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## Social Pressure and Recycling: A Brief Review, Commentary and Extensions

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## Perspective

# Social Pressure and Recycling: A Brief Review, Commentary and Extensions

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### Abstract

*This article looks at the theoretical and practical viability of using social pressure on individuals to encourage community recycling behavior. Many studies have addressed recycling behavior, but one in particular by Shackelford (2006) has suggested that our human evolutionary trait of being sensitive to social pressures to conform to the values, attitudes or behaviors of others can be exploited to increase individual participation in community recycling. Although the suggestion seems to have merit, it fails to consider a co-evolved trait allowing individuals to counter the effects of social pressure so their focus on self-interest is minimally impacted. The paper draws on empirical evidence from the extant literature and three theoretical issues to develop an argument why social pressure is inconsistent with encouraging community participation in recycling programs. For example, social pressure functions well with small group sizes of 50 to 150—common to nomadic hunter-gatherer peoples—but more than half the world's population today live in communities measured in the millions of inhabitants. Moreover, individual recycling typically takes place inside the home rather than out in public view. The other concerns addressed include the effects of public knowledge, institutional commitment, individualism vs. collectivism, and self-deception. Together, these factors buttress the conclusion that social pressure is not only unviable, but problematic especially in contemporary modern American society.*

**Keywords:** Recycling, social pressure, environment, proenvironmental behavior.

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## 1. INTRODUCTION

Environmental psychologists have for some time studied the values, attitudes and behavioral characteristics of conservation and recycling behavior as well as methods to facilitate and encourage public participation<sup>1</sup>. Although many models have been developed to facilitate community recycling, few have addressed the complexities of implementing such programs universally. This presents a problem for encouraging recycling in some cultures more than in others. For example, the American experiment working toward a uniform standard for recycling behavior remains a mosaic with pockets of high community participation and others with modest, weak or defeated programs. A few studies specifically examined different approaches for encouraging community recycling efforts in the United States as well as other countries and found differing levels of success<sup>2</sup>. An informal meta-analysis of the literature using cross-tabulation frequencies suggests, however, that at least two convergent factors are most often related to participation in community recycling programs. These include (1) the collectivist versus individualistic nature of a particular society and (2) the degree to which a community either through its private or public sectors makes recycling convenient for citizens. Nonetheless, the question remains whether theory and practice have merged to reveal the basic tenets that underlie people's motivation to recycle and the sustainability of their commitment to participate.

In a recent article, Shackelford (2006) has argued that what is absent from environmental psychologists' models of recycling behavior is attention to the "evolved structure of the human personality" (p.1552). That is, environmental scientists studying recycling behavior have failed to consider aspects of human nature that help predict why sustainable recycling efforts are hard to come by and difficult to sustain. Specifically, Shackelford suggests that because of the environmental pressures faced by our ancestors, natural selection favored those whose focus was on short-term success. The argument is completely consistent with what contemporary anthropologists have been able to infer about the environmental conditions faced by early hominids to whom we owe our descent (cf., Chiarelli, 1998; 2004; Coale, 1974). By this logic, community-wide recycling programs experience resistance because people have difficulty with goals and objectives that have long rather than short time frames. Thus, the problem of encouraging participation and sustaining it in consumers remains of critical importance and a prerequisite to any ultimate solution to the growing environmental crisis. There is even evidence in a recent quote that this notion has reached popular culture in the following: "[I] attribute the social and psychological problems of modern society to the fact that society requires people to live under conditions radically different from those under which the human race evolved..." (The Unabomber, Time Magazine, 28 August, 1995)

## 2. THE ARGUMENT

Recycling is a behavior that requires at least some appreciation and internalization of the accrued long term benefits for individuals, their families, their community and ultimately the improved integrity of the global ecosystem. This in turn would be the basis or justification for including recycling within an individual's value structure. As Shackelford correctly points out, the concept of 'long-term' was little "...more than a few or several years" (p.1554). This is consistent with what Hardin (1959), Pinker (2002), Pratarelli (2003), Wilson (1976) and others have suggested in varying contexts. We can summarize Shackelford's argument by saying: recycling behavior is not natural because it requires a focus and appreciation for long term planning, but humans were evolved to be sensitive to short term survival goals.

In order to overcome such an innate predisposition, Shackelford (2006) offers the suggestion that the best solution would be to use social pressure to compel participation in recycling efforts. His justification is that:

"...the desire to integrate into and remain successfully participative in the local population represent[s] one of the most important concerns for modern humans. Social pressure by valued others in the local population to adopt long-term recycling behaviors may prove to be a useful means of encouraging mass durable and generalizable recycling behavior. If a few especially valued or powerful individuals engaged in consistent recycling and pressured their fellow community members to do likewise, this community could then encourage, through social pressure, the adjacent community to adopt consistent recycling behaviors, and so on." (p.1555).

The quotation leaves little doubt that although there may be many social and institutional mechanisms for exerting social pressure, the sort he refers to concerns the common form of leading by example as elaborated in the final sentence. The suggestion that social pressure of this sort could be used to increase participation in recycling—because humans were naturally selected to be sensitive to it—has merit at least superficially, but fails on what I believe are two substantive empirical accounts in addition to three additional theoretical conflicts, all of which will be explored in the subsections of this article that follow. But apart from these, Stern (2005) has also pointed out recently that social pressure is not likely to have an impact on an individual's proenvironmental behaviors, like recycling, because these behaviors are motivated intrinsically and are more a product of personal values and belief. People do it whether there is social pressure or not.

## 3. THE COUNTERARGUMENTS

First, Shackelford's justification is not generalizable to modern 21<sup>st</sup> century environments because the context in which social

1 See : Arbuthnot, 1977; Arcury, 1990; Bragg, 1996; De Young, 1993; 2000; Iyer & Kashyap, 2007; Jurin & Fortner, 2002; Kaiser & Shimoda, 1999; Maloney & Ward, 1973; Pratarelli, Mize & Browne, 2007; Schultz, 2001; Schultz & Zelezny, 1999; Stern, 2000; Stern & Dietz, 1994; Weigel & Weigel, 1978; Werner & Makela, 1998; Wysor, 1983; Yung-Jaan & De Young, 1994; Yung-Jaan, De Young & Marans, 1995.

2 See : Gamba & Oskamp, 1994; Hallin, 1995; Morgan & Hughes, 2006; Olli *et al.*, 2001; Oom do Valle *et al.*, 2004; Saphores *et al.*, 2006; Schultz & Zelezny, 1998; 1999; Scott, 1999; Vining & Ebreo, 1990; Yung-Jaan *et al.*, 1994; 1995.



pressure of the sort he refers to evolved, applies to comparatively small communities or bands of 50-60 individuals (Chiarelli, 2004; Diamond, 1992), or as small as 25 (Wobst, 1974). This effect is consistent with principles from evolutionary psychology because the *environment of evolutionary adaptation* (EEA) is always a critical consideration to examine consistency across time (Buss, 2005). That is, the past (ancestral) environment that favored a particular adaptive trait in us may be significantly changed in the present. Further, Dunbar (1993) has extended the group population size somewhat in the range of 100 to 231 with a normalized average of 148 based on regression analyses using various primates (including humans) and their neocortex-volume/body-volume ratios. Yet, even that group/community size in no way corresponds with the modern context of living in small communities of several hundreds or thousands, modest size communities of hundreds of thousands, and large cities with millions of inhabitants. The dynamic influence on an individual's sense of well-being, feelings of "unsafety", fear of crime, personal and social comfort, even trust in one's own perceptions, etc., are all negatively affected with increasing group and community size as Asch (1955), Clemente and Kleiman (1977), Sacco (1985), Zani *et al.*, (2001) and many others have shown. As group (community) size becomes unmanageably large and individuals are not able to keep track of more than a few hundred members, social pressure and cooperation begin to break down and distrust and defection from cooperative efforts grow. The pressure of group size on individual compliance and conformity in behaviors that involve cooperation, like community recycling, are not likely to be sensitive to social pressure to conform as Shackelford speculates. The existing literature that impacts his evolutionary argument simply does not support it.

The second issue that contradicts the evolutionary justification for using social pressure to increase recycling is the data and literature on recycling behavior in both the United States and internationally (cf., the numerous above references that constitute a short-list on the subject). Shackelford (2006) actually cites two of these, both of which contradict his social pressure hypothesis because neither argue in favor of social pressure as a solution. The general consensus in this applied literature suggests that (1) public awareness and individual knowledge, and (2) institutional support to make recycling "convenient" to participants are the most salient of several factors that predict participation in community or group recycling programs (Iyer & Kashyap, 2007). Moreover, the evidence working against the social pressure solution from this literature is strong because the data are reports from various contextual settings, e.g., households and the workplace; as well as cultures, e.g., Argentina, Brazil, Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, New Zealand, Nicaragua, Norway, Panama, Peru, Portugal, Taiwan, United States and Venezuela.

On the basis of these two counterarguments we can question the efficacy of using community-level social pressure as an agent of change to compel participation in recycling programs. Beyond

these, however, I believe at least three additional factors may also play a role in people's naturally diminished motive to participate in community recycling.

#### 4. EFFECTS OF SOCIAL LOAFING

The first concerns the theory of *social loafing* (Latane, Williams & Harkins, 1979), which holds that an individual's contribution to a group effort is reduced as compared to their performance working alone. That is, the success of the task or goal-attainment is dependent on a group versus individual effort. Moreover, an individual may understand they are working alone, yet as part of a larger group where each individual works alone, and the social loafing effect still manifests itself. This context corresponds to the case of community recycling, where an individual or household works independently, yet understands that the benefits accrue at the group level. This is, of course, assuming that others in the community participate as well.

The logic of social loafing turns on the notion that a single person senses less responsibility working as part of a group effort and more responsibility when working alone, so their individual effort is diminished in the former. It is also obvious that who takes responsibility for the product of that work effort is divided up amongst all the contributors to that effort. Working alone, the individual takes full responsibility for errors and mistakes. Thus, when one works with others no one can point the finger at the individual as easily; there is in fact safety-in-numbers as the colloquial saying goes.

The same mechanism operates when people perceive themselves to be part of a group effort—like community recycling—even though their participation is outside a group setting. What is important is the individual's perception of the broader context and implications of their participation. Conceptually, less cooperation or outright failure to cooperate (at the extreme) has been addressed in modern game theory as *defection* (Rapoport & Chammah, 1965; Barash, 2003). An individual weighs the costs and benefits of participation in a cooperative venture and typically cannot help but judge on the basis of self-interest whether there is any immediate value in cooperating. Whether a person fails to cooperate altogether or simply diminishes their effort/contribution, this condition meets the criteria for defection and noncooperation. There are more complex variations on the theme, but they generally all reveal the same focus based on an ancient evolutionary, that is, biological imperative motivating the individual toward self-interest. The research also shows, however, that under certain circumstances people will cooperate despite the constant threat that others will defect (Camerer & Fehr, 2006). These people are sometimes called *strong reciprocators* and they can have profound effects on the outcomes in game theory. The question that must always be grappled with ultimately, is how much of an impact do such theoretical concepts as reciprocation and cooperation have in the real world when consumers are rarely held to a public accounting?

Although it has not been explored extensively at the experimental level, we can surmise that strong reciprocity is likely the product of personality and individual differences, since it is common knowledge that there are individuals who are more charitable and more collectivistic than others (Schwarz, 2006; Schwartz, 1990). In models like Camerer and Fehr's (2006), if a strong reciprocator knows that their opponent is going to begin by contributing (cooperation), then they will contribute as well. This impacts the initial player as well because if they know that their opponent is a strong reciprocator, then they are more likely to trust that they will not be duped, so they begin by cooperating. It is a simple model when tested between two players on a computer or in the laboratory with student participants. But how practical are the players' mindsets when each knows there are thousands or millions in their community and many—if not most—are non-cooperators? Inside the safety of one's household, social pressure has very little if any impact. An individual's knowledge that not everyone is cooperating in community efforts is pervasive and defeating, hence the necessity and importance of building and sustaining the internal value-structure (Shultz, 2001). The knowledge structures that individuals have about others have not been extensively explored in environmental psychology and are a potentially rich source of information. Nonetheless, we still have two empirical reasons and now one inferential piece of evidence to suggest that social pressure may not be an effective tool for compelling individual participation in community recycling programs.

## 5. EFFECTS OF COLLECTIVISM VERSUS INDIVIDUALISM

Another important factor, albeit a cultural one, that has to be considered when weighing the validity of an innate motivation for behavior is the impact of culture on the shaping of that behavior. The efficacy of using social pressure might differ as a function of culture-wide values in different regions. The culture-wide value system regarding group versus individual (i.e., collectivism vs. individualism) has been shown to have a complex but significant impact on ethics and performance (Earley, 1989; Oyserman, Coon, & Kimmelmeier, 2002; Lalwani, Shavitt, & Johnson, 2006). Contrasts between American society (specifically European-Americans) and many Asian ones are an excellent case in point as Oyserman *et al.* point out when they say: "To contemporary Americans, being an individualist is not only a good thing; it is a quintessentially American thing" (p.3). As the evidence shows, collectivism is generally seen to be more conducive to community-based recycling. In fact, community recycling programs are far more successful in most European states even though there is considerable variation.

Collectivism has many different definitions that are discipline-specific, but for purposes of this article, the most useful definition is one in which the perceptions of individuals within a group extend beyond themselves to include others who share a significant sociocultural, economic and political history. Individuals within the collective would also share similar values

toward group goals. On these bases alone, important differences arise between Europeans, Asians and Americans simply because the latter have a relatively brief history in comparison to the various states in Europe and Asia, which both have diverse historical records dating back several thousands of years.

The antipode of collectivism is considered by both philosophers and political scientists to be individualism, an ethical-psychological construct whereby an individual's independence of thought, action and responsibility resides closer to home than in their community, state or nation. It has its own rich philosophical history in the birth of the United States because the founders relied heavily on the idea of respect for the natural rights of the individual. The *founding fathers* were influenced by the enlightenment period and empiricists like Locke, Hume, Hobbes, Paine, Rousseau and even Aristotle. Their focus on the natural rights of the individual and the contemporary psychological mindset of modern Americans is still biased toward hardy individualism (Kimmelmeier, Jambor, & Letner; 2006; Schwartz, 1990; Schwarz, 2006). Individualism was the subject of Alexis de Toqueville's treatise on the sustainability of American democracy some 150 years ago and it was even the fundamental premise of Ayn Rand's influential novels on libertarianism. More recently, the individualism-collectivism dimension has been the subject of considerable debate within the social sciences (cf., Triandis, 1995; Oyserman, Coon, & Kimmelmeier, 2002; Schwarz, 2006; Schwartz, 1990). Despite differences of opinion over the interpretation of the existing data, there is little disputing the consensus that the American psyche is distinctly more individualistic than that of most Europeans, Arabs, Asians or Africans. Conversely, these latter broad cultural-ethnic groups are nearer the collectivist cultural model.

Although the individualist-collectivist dimension might suggest a negative impact on American attempts at community-wide recycling programs, there is some suggestion that under certain conditions people holding individualist values may participate. Kimmelmeier *et al.* (2006) found that culture-wide individualism was positively related to prosocial behavior when individuals believed their values were consistent with the institutional values of the program to which they contributed or volunteered. Thus, nonparticipation in a collectivist program like recycling is not absolute, but conditional. The problem for community recycling programs in regions characterized by individualism may become one of convincing participants through public information campaigns that their efforts are being matched by others, despite values that might differ politically, religiously, or otherwise. Nonetheless, significant differences exist between European and American models of community-recycling. For example, in the latter government does not have a long history of involvement and in fact recycling programs are often privatized. Such programs are not always made convenient for participants who might have to drive many miles to make deposits, sorted or otherwise. Curbside recycling programs, such as the one implemented in the City of San Diego, have been much more successful. Similarly, governments of many European countries have been inclined to



facilitate recycling efforts by placing large conspicuous recycling containers within walking distance of every household and in all communities where public disposal exists. This was based on waste recycling targets that originated at the Federal level in the European Union and descended down toward individual states, although individual compliance varies greatly. However, another important reason (qualifier) for the relative success and sustainability of European programs is that residential area population density is higher because of historical growth and development patterns (Baden, 1977).

The type of individualism that characterizes much of modern American society would act to negate the effects of social pressure. At best, Schwartz (1990) has described the nature of American social relations as “negotiated”, which is considerably different than pressured. Pressure can act to diminish personal self-esteem in certain social contexts where an individual’s failure to comply in cooperative efforts is made public. The individual risks loss of self-esteem and thus is likely to avoid those situations or conditions that threaten it. If a strong sense of self-esteem is as characteristic of individualists, as Triandis (1995) suggests, then social pressure will have a negative influence on individual household participation in community-wide recycling behavior. Social pressure can only succeed when individualists view the opinions, beliefs and actions of others as worthy of respect and admit they may have a place in influencing their own. This is not the case in collectivist societies studied to date, in which the community acts to bind individuals in social contracts at the individual level. That is, the focus for individuals living within a collectivist culture is one of *mutual obligation*. A person’s perceptions are more focused on in-group relations, especially at the community level, which requires respect and validation of others’ beliefs and shared-values. Thus, “...*collectivism* may refer to a broader range of values, attitudes, and behaviors than individualism” (Oyserman *et al.*, 2002, p.5). This is consistent with recent evidence examining differences in proenvironmental behaviors in two different groups of New Zealanders (Milfont, Duckitt, & Cameron, 2006). The interesting dimension that predicted greater participation was the difference between individuals who held “biospheric” concerns rather than egoistic ones. Social pressure stands a higher chance of succeeding in societies where individuals are more sensitive to it because of the influence their in-group relationship has on self-identity (Kim, 1994). The intrinsic focus on individual or self that is characteristic of individualist cultures are simply not as friendly to collective behavior. Thus, Shackelford’s social pressure hypothesis has marginally more application in collectivist rather than individualist societies.

## 6. SELF-DECEPTION AND PROENVIRONMENTAL BEHAVIORS: A NEGLECTED CONSIDERATION

The final theoretical consideration returns us to issues involving the biological basis of individual human behavior, human nature. Self-deception among consumers is a neglected issue in the

proenvironmental behavior literature, in general, and in the recycling literature in particular. An empirical assessment of the use, extent and influence of self-deception in research samples used by environmental psychologists awaits further study. Two studies, however, have indirectly implicated the role that self-deception may play in influencing the attitudes and values of individuals (Jurin & Fortner, 2002; Pratarelli, Mize, & Browne, 2007). In this account, the manner in which people avoid or deny the need or value of having proenvironmental behaviors like recycling is important. Future research needs to specifically address these putative effects.

Using self-report surveys, both of the above studies found evidence in their samples of a *politically correct environmentalist* attitude among a majority of individuals who considered themselves environmentally conscientious. However, during post-hoc interviews their actual proenvironmental behaviors were not consistent with a committed and sustainable attitude or value ethic, suggesting that they were environmentalists in name only. Pratarelli *et al.* (2007), in particular, found that over 50 percent of their study sample was represented in their major principal components factor, which they labeled politically correct environmentalist. Moreover, the individual weightings of survey items revealed that although these respondents gave high value to environmental concerns, they gave slightly higher value to both economic and national security concerns, irrespective of whether they had children or not. Interviews they reported revealed that each had participated at one time or another in some kind of recycling program, although not necessarily with any regularity. Most younger individuals also reported having attended a course on ecology, earth science, or environmental conservation. Similarly, Jurin and Fortner (2002) suggested that the behavior of these types of individuals, who simultaneously called themselves environmentalists but whose proenvironmental behaviors were minimal, were merely symbolic. They concluded that “...individuals’ environmental belief and value structures were symbolic in nature and did not lead to more than token behavior” (p.373).

What these results reveal is that there exists an important yet unaddressed distinction in the minds of many people between symbolic beliefs and instrumental beliefs. Symbolic beliefs are abstract in nature and do not manifest themselves in terms of an increased motivation to participate or engage in proenvironmental behavior. In contrast, instrumental beliefs lead to practical behaviors and actions like recycling. Moreover, instrumental beliefs tend to be more sustainable over longer periods, whereas symbolic beliefs are easily shaped, subverted or discarded. The question that needs further study is how individuals can simultaneously hold conflicting thoughts of themselves in view of the disconnect between their beliefs and actions. The only psychological construct that fully meets these criteria at face value is self-deception (Trivers, 1991; Gur & Sackheim, 1979).

Self-deception has also been neglected in the general experimental and applied psychology literature, although in the clinical literature



it has received some scant attention in the form of the psychological construct *denial* dating as far back as Sigmund Freud. Freud's conceptualization has several inherent theoretical problems with it, which are beyond the scope or focus of this article. Yet, examined as being akin to basic self-deception in normal (non-pathologic) behavior, self-deception has been shown to reduce anxiety, fear or internal tension by substituting a false belief that has greater positive value as compared to the more uncomfortable or even painful truth being avoided. Robert Trivers' model of self-deception involves two critical premises (1991). First, the individual must simultaneously hold two conflicting thoughts; one that constitutes the truth (and is being denied) and another that represents a falsehood, which is intended to substitute for the truth being avoided or denied. The second essential premise is that successful self-deception involves the false thought being raised to the level of consciousness and self-awareness, thereby forcing or suppressing the uncomfortable truth out of one's immediate consciousness and awareness. How self-deception may apply to conservation behavior in general, and environmental ethics in particular, was addressed by Pratarelli (2008) and Pratarelli *et al.*, (2007).

## 7. COPING WITH DENIAL

In the case of recycling, there are multiple possible applications that may differ as a function of either or both personality and individual differences. The present discussion presumes only that people within a community where recycling programs exist are (1) aware of their existence, and (2) been exposed to information concerning the links between consumption, waste, pollution, and dwindling natural resources. Both are products of education and media-based public information. How might denial and self-deception apply, then, to the case of nonparticipation in community-based recycling programs? First, an individual may simply choose not to accept the validity of scientists' claims that there are human caused problems (cf., Yandle, 1998; McKibben, 1989). Such cases are not of immediate interest because the denial is overt and goal-directed. A solution to this condition may be as simple as raising the individual's awareness to levels where the evidence is profound, conclusive and beyond dispute. The second case is more interesting, however, because it is more pervasive among surveyed sample populations thus far (Jurin & Fortner, 2002; Pratarelli *et al.*, 2007). In these people, quantified survey data as well as post-hoc qualitative interviews concur that they understand, when confronted, that the extent of their proenvironmental behaviors and their stated values and attitudes conflict with each other. We can speculate as to why such disparities exist in consumers, but we can hypothesize that self-deception is likely to be implicated. As suggested earlier, this is a research area that requires much more attention as it applies to more than 50 percent of participants in two previous studies, and is probably a confound in many previous studies as well (cf., Krause, 1993; Stern, 2000).

A corollary to a frequent comment found in interviews of research participants, that either their contribution to consumption, waste and pollution is small, or alternatively, any contribution of theirs toward

recycling is likely to have an insignificant impact, is seen in the voter apathy literature (Pinkleton & Weintraub-Austin, 2001; 2002). Voters who do not vote often report that their vote does not count for any number of interesting reasons that parallel those of recyclers. Nonetheless, recycling and other proenvironmental behaviors are normally studied with an emphasis on those who do rather than those who opt out (see citations on the first page). Fortunately, many factors that influence recycling behavior have been explored including the influence of public information, financial compensation, and the ease, access and availability of collection points. The consensus from this research, however, is that people with committed intrinsic value and attitude structures tend to be long term participants in community-based recycling programs. Yet, little is known as to what aspects of nonparticipants' attitudes and values covaried with self-deception within that potentially large subset who believe they are genuine environmentalists. Again, preliminary research suggests that some degree of self-deception must exist in order to account for the disparity between stated values-beliefs and an individual's actual proenvironmental behaviors.

The logical hypothesis to explore is that those who do not recycle may be nursing self-deception because they understand they should be and that others in their community are recycling despite them. Therefore, they hold the false thought in consciousness—"I am an environmentalist because I do at least something"—and the discomfiting truth hidden away beneath it—"I don't actually recycle very many things." The relative weights of different causal factors that drive the motivation to self-deceive are merely empirical questions to be explored in future research. A natural extension to this hypothesis should test whether social pressure impacts an individual's self-deception.

Presently, there are more reasons to logically infer that self-deception plays a larger role in a greater percentage of the population of nonparticipants than to infer, as Shackelford (2006) has, that social pressure is all that is needed to make them committed recyclers. Taken together with the additional evidence that (1) public knowledge, and (2) institutional commitment, positively impact community-wide recycling, (3) social loafing is always lingering in people's subconscious, (4) proenvironmental behaviors appear to be intrinsically motivated, and (5) the individualist cultural character of Americans is not as conducive to recycling as compared to cultural collectivism, we have ample reason to conclude that social pressure is not as viable an approach to encourage participation in community-wide recycling programs as first thought.

## 8. CONCLUSIONS

The consensus from the international literature suggests that encouraging participation in community recycling programs may require little more than institutional commitment to support and maintain regular public information and education programs. In addition, the research also suggests that facilitating waste collection for consumers further increases the likelihood of participation. Moreover, sustaining such programs requires that environmental



education programs for children—the adult consumers of the future—focus specifically on developing values and attitudes rather than the accumulation of dry facts about climate-change, habitat loss, etc. Finally, although collectivist societies appear to have better success with community-wide recycling programs, there is considerable evidence to suggest that an individualist society like those seen in North America or Australia can be successful provided that sponsored recycling programs demonstrate they share some common values with consumers.

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