

# THE ACTIVATION OF ENVIRONMENTAL NORMS

## Extending Schwartz's Model

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**RUSSELL BLAMEY** was a postdoctoral fellow in the Urban Research Program of the Research School of Social Sciences, at the Australian National University at the time this article was written. His current research focuses on environmental economics and psychology and ecotourism.

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**ABSTRACT:** This article considers how Schwartz's norm-activation model has been applied in the context of individual contributions to public goods, and how it might be extended to better reflect the full gamut of behavioral determinants in such situations. A review of literature in political economy, psychology, and sociology suggests that the translation of Schwartz's model from situations of isolated individual helping to the public goods context requires the role of organizations, policy initiatives, and notions of justice to be more explicitly incorporated within the model. Existing elements of the model also need to be broadened to encompass some of the unique characteristics of public good contributions, such as shared (as opposed to diffused) responsibility, and lower levels of individual decisiveness. A qualitative environmental case study illustrates some of the required extensions.

**Several theoretical frameworks** exist for considering how individuals decide whether to engage in different forms of proenvironmental behavior. These include the subjective expected utility model and the Theory of Planned Behavior (Ajzen, 1991), value-attitude-behavior models, and Schwartz's norm-activation model (Schwartz, 1968, 1977; Schwartz & Howard, 1981, 1982). These models recently have been compared by Thøgersen (1996) in the context of recycling behavior, and it is not the intention

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to further develop this theme here. Rather, the objective is to consider how one of these models, Schwartz's norm-activation model, might be extended to better reflect the diverse range of behavioral determinants in the environment context.

In its most basic form, Schwartz's model holds that the activation of norms of helping is most likely when an actor is aware of the positive consequences helping behavior would have for an object in need and ascribes responsibility to herself or himself for helping. Although developed mainly for the purpose of explaining altruistically motivated helping behavior—for example, helping single individuals in distress—the model has proved useful in the environment context. Environmental applications of the norm-activation model date at least to Heberlein (1972), who was concerned with explaining widespread changes in environmental attitudes and with the rise of what has been referred to as the “environmental ethic.” Van Liere and Dunlap (1978) applied the model to yard-burning behavior; Black, Stern, and Elworth (1985) used it in attempting to explain two major consumer responses to the energy situation (efficiency improvements and curtailment); and Hopper and Nielsen (1991) used it to test the hypothesis that recycling behavior can be considered altruistic. Rather than using the norm-activation model to predict actual behavior, Stern, Dietz, and Black (1986, p. 205) used it to help explain judgments and intended actions regarding hazardous chemical problems.<sup>1</sup> More recent applications include Stern, Dietz, and Kalof (1993) and Guagnano et al. (Guagnano, Dietz, & Stern, 1994; Guagnano, Stern, & Dietz, 1995).

An interesting feature of these studies is that they generally do not address the cooperative nature of human behavior as it occurs in regard to environmental goods. Consequences and responsibility are typically operationalized with respect to isolated individual behavior, rather than with the context of collective action and free-riding incentives in which the behavior occurs. One might expect, however, that individual “recycling norms” are more likely to be activated when it is perceived that other citizens and the government are “doing their bit.” Similarly, individuals who have been treated with dignity and respect by the agency initiating the program are more likely to comply than those who have had less pleasant experiences.

There is a clear need to assess the potential for incorporating these and other factors within Schwartz's model, with a view to developing a more encompassing model of norm-activation, that can be applied to situations involving contributions to public goods.<sup>2</sup> Although significant progress has been made in recent years regarding the application of Schwartz's model to environmental issues, this work needs to be brought together and extended to provide a broad theoretical framework. This is the objective of this article,

which is organized as follows. An overview of the Schwartz model is provided in the next section. The extension of this model to the case of public good contributions is then outlined and discussed. This is followed by a brief illustration of the use of focus groups in identifying key decision parameters in the extended model. Some conclusions are finally drawn.

A review of relevant literature in political economy and psychology suggests that the translation of Schwartz's model from situations of isolated individual helping to the public good's context requires the role of organizations, policy initiatives, and notions of justice to be explicitly incorporated within the model. Existing elements of Schwartz's model also need to be broadened to encompass some of the unique characteristics of public good contributions, such as shared responsibility (as opposed to diffused responsibility) and lower levels of individual decisiveness.

### SCHWARTZ'S MODEL OF NORM-ACTIVATION

Arguably, the most notable attempt to identify the conditions under which norms of altruism influence helping behavior is that of Schwartz (1977) and Schwartz and Howard (1981, 1982). As noted above, the model holds that the activation of norms of helping is most likely when actors are aware that a person is in need, their action could have positive consequences for this person, and they feel responsible for acting.<sup>3</sup> The three key components of the model thus may be defined as awareness of need (AN), awareness of consequences (AC), and awareness of responsibility (AR).<sup>4</sup> Following Hopper and Nielsen (1991), it is assumed here that AN, AC, and AR moderate the influence of personal norms on behavior.<sup>5</sup>

An important feature of Schwartz's model concerns the process by which various manifestations of AC and AR are brought together to mediate the influence of values on helping behavior. This process, outlined initially by Schwartz (1977) and refined by Schwartz and Howard (1981, 1982), is held to involve five sequential stages.

#### ATTENTION

Stage 1 itself involves three sequential steps. The individual must first notice that a person—or in the more general spirit of this article—an object (or objects), is in need (Step 1a). Situational factors influence the salience and clarity of need and, hence, awareness of need and perceived seriousness of need. This includes an awareness of the consequences of inaction for the

object(s) in need. If individuals satisfy this requirement, they proceed to the next step (Step 1b), in which actions are identified that could help the object(s). Individuals must then recognize a personal ability to engage in one or more of these actions if they are to proceed to Step 2 rather than dropping out with inaction. Only if all three requirements are satisfied do individuals move to the Step 2, where values are activated, generating feelings of obligation.

**CONSEQUENCES OF ACTION FOR SELF  
(GENERATION OF FEELINGS OF OBLIGATION)**

Having perceived an object's need and having become aware that she or he could help, the individual then considers the implications of the alternate action strategies for self. Three types of implications may be distinguished at Stage 2: (a) physical, material, and psychological implications that follow directly from the action; (b) implications for the actor's held values; and (c) social implications. Although all three forms can be involved in the generation of feelings of personal obligation, only a subset of these are moral in nature.

The first category might involve risk of injury and/or trauma, and/or any monetary or time costs that are expected to be incurred. Convenience of recycling, for example, has been found to have an important influence on recycling behavior (Thøgersen, 1996). With respect to the second category, held values are activated to the extent that they are relevant to those actions for which the individual considers herself or himself able. The actor

asks herself whether she is morally responsible for these actions in this situation, given her own general internalized values. . . . The more central to one's self-evaluation the values implicated by the action, the stronger the emotional arousal. Anticipated compliance elicits feelings of self-satisfaction and anticipated inaction elicits feelings of self-deprecation. Thus the sanctions attached to personal norms are based in the self-concept. (Schwartz & Howard, 1981, p. 199)

This self-satisfaction is variously referred to as intrinsic satisfaction (De Young, 1985-1986, 1996), warm glow (Andreoni 1989, 1990), and moral satisfaction (Kahneman & Knetsch, 1992).

Social implications involve outcomes that depend on the reactions of others. The actor assesses how the action would comply with socially accepted standards of behavior. Many different reference groups may be involved, from society at large, to single individuals (such as the person

requesting a donation). This step has a major bearing on the responsibility the individual ascribes to herself or himself for action.

#### ANTICIPATORY EVALUATION

Once individuals have identified the types of costs and benefits that apply to a given action, they must then evaluate them to see whether the action is justified. The salience of specific costs and benefits in Stage 3 is influenced by both the values of the individual and situational cues. An individual whose self-image is strongly associated with green values is likely to respond more positively to a request to help whales than a person with strongly prodevelopment values. Evaluations by highly committed ideologues, or Kantians, are assumed here to be consistent with the model, to the extent that moral costs can outweigh other costs at the evaluation stage.

If the output of individuals' evaluations indicates a clear-cut decision of action or inaction, the recommendation is final and individuals behave accordingly. If, however, the costs and benefits of helping are fairly evenly balanced and the outcomes of helping are nontrivial, individuals experience conflict or dissonance, which they are then driven to reduce by delaying the decision and re-examining the situation. This is Step 4.

#### DEFENSE

This stage tends to involve altering key perceptions that have a bearing on the conditions previously encountered in the first two stages of the model. Individuals may employ four different types of denial to neutralize feelings of obligation: denial of need, denial of effective action, denial of ability, and denial of responsibility.

Denial of need involves defensively reexamining the situation to find cues that permit denial of need or reduction in perceived need severity. Importantly, "ambiguity of need cues and individual insensitivity to such cues enhance the probability of effective denial" (Schwartz & Howard, 1981, p. 202). Denial of effective action involves the perception that the action in question would not be effective in helping the object in need. Individuals may believe that a donation to a given charity would not be used effectively. This can be contrasted with denial of personal ability, where individuals may be carrying no money when approached by a charity representative. Individuals may also think that circumstances are such that the perceived personal and social norms do not apply to them (denial of responsibility).

Once the process of defense is complete, the individual re-evaluates the costs and benefits, and exits the system through action or inaction, unless

costs and benefits remain evenly balanced. In the event that such a balance still remains, the individual enters another defense cycle and continues until a decision is made. The individual will often be constrained by time, however, as in the case of emergencies. In such cases, the passage of time may increase perceived severity of need and anticipated moral costs associated with inaction, permitting a decision to be made. Alternatively, the need may be attended to through some other means, for example, by another bystander. Stage 5 is "behavior," which takes the form of action or inaction. Although individuals may enter subsequent defensive cycles—for example, rationalizing their behavior and removing the guilt associated with inaction—such processes are not considered in detail here.

### NORM-ACTIVATION AND PUBLIC GOODS

Contributions to environmental goods are typically distinct from the unilateral dependence relationships generally considered by Schwartz, where a single person can potentially provide all the help that another requires. A key feature of public goods is nonexcludability: Those who provide the good are unable to prevent others from consuming it.<sup>6</sup> Once provided, these goods can thus be enjoyed by anyone, irrespective of whether they helped provide them. A temptation thus exists for individuals to free ride and let others contribute. From the perspective of an object in need, the key question is not whether any one individual will contribute but whether enough individuals will contribute rather than free ride. In contrast to the problems generally considered by Schwartz, some form of collective action is required.<sup>7</sup> This situation of shared responsibility is distinct from that of diffused responsibility. Where the former refers to situations in which the total contribution is to be shared among members of a collective, the latter refers to situations in which a single individual is potentially quite capable of making the entire contribution alone, but the presence of other individuals means that there is some uncertainty as to who will actually make the contribution (Latane, 1981).

The fact that contributions from other individuals are typically required to produce public goods means that one individual may not have a decisive influence on the provision of such goods. Two levels at which lack of decisiveness enters into the analysis are of particular interest here. The first involves the distinction between divisible and nondivisible goods. An example of a contribution to a divisible good is the use of environmentally friendly detergents. Each individual who uses such detergents provides a small, but

decisive, increment in public water quality. If many others do likewise, a larger increment results. This situation can be contrast to that of less divisible or step goods, such as the purchase of areas of threatened native forest, where the good is only provided (or at a sufficiently high level to be worthwhile) when contributions reach a threshold level (Levi, 1993). In this case, an individual's contribution may turn out to have little or no consequences for provision of the good.

The second level of decisiveness surrounds the nature of the contribution rather than the goods in question. Contributions to processes of social decision making are distinct from direct financial or other environmental contributions. An individual may vote in favor of an environmental project, which, if implemented, would have to be paid for by all taxpayers, irrespective of who voted in favor of it. Individually, voters lack decisiveness with respect to environmental outcomes and to any actions by themselves other than the act of voting. In the above example, there is only a small probability that the individual's own vote will be decisive with respect to her or his own financial contribution. This can be contrast with direct financial or other contributions to environmental causes involving step goods, in which individuals are decisive with respect to their own contributions, but not with provision of the environmental improvement. The question of decisiveness can have important implications for how one perceives the consequences of action for the object(s) in need and how costs and benefits are evaluated. It is intended that the model presented in this article be applicable to these different forms of environmental behavior.

The key characteristic that distinguishes contributions toward public goods from the helping situations most commonly considered by Schwartz is thus the need for collective action and, hence, either cooperation or coercion. In this article, concern lies mainly with voluntary cooperation and regulatory compliance. The degree to which individuals voluntarily cooperate has been the concern of game theorists for many years. At one extreme is the influence of Hobbes who argued that in the absence of government, or what he referred to as the state of nature, individual preferences will be dominated by narrow self-interest and negative altruism.

Research in this area has used the prisoner's dilemma (PD) (Hardin, 1971) and its variations to identify the conditions under which cooperative outcomes will occur (Roth, 1988). Individuals are seen to have contingent strategies or preferences, with cooperation being contingent on aspects of the choice situation. For example, cooperation is more likely when it is perceived that the good will only be provided if every member of the collective contributes (the all or nothing good). Although uncommon in large groups,

the appeal of such an arrangement stems from the fact that each individual remains decisive.

#### POSITIVE EVALUATION OF GOOD, AND ABILITY TO HELP PROVIDE IT

In a similar vein to Schwartz's Stage 1, researchers in the area of collective action have found that cooperation is more likely when it is perceived that collective action would have desirable consequences. Levi (1993) refers to this as positive evaluation of the good. Few people want to contribute to a cause they view as undesirable. Individuals may sometimes wonder whether a request for contributions is genuine or based on an accurate assessment of the situation (Step 1a). Others may be hesitant to help because of anticipated negative consequences of their action; for example, protesting may achieve little other than spiteful retribution from higher authority (Step 1b). Schwartz and Howard (1982, p. 349) argue that noncooperation is most often defended through denial of the possibility of effective action and denial of responsibility.

#### CONTRIBUTIONS BY OTHERS

Studies have shown that cooperation is more likely when several iterations of a game are involved. Individuals then anticipate future material gains from cooperation, for example, by establishing a reputation for cooperation, which they expect to prove beneficial in subsequent games (e.g., tit for tat strategies in simple two-person games). Cooperation is more likely when the actions of others is easily monitored, which tends to be most likely when small groups of individuals are involved. Hardin (1982) shows how iterated PD games can produce coordinated equilibrium, in which a switch of strategy by any one player will not make anyone better off. Hardin goes on to argue that subject to conditions involving knowledge and negative sanctions for defectors, such equilibria may arise through convention. The convention represents an implicit contract concerning how individuals get along together. Conventions can be associated with norms of fairness.

Chong (1991) argues that when social and psychological incentives are operative, the dilemma facing individuals may be more accurately seen as an assurance game than as a PD. Individuals who are prepared to contribute their share to the collective good are prepared to do so only if they can be assured that enough others will do likewise. Importantly, a threshold number of unconditional cooperators—for example Kantians—may be required before we can expect the emergence of conditional, or contingent, cooperators (Chong, 1991; Elster, 1985).



The need for assurance that enough others will contribute is associated with notions of fairness, particularly those pertaining to shared responsibility. Klosko's (1987, p. 358) advances a fairness thesis along these lines. Song and Yarbrough (1978) found that individuals are more likely to comply with tax laws if they believe that most other people comply (see also Scholz & Pinney, 1995). The notion of shared responsibility appears to receive public support with respect to funding of environmental goods (Harris & Brown, 1992).

#### SELECTIVE INCENTIVES

Cooperation can also be facilitated by selective incentives, or incentives that exclude those who do not contribute (Chong, 1991). Various types of selective incentives have been postulated, and in general, these accord with findings in psychology and the assumptions of Schwartz's norm-activation model (particularly Stage 2). Chong defines *psychological incentives* to include anticipated internal rewards from participating. These commonly take the form of expressive benefits, so called because "its importance to the actor is in expressing support for the cause, regardless of whether it produces the desired visible consequences" (Turner, 1981, p. 11; cited in Chong, 1991, p. 74). Grasmick, Bursik, and Kinsey (1991) found that threats of shame reduced self-reported inclination to litter. Scheff (1990) argues that pride and shame are intricately linked to social bonds, together constituting the most fundamental human motives.

Hardin (1982) sees participatory goals, motivated by the desire for self-realization and self-development, as a special class of extra-rational motivation. Psychological benefits may involve needs such as stimulation and/or novelty, and hence, anticipated enjoyment, excitement, and/or feelings of competence associated with participation (De Young, 1996; White, 1959).<sup>8</sup> These incentives fall within the first and second categories of Schwartz's Stage 2, outlined earlier. In cases in which contributions take the form of votes or other individual preferences pertaining to social choice, low levels of perceived decisiveness with respect to the outcomes at stake can cause individuals to discount outcomes at the evaluation stage, in favor of more expressive and/or social considerations. Brennan and Lomasky (1993) consider the implications of such behavior for electoral outcomes. Blamey (1996) considers the implications in the context of contingent valuation (CV) surveys (see Mitchell & Carson, 1989).

Social incentives involve anticipated nonmaterial social rewards, for example, avoiding embarrassment and ostracism, or making friends by establishing a favorable reputation. This type of incentive corresponds to

Schwartz's social implications, in Stage 2 of his model. Selective material incentives may also apply in some circumstances. Accreditation of tourism operators that conform to prescribed environmental standards can be used to advantage in product labeling, making compliance, and more generally self-regulation, more incentive compatible.

#### ORGANIZATIONS, POLICY INITIATIVES, AND PROCEDURES

A characteristic of cooperative collective action is the frequent need for organizations with which to coordinate, and act on, the contributions of members of the collective. To quote Olson (1965),

It is of the essence of an organization that it provides an inseparable, generalized benefit. It follows that the provision of public or collective goods is the fundamental function of organizations generally. A state is first of all an organization that provides public goods for its members, the citizens; and other types of organizations similarly provide collective goods for their members. (p. 15)

Organizations are closely linked to institutions. The latter are "organized patterns of socially constructed norms and roles, and socially prescribed behaviors expected of occupants of those roles, which are created and recreated over time" (Goodin, 1996, p. 19). The purpose of institutional design and reform is partly to "alter or coordinate human behavior," with a view to efficiency improvements, particularly the minimization of transaction costs (Levi, 1993, p. 13).

Having an incentive to cooperate, and being assured that others will contribute, is not a sufficient condition for contributing toward the provision of public goods. Individuals may, for example, need to be assured that organizations involved in implementing the "policy bargain" will do their bit and that this will be done in accordance with shared standards of fairness.

The most obvious organization with which individuals are likely to concern themselves when contemplating some form of proenvironmental behavior is government. Government can be involved in collective action problems in several ways. First, it may have caused the problem for which help is needed. Second, it may have identified the problem and the possible courses of action that could alleviate the problem. Third, it may be involved in coordinating the individual actions of each member of the collective; for example, by agreeing to hold a referendum or community stakeholder meeting, set up a trust fund, or conduct information campaigns. Fourth, government may be involved in coordination and implementation of the outcomes

of collective action. Once sufficient donations are obtained, it may be government researchers and workers who undertake the remedial works.

Government can also implement and enforce various regulations that facilitate cooperation or compliance. It may decide that collective action on the part of the public is not needed and provide the good itself through existing government revenues and resources. It may also undertake separate studies, for example, to gauge the degree of public concern about the problem at issue. In short, government plays a key role in the provision of public goods. When contributions are sought from a collective, and government has some involvement in the proposal, trust in government can be expected to play a major role in influencing individual decisions.

Putnam (1993) sees trust as a form of social capital. Levi (1993) observes that trust in government requires that individuals not feel they are "being suckered," and/or that their contributions will be wasted. Binney, Mason, Martsof, and Detweiler (1996) consider the link between credibility and trustworthiness—the former being a characteristic of information sources—and the latter implying "confidence that the source communicates valid assertions" (p. 284). A feature of trust is that it can take years to build but can be reduced to ashes with a single instance of untrustworthy behavior.

The various levels and agents of government are, of course, not the only organizations that can be involved in collective action. Industry bodies, for example, will often play an important role. Industry may be held responsible for environmental problems, and questions of trust may arise in relation to whether industry will fulfill its commitments. In the event that industry has no commitments, proposals may be perceived as unfair. Research organizations can also be the object of distrust. Trust in scientists may be questioned if the magnitude of an environmental problem is perceived to be overstated or the expected effectiveness of proposed interventions perceived dubious. There is a clear distinction between those who are trusted and the issues on which they are trusted. In general, there can be as many objects of trustworthiness as there are parties with implicit or explicit commitments in the policy bargain. Similarly, there can be as many issues of trust as there are commitments (implicit or explicit) in the policy bargain.

Importantly, Schwartz's treatment of norm-activation contains virtually no discussion of the role of government or industry. This is largely a consequence of the unilateral dependence relationships with which he is most concerned, in which organizations play little or no direct role. Although Schwartz and Howard (1982) make reference to principles of equity and trust, this too lacks specific reference to organizations such as government. Interestingly, however, several hints of procedural concerns can be found in their

writings, most notably under the category of “boomerang effects,” which were created to explain the observation of some anomalous results.

Boomerang effects occur when the presence of factors presumed most conducive to activating norms favoring helping actually result in decreased rates of helping. Schwartz and Howard (1981) identify three related forms of boomerang effect. First, the individual may perceive that the framing of an appeal involves excessive statements of need, thereby raising suspicions concerning the motive of the person in need (i.e., mistrust) and/or the true severity of the need. Related to this is the second explanation, which holds that perceived manipulateness of an appeal may result in “reactance, stimulating a need to retain behavioral freedom by resisting the pressure to help” (Schwartz & Howard, 1981, p. 208). According to the theory of psychological reactance developed by Brehm and Brehm (1981), individuals respond to threats or losses to specific freedoms by either (a) resisting or acting counter to the attempted social influence or (b) declaring themselves helpless and removing the freedom in question. In a study of motivational postures of regulatees, Braithwaite, Braithwaite, Gibson, and Makkai (1994) found that two postures were “blatantly antagonistic to the regulatory regime, one pleading helplessness (disengagement), the other offense at government intrusion and lack of funds (resistance)” (p. 388). By contrast, a third posture (managerial accommodation) involved acceptance by regulatees that the law has to be obeyed and that every effort should be made to comply, and a fourth posture (capture) “represented identification with the regulators and the attitude that ‘we are all on the one team anyhow’ ”(p. 388).

The third type of boomerang effect identified by Schwartz and Howard (1981) involves the undermining of internalized benefits by external sanctions. Thogersen (1996) discusses how this might arise in the environment context, arguing that the implementation of an economic incentive may lead individuals to reframe the behavior in terms of an economic calculus rather than the domain of morality.

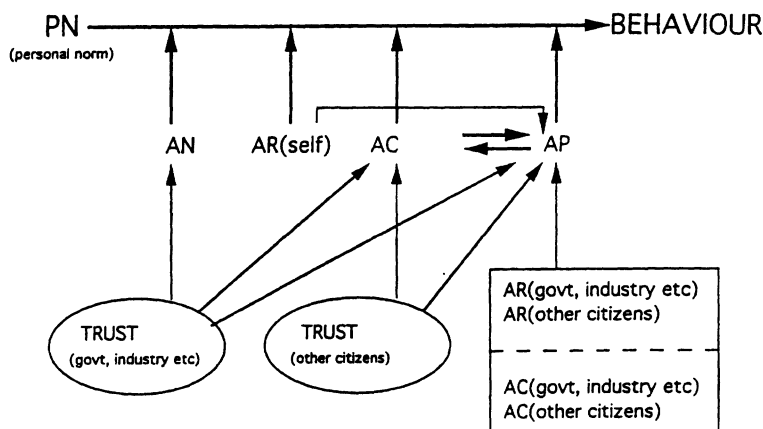
Although references to characteristics such as perceived manipulateness of an appeal fall within the realm of procedural concerns and notions of fairness, Schwartz’s discussion of procedural considerations appears to be limited to the way in which the helpee makes her or his requests. Procedures adopted by third party intermediaries receive little if any explicit attention. Despite the lack of reference to third parties, Schwartz and Howard (1982) do identify some of the key contingencies of cooperation. They observe, for example, that findings “regarding trust are particularly important to clarify the reasons for boomerang effects in helping. Trust may also play a central role in the definition of the parameters of need and of the costs and benefits

of helping" (p. 351). Braithwaite et al. (1994) concluded that both social bonds and shared understandings of goals between regulators, and regulatees held the key to understanding regulatory compliance. Treating regulatees with trust, regard, and respect can contribute to the "emergence of shared understandings and goodwill, and these, in turn, translate into cooperation and compliance" (Braithwaite, 1995, p. 7). Makkai and Braithwaite (1993), for example, found that praising regulatees may improve compliance, and Makkai and Braithwaite found that treating regulatees as trustworthy had a similar effect.

Tyler (1990) recognizes the role of organizations with respect to cooperation, arguing that individuals evaluate political and legal authorities against criteria of distributive and procedural fairness and that the perceived legitimacy of these authorities then affects how individuals respond to their demands. Subjective *distributive justice* is concerned with perceptions regarding the fair allocation of scarce resources and, hence, is concerned with outcomes. In the tradition of Adams's (1965) equity theory, some individuals will favor situations in which outcomes are proportional to inputs. Some others might follow more in the tradition of Homans (1961), adopting norms of equality whereby situations are favored if they involve equal share among all. Others might adopt norms of needs-based allocation.<sup>9</sup> Subjective *procedural justice* is concerned with the perceived fairness of procedures with which decisions are made (see Lind and Tyler, 1988; Mellers & Baron, 1993). Individuals, for example, may evaluate government decisions more positively when they perceive that the public has had the opportunity to participate in the decision, when the decision-making process is perceived to have been neutral or unbiased, and when they have been treated with dignity and respect by the government and its agents.

An important question is whether organizations and associated principles of justice have an influence on norm-activation that is independent of AR and AC. Although many perceptions regarding organizations, institutions, and policy initiatives will influence behavior via AC and AR, others have a direct effect on behavior. For example, an individual may ascribe responsibility to herself or himself and accept that her or his contribution will have the required consequences, but object to the responsibilities of others implicit in the policy proposal. Alternatively, the individual may object to the coercive manner in which a request is made.

A third broad category of moderating effect, labeled here as "acceptance of policy initiatives" (AP) thus appears to be required when applying Schwartz's model to environmental behavior. AP refers to the extent to which AR and AC are implemented in a way that does not cause the individual to react or protest. Such protests will generally result in inaction. Because AP



**Figure 1: Extended Norm-Activation Model**

tends to involve norms of distributive and/or procedural justice, we may refer to these as *secondary norms*, to distinguish them from the *primary norm* under investigation. These secondary norms thus moderate activation of the primary norm. It is intended that AP include implementation considerations where no formal policy initiative exists, as is often the case when voluntary contributions are sought.<sup>10</sup>

Figure 1 summarizes some of the main relationships expected among AR, AC, and AP. The precise relations among different manifestations of these constructs will clearly vary with the context of application. The need for a broad context-sensitive approach to the application of Schwartz's model to environmental problems has been emphasized by Guagnano et al. (1995). AR(self), AC, and AP all have direct moderating effects on the norm-behavior relationship. Note that notions of trust can influence norm-activation in several ways.

## DISCUSSION OF REQUIRED EXTENSIONS

Table 1 summarizes the main extensions to Schwartz's model that are required when considering norm-activation in the context of contributions to

**TABLE 1**  
**Extensions to Schwartz's Original Model**

	<i>Original Model</i>	<i>Extended Model</i>
Awareness of Need (AN)	<ol style="list-style-type: none"> <li>1. Identify individual(s) in need</li> <li>2. Identify indirect needs of friends or family of person in need</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify human or nonhuman species in need</li> <li>2. Identify indirect needs, for example, human dependence on public goods</li> <li>3. Relative need of this cause, compared to others (substitute and complement causes)</li> <li>4. Opportunity costs of satisfying need (mutually exclusive needs)</li> <li>5. Impacts of proposed intervention (where applicable), for example, will pipeline create its own impacts?</li> </ol>
Ascription of Responsibility (AR)	<ol style="list-style-type: none"> <li>1. To self Responsibility for treatment Responsibility for cause of problem Ability to help</li> <li>2. To other members of society Diffused responsibility</li> </ol>	<ol style="list-style-type: none"> <li>1. To self Responsibility for treatment Responsibility for cause of problem Expected beneficiaries from treatment Ability to help</li> <li>2. To other members of society As for self, but concerned with responsibilities of other citizens. Shared responsibility Diffused responsibility</li> <li>3. To third party organizations (e.g., government, industry) As for self Organizational responsibilities</li> </ol>

<p><b>Awareness of Consequences (AC)</b></p>	<p>1. Consequences for helpsee Will intervention be effective in preventing impact?</p>	<p>1. Consequences for helpsee Will any intervention(s) be effective in preventing impact (trust in government and scientists)? Perceived decisiveness of individual behavior decisiveness of collective (e.g., decisiveness of survey outcome, decisiveness of petition) Would government do its bit? (e.g., would funds be earmarked?) Would enough others contribute?</p>
	<p>2. Consequences for helper (self) Physical, material, or other direct implications Moral and value implications Social implications</p>	<p>2. Consequences for helper (self) Physical, material, or other direct implications, including costs of noncompliance (could contributions be avoided, perceived probability of getting caught, consequences of getting caught) Moral and value implications Social implications General consequences for society Social benefits Social costs</p>
<p><b>Acceptance of Policy Initiatives (AP), including all forms of implementation of AC and AR</b></p>	<p>Boomerang effects: Has helpsee's appeal for help been made in a manipulating and/or biased way, or in a way that undermines motives?</p>	<p>Who do initiatives imply is responsible for treatment? What would consequences be of these initiatives? What organizations or third parties are involved? How trustworthy are these organizations? Are initiatives distributively fair? Are initiatives procedurally fair? Are initiatives practical (transaction costs etc.)?</p>



public goods. Figure 2 illustrates the extended process model. Consider each row of Table 1 in turn.

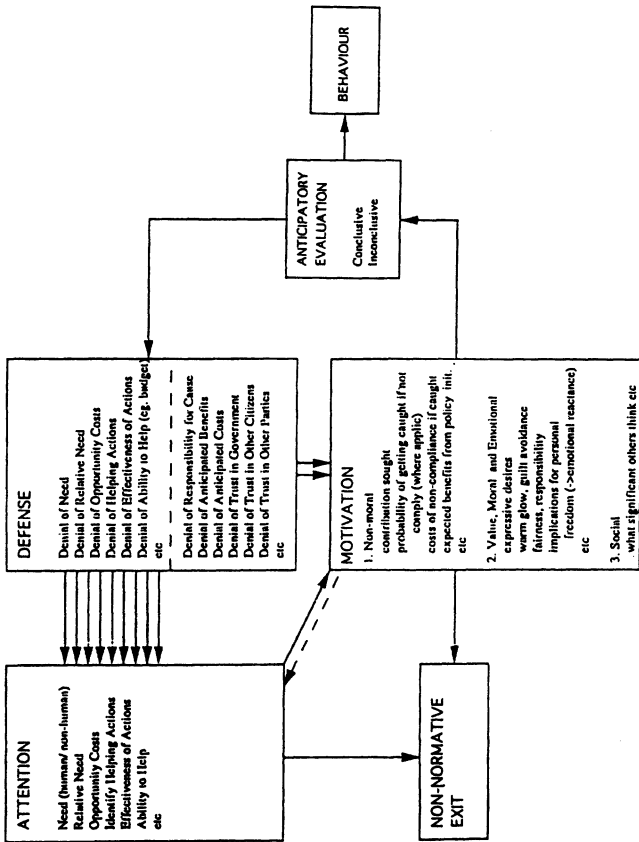
#### AWARENESS OF NEED

Although the original model of Schwartz (1977) was developed with human helpes in mind, the same principles can be expected to apply to nonhuman helpes, such as endangered species. In contrast to the unilateral helping relationships considered by Schwartz, in which responsibility is often clearly and narrowly defined, and the helper is able to directly alleviate the need of the helper, responsibilities in the public good case are often less well defined, and direct action is often not possible, or practicable. When considered in conjunction with the great many environmental and other good causes to which individuals can contribute, it is apparent that norm-activation in the public goods case may occur with a greater level of indifference, being prone to greater influence by situational cues and to greater use of decision heuristics. Individuals are likely to consider substitute causes and the relative need or importance of difference causes. Furthermore, alleviating environmental needs often involves opportunity costs. Individuals who believe that a forest should be logged to provide economic benefits are likely to refuse to donate to "save the forests" funds. In cases in which provision of a public good requires some form of intervention, individuals may need to be convinced that the intervention does not create its own impacts, or at least that such impacts have been taken into account (e.g., in a prior environmental impact statement).

#### ASCRPTION OF RESPONSIBILITY

Although AR(self) is common to both the original and extended models, one might expect a consideration of who benefits from treatment to play a more discriminating role in the public goods case. The nonexcludable nature of public goods means that a great many individuals may benefit from treatment, leading to the perception that those who benefit from provision of such goods should contribute toward provision.

In Figure 1, AR(self) is viewed as the (initial) responsibility the individual ascribes to herself or himself, prior to an evaluation of the policy bargain. AR(self) will tend to be influenced by acceptance of responsibility for the cause of the environmental problem at hand and by any personal benefits that are expected to emerge from the initiative. By contrast, perceptions of distributive justice associated with AP tend to be based on an evaluation of the division of responsibilities implied in the policy bargain. Care is required



**Figure 2: Process Model of Norm-Activation When Public Goods Are Involved**

to ensure that AR and AP are operationalized in a way that acknowledges this important difference. Defining AR such that it is the net of other contingencies in the model may produce collinearity problems and increase the degree to which some variables mediate others.

#### AWARENESS OF CONSEQUENCES

Table 1 distinguishes between three broad classes of consequences: those accruing to self, the object(s) in need, and society as a whole. The first is seen by Schwartz and Howard (1981) to be a component of the attention stage, whereas the second is held to arise at the motivation stage.<sup>11</sup> The third also can be expected to arise at the motivation stage.

Recognizing that the object(s) in need may be either human or nonhuman in the environment context, Stern et al. (1993) distinguish between social altruistic AC and biospheric AC. Consequences for self have been referred to as egoistic AC (Stern et al., 1993) and personal costs (Black et al., 1985; Guagnano et al., 1994; Stern et al., 1993), with the former being more general in that it captures benefits as well as costs.

The significance of different consequences for an actor will vary dramatically on a contextual basis. One would expect, for example, perceived costs of noncompliance to be higher in cases of regulatory compliance than voluntary contributions. Expressive factors, however, will often play a greater role in motivating voluntary rather than compulsory contributions. Submitting one's tax return may not engender the same feelings of warm glow that a donation to charity might.

In the case of public goods, assessing the consequences of action for the object(s) in need will involve greater attention to third parties such as government and scientists. Another factor incorporated within the extended model but not the original model involves the decisiveness of individual and collective actions. An individual signer of a petition has little influence on the outcomes at stake, and indeed, so may the results of the petition as a whole, because government may not attach much weight to the petition when making a decision. A perception that government cannot be trusted to listen clearly reduces the perceived influence of individual actions, which, in the case of voting behaviors, can cause individuals to attach greater weight to expressive concerns at the evaluation stage.

The third type of consequence, which is featured only in the extended model, has, as its major focus, consequences for members of society other than self and the object(s) in need. Because individuals may perceive that responsibility for action should be shared among other members of society,

who also stand to benefit from treatment—it seems natural that individuals may think in terms of costs and benefits to society as a whole rather than just to the object(s) in need and themselves. Evidence for the existence of such perceptions is found in the work of Kahneman, Ritov, Jacowitz, and Grant (1993) and Green, Kahneman, and Kunreuther (1994), in which some respondents to willingness to pay questionnaires were found to adopt a contribution model when formulating their responses, rather than the purchase model assumed by economists. In contrast to the purchase model, in which individuals are assumed to ask themselves how much they are prepared to pay to obtain a specified environmental improvement, rather than do without it, the contribution model assumes that individuals treat the environmental improvement as a good cause that warrants supporting, but for which any one contribution will only be “a drop in a large bucket” (Kahneman et al., 1993, p. 311; see also Guagnano et al., 1994). The qualitative data considered below is consistent with the contribution model.

A question arises as to the order in which the individual processes AN, AR, AC, and AP, and the various manifestations of each. Although it is expected that AN would normally precede AR, AC, and AP, the order in which the last three categories of belief are processed is uncertain. In some contexts, it is clearly unrealistic to expect the vast majority of individuals to have completed their initial assessment of all aspects of the need stage, before proceeding to the effective action stage, and then to the ability stage. One would instead expect the order of processing to depend on the interaction of contextual factors with individual factors such as held values, beliefs, dispositions, physical and emotional state, and endowment (e.g., income) (Blamey, 1996). From a symbolic interactionist perspective, we might say that in addition to meanings that are generated by the social structure (and biological) factors, are meanings that arise from processes of interaction and the interpretive procedures that this involves.

Drawing on the work of Cialdini, Kallgren, and Reno (1991), Stern et al. (1993) recently argued that the significance attached to different manifestations of AC will tend to “depend on the belief or value set that receives attention in a given context” (p. 336). Factors such as priming and perceptual narrowing influence the salience of different beliefs. Priming involves increasing the salience of a construct by exposing the individual to related situational cues. The greater the conceptual distance between the priming cue and the target construct, the lower the effect tends to be. Perceptual narrowing refers to the tendency of individuals to be responsive to a narrower range of cues, the more aroused they are (Cialdini et al., 1991; Easterbrook, 1959). Research in the area of behavioral decision research also recognizes that the

decision processes adopted by individuals are contingent on task and context variables (Payne, Bettman, & Johnson, 1992). Task variables are associated with the structural characteristics of a decision problem, such as the number of options an individual faces and the number of characteristics differentiating those options. Context variables tend to be concerned more with the nature of the information communicated (Payne, 1985). Different institutional arrangements can prime different values and attitudes, resulting in different framing devices not just with respect to perceptions of AC, but also AN, AR, and AP. Specifying in advance the temporal sequence of processing would deny the dynamism and recursiveness inherent in the construction of behavioral intention.

#### ACCEPTANCE OF POLICY INITIATIVES

AP is concerned mainly with the perceived justice of the environmental program in question. The addition of this type of moderating effect to Schwartz's model is consistent with recent findings in psychology, economics, and political science. Perceptions of justice have been shown to have an important influence on the perceived legitimacy of government and support for government programs (Tyler, Boeckman, Smith, & Huo, 1997). Literature in experimental economics has consistently shown that perceptions of fairness play a significant role in bargaining behavior (Roth, 1988). In the environment context, contingent valuation studies have consistently found a significant proportion of respondents refusing to support environmental programs funded using levies on income taxes, rates, or other charges (Lindsey, 1994). Loomis, Lockwood, and DeLacy (1993), for example, found that approximately 20% of respondents protested, many because they thought the environmental program should be funded out of existing rather than additional taxes. Syme and Nancarrow (1992) observed a negative association between willingness to delegate power to a water authority and public involvement in urban water management. Syme and Fenton (1993) examined perceptions of procedural and distributive justice relating to water allocation decisions, and Ebreo, Linn, and Vining (1996) examined procedural justice perceptions in the context of local government policies on solid waste management.

The contingencies operationalized in a given application of Schwartz's model determine the boundaries of application within which the model will have explanatory power (Guagnano et al., 1995). In terms of maximizing predictive validity, the choice of contingencies should be based on the results of an initial inductive research phase, the objective being to identify the key

decision parameters or barriers to adoption among the target group. Although policy makers may only be interested in a small subset of these variables, care must be taken to ensure that results do not “fall short because they neglect the critical insights provided by [an]other perspective” (Guagnano et al., 1995).

As a model is broadened to encompass a wider range of applications, the number of variables that may need to be considered increase, and tradeoffs between parsimony and complexity quickly arise. Exploratory or inductive research can play a critical role in identifying both the variables to be operationalized and the likely causal linkages among these variables. Sources of insight here include previous experience in the field, literature reviews, and qualitative and/or quantitative work (focus groups, in-depth interviews, factor analysis, etc.). In this respect, the literature reviewed in this article (summarized in Table 1) provides more of a template or guiding framework for variable selection than a list of variables needing to be operationalized in any one application. The framework can be used in qualitative research exercises to identify the manifestations of AN, AR, AC, and AP having a determinant influence on behavior. Contingencies or beliefs that are not salient or do not discriminate among individuals can be dropped from further consideration.

### A BRIEF QUALITATIVE ILLUSTRATION

Results of an exploratory research exercise involving nine focus groups are presented in this section. The objectives here are twofold: first, to illustrate the use of qualitative focus groups in identifying key decision parameters in a given application and, second, to illustrate key components of the extended Schwartz model as they arise in that context. Space limitations mean that only the more commonly expressed barriers to adoption are considered here.

#### METHOD

The exercise was designed to identify factors influencing individuals when deciding whether to vote in a contingent valuation questionnaire in favor of a proposal to prevent environmental damage to the Australian Coorong, through the construction of a pipeline, at a cost of \$50 per taxpayer. The Coorong is a large permanent coastal lagoon, about 100 km long and located in the upper southeast of South Australia. It is listed as a wetland of international significance under the Ramsar Convention.

Three focus groups (Krueger, 1988) with an average of 9 participants were held in each of three locations: a rural town adjacent to the Coorong, the nearest major city (Adelaide), and an interstate city (Sydney). A professional recruitment agency was employed to select the sample, required to be as representative as practically possible of the population of eligible voters. The focus group sessions lasted approximately 2 hours each, and were audiotaped and videotaped with permission of the participants. A second researcher observed proceedings from a special viewing room.

Participants were told that the questionnaire was a draft of one the government was intending to send to a large sample of individuals. The proposal described in the questionnaire involved the building of a pipeline designed to protect the South Australian Coorong (and nearby Tilley's Swamp) from being negatively affected by water discharged from a groundwater drainage system, the purpose of the drainage system being to reduce agricultural problems associated with rising groundwater tables in the region. The questionnaire asked individuals to consider what to do with the water that comes out of the drainage scheme. Should it be allowed to flow into the Coorong, thereby altering the natural environment of the area and reducing the population of birds using the wetlands, or should a pipe be built to divert the water out to the ocean, before it enters the Coorong? Individuals were told that the pipe would be expensive and were asked if they were prepared to make a once-off contribution of \$50 toward the pipe. To see how individuals respond to different modes of payment, participants were presented with several possible payment mechanisms, one being included in the initial questionnaire and other possibilities being raised later in the discussion.

Discussions began at the most general level, with the facilitator first requesting that respondents fill out the questionnaire, which contained basic information about the origin of the groundwater, the impacts that water coming out of the groundwater drains would have on the Coorong, and how the pipe would prevent these impacts at a cost of \$50 per head, to be charged in a particular way. The questionnaire finished by asking individuals whether they were prepared to make this payment.

To obtain a comprehensive pool of beliefs important to individuals in reaching their decisions, individuals were prompted with the use of open-ended questions. The open-ended prompts took the following form: What influenced your response the most? Did you find anything to be unclear or ambiguous? Is there anything that you disagreed with or didn't like? Was there any information that you thought was missing? What further information do you think you need? Did you think any of the information was biased?

Although an objective of the focus groups was to identify the ways in which AN, AC, AR, and AP manifest themselves in the context of the case

study, some constructs are more likely to be verbally articulated by participants than others. Psychological and social implications, for example, are less amenable to identification through self-reports, although facilitators can at times make inferences using nonverbal cues. It is also difficult to identify whether a given belief is associated with an individual's first encounter with Stage 1 of the Schwartz model, as opposed to subsequent defensive encounters.

## RESULTS

Although virtually all participants in the South Australian groups appeared to accept some notion of shared responsibility for ensuring continued health of the Coorong, several participants in the Sydney groups denied responsibility, stating that it was a South Australian issue. To a large degree, these individuals appeared to be delegating responsibility to South Australians.

Although the vast majority of participants in all locations accepted that there was a need to do something to prevent the impacts to the Coorong, a few questioned whether prevention of the impacts was desirable. The argument was that the Coorong may historically have had higher water levels and that a return to this regime may in fact be environmentally beneficial. The following statement illustrates the type of belief that may need to be considered in relation to Stage 1a of Schwartz's model.

If you've ever been there, you'd think the more water you put there the better. . . . Get rid of all that smelly rotting aquatic plant matter. (A2)<sup>12</sup>

Although no participants rejected the proposal on the grounds that the pipe would not have the intended consequences for the water level of the Coorong, several were concerned that construction of the pipe would have unintended negative consequences on the immediate environment and/or on the fisheries where the water would enter the ocean.

I just wondered whether there might be something about the visual impact of what this think would look like. You thought of think it would look very ugly. (N2)

Why isn't there any impact on the ocean? (N3)

Several others questioned the extent to which government could be trusted to target the money to the pipe in the first place. This can clearly have implications for the anticipated consequences of the financial contributions, as indicated in Figure 1.



Will it be like the road taxes? Will it go onto what they say it will? (A3)  
To just add more taxes on would be filling the pockets of the politicians. (A2)

Another common manifestation of AN concerned relative need. Somewhat independently of the above notions of AN, a number of participants questioned whether preservation of the Coorong was the environmental or social issue most deserving of their money.

People could look at this and probably identify 100 other [environmental] issues of approximately equal importance. (A3)  
So many things need doing in the environment. We've got to get the priorities right. Because we can't go on paying and paying. (S1)

The most obvious aspect of personal ability to help in the CV context is affordability. Focus group results confirmed this, with many participants referring to the impact the contribution would have on them, in terms of purchases forgone.

That \$50, it could be your kid's new shoes. (S1)

It is in regard to the magnitude of individual payments that a second notion of distrust in government arose. One of the most common objections to the proposal was that government could not be trusted to make the levy a one-off, as stated. Expected personal costs may be inflated as a result.

the other thing I wouldn't trust is the levy being applied for 1 year only. . . . In my experience, they never add onto the price of something and then take it off. Once it's there, they find an excuse to leave it there permanently. (N3)  
I cannot believe them when they say that is once off. (S1)  
Once off becomes . . . very often once off. (S1)

A number of participants appeared to evaluate the proposal by weighing the personal costs to themselves against the benefits they would receive from supporting the proposal. The proposal was not only seen to help plants and animals (biospheric AC) but also other humans who may visit the area in the future (social-altruistic AC). Although some participants appeared to be processing information according to a purchase model, a number of respondents appeared to be following a contribution model. This was most evident in the frequent request by participants for information regarding the total cost of the pipe, in millions of dollars. There appeared to be two main reasons why participants sought such information. First, it allowed them to ask whether the benefits to society as a whole are worth the costs to society, in

millions of dollars. Second, it allowed them to divide the estimate of total costs by an estimate of the number of individuals likely to be paying, providing an indication of whether the \$50 per head figure represented fair and reasonable value.

You need a costing in this because people won't agree to pay \$50 if it doesn't sound credible. (N1)

It does not say how much in total this is going to cost? It can only cost 400 million, and we are talking 12 billion. What are they going to do? Paint the pipe every 12 months. (S1)

I'd like to know how much the whole thing is going to cost. . . . Every taxpayer in Australia paying \$50 is a hell of a lot of money to build a pipe. (S1)

We need to know what the pipe costs, so we can decide if the Coorong is worth it. (S1)

These findings are consistent with the inclusion of a social cost-benefit category of AC in Schwartz's model. Several participants were also concerned with how the costs of the pipe were to be distributed among members of society. This first notion of AP thus concerned responsibilities implicit in the policy proposal.

They could vary the amount on your income. If you earn \$50,000 a year, you pay \$100. If you earn \$5,000 a year, you pay \$20.

Maybe they could make it a sliding scale on people's income and make it so that some pay more [than others]. . . . But I think every single person should do something. (N2)

People who are on the dole . . . and pensioners, do they have to pay too? Well they couldn't afford it. (A3)

A more serious objection to the responsibilities implicit in the policy bargain was that citizen responsibility for payment had already been fulfilled through payment of yearly income tax, and that the government should thus fund the project out of existing taxation revenue.

These sort of issues are really what taxes should pay for. What do you pay your taxes for? You pay your taxes to have things that can't be done by private enterprise. (A3)

Let's fund this elsewhere from another department's revenue . . . or go across the broad range of state government departments and say, well, let's talk about a reallocation of . . . budgets. (A1)

As mentioned above, several different vehicles for citizen payment were explored in the focus groups. Although it is not possible to consider all of

these here, it is interesting to note the reaction of participants to the suggestion that the pipe be funded through voluntary payments to a trust fund. A number of participants indicated that they would be less inclined to pay to such a fund, because other citizens would be able to free-ride. This would violate their secondary norms of shared responsibility.

Wouldn't get much there. . . . It'd be a pretty small pipeline!

Won't work. (N2)

Wouldn't work 'cuz they wouldn't get enough money. (A3)

You wouldn't donate \$50. It would be more like \$2. (S1)

And who pays the collectors, and who pays the bankers? It comes out of the money that you donate. Too much money out of donations gets done in bookkeeping. (S1)

Finally, several procedural concerns were expressed. A common sentiment was that government could not be trusted to listen to the view of individuals. This has implications for the perceived decisiveness of individual behavior and the relative influence of expressive and outcome benefits at the evaluation stage.

They're obviously going to build the pipe no matter what we think anyway. (N3)

No matter what the people think [on issues in general], the government will sort of say yes we'll do it. (A3)

Some other individuals thought that the information presented in the questionnaire was biased. This may result in psychological reactance and protest responses. A few individuals, generally suspicious of government, wondered if there were hidden agendas.

Sounded to me as if it was a bit biased.

I'm sort of waiting for a hidden agenda to come up from behind. . . . It sounds too goody two shoes for the government. (A2)

No attempt has been made to provide a formal validation of the extensions to Schwartz's model advocated above. The results, however, do illustrate how several of the constructs are manifested in one particular case study. These constructs include relative need, social costs and benefits, procedural and distributive justice, and trust in other citizens. Results also illustrate the central role of trust in collective action. Three different issues of trust in government were identified as highly salient in the focus groups, relating to the targeting of payments, the one-off nature of payments, and responsiveness to the views of the community.

## CONCLUSION

The extended norm-activation model outlined above is more encompassing than the original model developed by Schwartz, and provides a more complete framework with which to view the activation of norms in the context of public good contributions. The extended model draws together a number of existing refinements of Schwartz's model that may be required in environmental applications and extends it to better encompass the context of collective action, in which environmental contributions typically take place. Particular attention is drawn to the role of organizations and policy initiatives and the associated notions of distributive and procedural justice that can have an important influence on environmental behavior. Previous studies have only touched on such notions.

A number of practical implications follow from the extended model. For example, studies of green household practices that measure AC and AR in the context of isolated individual behavior may lead to second-rate policy recommendations if key barriers to adoption are omitted from consideration. Important interactions may exist between variables included within an application of the model and those excluded. The excluded variables will often moderate the effect of the included variables. The extensions to the Schwartz model also have implications for how charities market their products and how government may increase support for new social programs or compliance with existing regulations. Governments are more likely to gain support for green taxes, for example, if they commit to handing funds over to a trust charged with the responsibility of implementing the program (a guarantee that funds will be targeted). Individuals are also more likely to donate to voluntary trust funds when they are assured that their contributions will not be "wasted" on projects that are financially undersupported. Such assurance may require a money-back guarantee to be written in to the contract (Schmidtz, 1991, p. 66). Arguments in favor of compulsory taxation need to be carefully balanced against psychological findings that suggest that policy instruments are *ceteris paribus* more effective when they are perceived as noncoercive (Young et al., 1996). Notions of fairness and responsibility thus need to be balanced against freedom from coercion.

The question of what motivates individuals to contribute to the public good has long puzzled social scientists. The main thrust of this article has been to extend a well-known psychological model of helping behavior to encompass individual contributions to public goods. The final model represents an integration of a wide range of concepts from psychology, political science, and economics. Although some recent progress has been made, previous attempts to apply Schwartz's model to behavior involving public

goods have not generally addressed some of the important conditions for cooperation that have been identified in this article. Political economists, on the other hand, have tended to focus on the identification of conditions for cooperation, without considering in a detailed way the psychological processes involved in bringing such factors together. Understanding "micromotives" and how they relate to "macrobehavior" (Schelling, 1978) is inherently an interdisciplinary task. Attempts to mobilize individuals in the pursuit of collective environmental outcomes are most likely to succeed when developed with an understanding of individuals' own cognitive representations of the problem, not just in terms of need, consequences, and responsibility, but also in terms of factors such as trust and procedural and distributive justice.

## NOTES

1. Ajzen's (1991) Theory of Planned Behavior, which developed out of Ajzen and Fishbein's (1980) Theory of Reasoned Action, is less focused on the process by which individuals decide to take a certain course of action, being primarily concerned with identification of cognitive and normative beliefs that influence behavioral intention. The theory is not specific to altruistic or cooperative behavior and, as such, does not specify the likely objects of the key beliefs. Environmental applications include Lynne, Casey, Hodges, and Rahmani (1995); Kantola, Syme, and Campbell (1982); and Shimp and Kavas (1984).

2. Although Schwartz and Howard (1982) observe that "certain aspects of the model might be suitable to a theory of cooperation," environmental applications have failed to seriously address this issue (p. 347).

3. Personal norms provide

the link between general internalized values and specific self-expectations in concrete situations. . . . It is assumed that when people face behavioral choices, their value systems are activated. That is, they weigh the implications of the available action alternatives for that set of internalized values which they perceive as relevant. This cognitive process of comparison and evaluation (which may occur either with or without self-conscious awareness) results in the generation of personal norms, feelings of moral obligation to perform or refrain from specific actions. (Schwartz & Howard, 1981, p. 191)

4. Schwartz (1977) suggests that AR will tend to be used as a defense mechanism, and hence may better be referred to as responsibility denial (RD). The use of AR here does not deny that AR will often involve denial. A further point is that applications of the model vary in the extent to which they treat AR and AC as a trait-like characteristic in the manner originally postulated by Schwartz (1968, 1977). Although values and personal traits clearly have an important bearing on how individuals define AN, AC, and AR, they are not viewed as personal tendencies in this article.

5. This can be contrasted with the approach of Stern, Dietz, and Black (1986), where AC and AR are treated as antecedent to the activation of personal norms. There would appear to be

two ways of resolving the apparent contradiction. First, it can be argued that relevant personal norms will often exist prior to exposure to the object in need, and that AC and AR play a crucial role in establishing whether these norms are in fact activated in a given situation. Second, individuals could be seen to have personal norms of varying specificity. Thus, the personal norm "I should do my bit to help the environment," depending on AC and AR, may develop into the more specific norm "I should recycle paper and glass." The latter norm is more object specific and is only created when the individual is exposed to a situation in which AC and AR, specific to recycling, are sufficiently high.

6. Public goods also exhibit the property of nonrivalness in consumption, meaning that one person's consumption of the good does not reduce the amount of the good available for consumption by others. Collective goods are defined as goods for which nonexcludability alone holds (Pearce, 1983).

7. A collective-action problem exists when each individual derives greater benefits from universal cooperation than universal noncooperation, but greatest private benefit is obtained from noncooperation, irrespective of what others do (Elster 1985; drawing on Schelling, 1978).

8. Psychological costs can similarly apply. For example, an individual may feel physically ill upon witnessing the injuries incurred by parties involved in a traffic accident.

9. Wenz (1988) discusses principles of distributive justice in the environment sphere.

10. Some type of council, community group, or conservation organization is usually involved in the implementation of programs involving voluntary behavior such as recycling.

11. Although the original AC scale (Schwartz, 1968) only included the former, it is useful to include the other, largely independent, types of consequences under the AC umbrella.

12. The abbreviation A2 indicates that the statement was made in the second group held in Adelaide. S1-S3 similarly refer to the three Sydney groups, and N1-N3 refers to the groups held in the local region, at Naracoorte.

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