environment even though they altered their behavior. In regards to a similar bag ban in China, plastic bag use declined significantly, but the author suggests that stricter enforcement and environmental information campaigns would make the program more effective (He, 2010).

#### Caveats to When Regulatory Initiatives Influence Attitudes

The studies described in the previous section did not find completely consistent results, reflecting part of the reason why there is a debate in the field over the utility of encouraging green behaviors. However, these policies each have different incentives and enforcement schemes, and are aimed at various behaviors in diverse cultural contexts. The many ways these policies differ from each other is ultimately what makes them difficult to review collectively.

One important issue is that policies and initiatives may encourage people to perform green behaviors for a variety of reasons, including non-environmental ones. For example, no-idling statutes are often emphasize saving money on fuel or improved air quality for health reasons instead of strictly focusing on emissions reductions (e.g., TurnYourEngineOff.org, n.d.). The psychological literature makes it clear that the motivation behind a behavior is crucial in determining whether it will impact attitudes. Positive spillover depends upon wanting to remain consistent with one's environmental self-concept (e.g., Cornelissen et al., 2007; Evans et al., 2012) and negative spillover is explained by people only performing the minimal amount of green behaviors necessary to maintain their environmental credentials (e.g., Thøgersen & Crompton, 2009; Weber, 2006). When people are performing a green behavior for a non-environmental reason, we would not expect to see any environmental attitude change, nor any

positive or negative behavioral spillover. Therefore, if green behavior policies highlight monetary, health, or other non-environmental incentives, then the likelihood of it impacting people's attitudes about climate change is unlikely.

Additionally, although many environmental regulatory policies have general support, there is almost always a segment of the public who responds negatively to an initiative. Specifically, the forced change of a green behavior from a top-down structure can make people feel resentment that their agency has been removed (Stern, 1999). One recent example of this issue occurred with the impending U.S. ban on the 100-watt incandescent light bulb. Some Americans purposefully hoarded the incandescent bulbs, with sales rising between 10-20% months before the ban (Teitell, 2011). Certain individuals showed very strong resistance to the ban, claiming it allowed too much government control. One op-ed piece, titled "First they came for our 100-watt bulb", went so far as to imply the restrictions may be the beginning of a slippery-slope towards the U.S. becoming a police state (Rosett, 2011). Therefore, any policy or law that bans environmentally harmful behaviors is likely to have a segment of the population respond in a negative way.

#### Resolving the Debate: Differences in Underlying Assumptions

The divide between supporters and critics of small green behaviors may boil down to a few key differences, since both sides hold the same overarching goal of finding ways to effectively address global climate change. Some critics of small green behaviors tend to look at each behavior alone, surmising that any one behavior will not have a noticeable effect on global emissions. Since the focus is on single behaviors, they argue that the time, effort, and money is better spent on other approaches to combating climate change that would individually make a larger difference. Other critics do consider green behaviors more broadly, pointing out the

negative spillover and rebound effects. The fact that negative spillover exists at all overshadows any indicators of positive spillover, as they point out the futility of encouraging small actions that will be used to justify inaction in other, more important areas.

Supporters of small green behaviors are inclined to perceive the issue quite differently. They tend to look at the behaviors together as a unit, and therefore conclude that greater emissions reductions can be achieved through the accumulation of numerous small green behaviors across many people. However, while they do view the behaviors as a whole, they tend to ignore the wide variety of green behaviors, and the effort needed for people to make connections between seemingly disparate actions. Supporters often tend to assume positive spillover will follow from their particular initiative, but do not design the policies or create campaigns in ways that will best lead to this spillover.

Yet, both critics and supporters have the same final goal: For large-scale sustainability to be forged, most likely through political means such as legal and regulatory policies. Although the critics may argue that a radical restructuring is needed now and supporters may tend to want to take smaller steps, both generally have a similar definition of what would be successful emissions reductions based on the same scientific estimates. The goal of achieving political spillover may be the common thread that can unite the two camps. For climate-related political support to be increased, green behavior initiatives should be designed with this particular goal in mind.

### **Conclusions and Recommendations**

The current debate over green behaviors should not be seen as an either/or scenario. Instead, eliciting green behaviors can lead to positive spillover in the political realm if the campaigns and policies are designed with this spillover in mind. While it is beyond the scope of this article to

address which exact strategies are most effective in actually leading to green behavior change, this review does offer some recommendations for policies aiming to use green behaviors as an agent for increasing supportive political attitudes toward sustainability initiatives.

First, the plasticity of the green behavior along with the weight of its possible reductions should be considered when selecting which behaviors to address, as in Dietz et al. (2009). For each particular context, those designing behavior change initiatives will need to identify which behaviors are most important for people to take and which behaviors present the fewest barriers in the way of change. By aiming to alter green behaviors that are both effective in reducing emissions and also relatively easy for people to complete, the mismatch between people's good intentions and their ineffective actions can be reduced.

Second, initiatives should emphasize the environmental motivations for performing a green behavior, preferably above any other benefits. It may be tempting to emphasize the various incentives (e.g., money savings, improved health) to maximize any one specific behavior change, since specific elements are more likely to resonate with different segments of the population. For example, research conducted by the non-profit marketing firm SmartPower found that older residents resonated with energy efficiency marketed as "not being wasteful" while younger residents responded better to a message of "saving the world" (SmartPower, n.d.). However, people must make the connection between the behavior and environmental concern for any kind of spillover to occur between green behaviors and environmental political attitudes. He (2010) echoes a similar point, cautioning that initial reductions found in China's regulation of plastic bags were due only to small economic savings and can easily rebound as they did in South Africa once people acclimate to the additional shopping cost. Therefore, it is also

important to continually underscore a behavior's connection with environmental concerns, in order to maintain the behavior change itself.

Third, initiatives should not only emphasize the environmental benefits, but also aim to make the self-perceptions and implications of the behavior very clear to the actor. Messages should express that people who take this action are “green”, “environmentalists”, or “climate-concerned” people. Labeling actors, who are now much more likely to perform this new behavior than they were before the regulation, will help people connect their behaviors to the collective identity their behavior reflects. Cornelissen et al. (2007) make a similar claim, arguing that social labeling at the time when a green behavior is performed can lead to greater consistency with that label. Through increasing this kind of self-labeling, positive spillover would be more likely than negative spillover, as people aim to be consistent with their self-perceptions.

Conflicts between supporters and critics of these policies could perhaps be overcome by focusing on the importance of the larger picture: Creating a more sustainable world one piece at a time. The green behavior critics and supporters share this goal, and perhaps the focus on political spillover specifically would align the concerns of both parties. Performing green behaviors may serve as first step in helping people identify themselves as “green” and therefore feel more connected to climate-related issues. Policies regulating personal actions may change people's green behaviors, their self-perceptions, and perhaps even their political concerns; however, larger-scale political initiatives are also clearly important. Social movements and environmental organizations still need to be mobilized and active so that newly identified “environmentalists” will have a place to seek information and take political action. For this reason, green behavior campaigns are only one type of initiative that should be promoted along with a combination of other efforts to garner greater political support to address climate change.

Green behaviors and political concerns can grow together, and hopefully well-designed green behavior policies can succeed in building support for more large-scale climate-related initiatives.

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