

## An Application of Prosocial Behavior Theory in Outdoor Recreation Management

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## 屋外 休養地 管理에서 社會心理學的 理論의 適用

- Prosocial Behavior 理論을 中心으로 -

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### ABSTRACT

본 研究에서는 Schwartz의 Norm Activation 理論을 도입하여, 屋外休養地에서 環境毀損行爲 管理을 위한 Communication 政策의 이론적 배경으로 도입되어 있는 Prosocial Behavior 이론의 적용성을 실험하였다. 본 研究는 실험실에서 자체개발한 설문지를 통하여 수행되었으며, 미국 Texas A&M 대학교의 남녀 대학생 340명이 참가하였다. 본 실험의 결과 屋外休養 環境에 대한 毀損行爲(Depreciative Behavior)의 因果應報的인 결과를 알려 주는 Information 이 屋外休養地 管理에 바람직한 行動意志를 활성화 시키는데 효과적인 반면, 毀損行爲에 대한 법적인 制裁措置를 설명하는 威脅的인 Information은 바람직한 行動意志를 활성화 시키지는 못했다. 이용자의 개인적인 성향인자인 社會的 責任感(Social Responsibility)의 高低는 社會에 바람직한 行動意志의 활성화와 직접적인 관계가 있었다. 그러나, 社會的 責任感의 高低가 環境毀損行爲에 대한 因果應報的인 Information이나 制裁措置에 대한 威脅的인 Information 과의 交互作用은 없었다. 통계학적으로 有意성은 적으나 社會的 責任感이 높은 실험구의 경우 制裁措置에 대한 威脅的인 Information에 대한 反作用이 컸으나, 社會的인 責任感이 낮은 경우 制裁措置에 대한 威脅的인 Information이 효과적인 결과를 볼 때, 이용자의 바람직한 行動意志에 逆으로 作用을 하는 Communication 政策에 대한 체계적인 研究가 요구된다.

### INTRODUCTION

With the increasing popularity of outdoor recreation, many recreation areas are

seriously threatened by overuse, or by careless uses. Damage to natural and cultural resources and facilities due to visitors' destructive behavior is a major problem facing

resource management agencies(Christensen, 1984). Such damage may have a detrimental effect on organizational budgets and adverse psychological effects on visitors(Heywood, Mullins and Blower, 1984).

Recreation managers have developed various strategies to protect recreation resources by reducing inappropriate behavior(Christensen, 1981). These can be divided into two general approaches : direct and indirect (Lucas, 1982). In direct management approaches, use and behavior are directly regulated by managers through strict enforcement of regulations and by threatening such sanctions as fines or imprisonment. In contrast, indirect management focuses on communication and education strategies designed to promote voluntary behavior changes in outdoor recreation areas.

Many studies have demonstrated the effectiveness of communication strategies to reduce depreciative behavior in outdoor recreation settings by educating visitors about the need to protect resources(Gramann, Stewart and Kim, 1989 ; Christensen, 1981 ; Clark, Burgess and Hendee, 1972 ; Lucas, 1982 ; Oliver, Roggenbuck and Watson, 1985). This strategy rests on the assumption that most destructive acts in recreation settings result more from ignorance and lack of sensitivity about environmental impacts than from malicious destructiveness(Oliver, et al., 1985).

Other studies have used incentives(Muth and Clark, 1978 ; Roggenbuck and Ham, 1986), implied sanctions(Samdahl and Christensen, 1985), or messages warning of harm to visitors(Schwarzkopf, 1984) to reduce harmful behavior to resources.

Gramann and Vander Stoep(1987) described how the effectiveness of communication strategies in reducing damaging ac-

tivity in outdoor recreation areas could be interpreted in the light of prosocial behavior theory.

The basic premise of Gramann and Vander Stoep's argument was that the avoidance of resource impacts is a prosocial action. For instance, consciously obeying protective rules in parks, or taking positive actions to promote the quality of a recreation environment, such as collecting litter or reporting depreciative behavior to park rangers, is a form of helping behavior. These activities are "prosocial" because people may be required to experience some inconvenience in order to help park management without an expectation of any material benefit to themselves.

In the long run, destructive behavior, as a kind of social norm violation, may be stopped most effectively if the violators are encouraged to change their normative outlooks and priorities(Scoby, 1971). However, most depreciative behavior studies in outdoor recreation have not directly examined the psychological antecedents of depreciative behavior, such as the normative decision-making processes. Instead, previous studies have focused on the overt behavioral effects of indirect management approaches in decreasing inappropriate behavior toward natural and cultural resources.

The objectives of this research are : 1) to test whether or not "awareness-of-consequences" information and "threatened sanctions" activate intentions to behave prosocially ; and 2) to test how individual differences in levels of social responsibility affect norm activation.

The results of this research will provide theoretical insights into the effect of the interaction of personal trait and situation variables on prosocial behavior in outdoor

recreation settings.

## REVIEW OF RELATED LITERATURE

### Prosocial Behavior Theory

By implication, prosocial behavior is carried out only in the situations in which the individual has the freedom to decide whether or not to help. However, a major "activator" of prosocial behavior may be an individual's feeling of internal obligation (rooted in the perceived expectations of others) to act in a certain way. Prosocial behavior is the antithesis of antisocial actions such as aggression, harm, destruction, or selfishness (Bar-Tal, 1982).

Prosocial behavior, including helping behavior and altruism, has been studied intensively in social psychology since the early 1970s. The predominant theoretical problem addressed by research on prosocial behavior is to explain why people do or do not help others who are in need. The corresponding applied issue is to discover techniques that promote or activate prosocial behavior in social relations (Schwartz, 1977).

### Norm Activation

Schwartz (1977) has been interested in the psychological process eluding to the activation of internalized norms supporting prosocial behavior.

Norms are defined as "socially agreed upon rules, the definition of what is right and proper" (Webster, 1975, p.16). Norms are standards that individuals use for evaluating specific activities, environments or management proposals as good or bad, better or worse (Rushton, 1982; Schwartz, 1977). Norms may be informal sanctioning forces that are supported by actual or imagined

social sanctions for noncompliance (Blake and Davis, 1964).

According to Schwartz, much human behavior is norm-oriented. Norms are considered the invisible chains which bind social systems together, and they often have powerful and consistent influences on an individual's behavior in everyday life (Hackman, 1976). Through social relationships, individuals come to accept social expectations as self-expectations. People are willing to comply with social norms to maximize socially mediated external reinforcement (Schwartz and Howard, 1981). Without these socially shared expectations about behavior, mutual cooperation between units of society would be nearly impossible (Heberlein, 1971).

Internalization of norms is the ideal form of social control, since avoidance of temptation and implementation of sanctions have inherent limits. If a person internalizes social norms, he then accepts certain goals as legitimate and has a desire to achieve these goals (Blake and Davis, 1964). Internalizing personal norms may account for many people's conformity to normative prescriptions against depreciative behavior (Heberlein, 1971).

Activated personal norms lead to feelings of moral obligation to help others who are perceived to be in a state of need. If not de-activated by other psychological defenses, this feeling of moral obligation then results in prosocial behavior (Schwartz, 1977).

While individuals often share norms with other people, not all social norms become internalized by every member of the group. The individual is an active participant in creating his own personal norms (Kluckhohn, 1951 cited in Vaske, Shelby, Graefe, and Heberlein, 1986). When he meets conflict be-

tween his own expectation and social norms, the social norms would be inactivated.

In order to promote prosocial behavior, internalized social norms must be activated in a specific situation. However, in any situation, different and even contradictory social norms may be relevant simultaneously (Latané and Darley, 1970). In this case, with enough detailed information about the situation and expected behavior, people might be able to decide which norm should take priority (Schwartz and Howard, 1981).

According to Schwartz (1977), norms will be activated and influence behavior when the decision-maker is aware of the consequences of his action for others and when he feels personally responsible for the action and its consequences. The higher people are on AC (awareness of consequences) and AR (ascription of responsibility), the more likely they are to help. If AC and AR are absent, then individuals will not realize that they are faced with a need to act, and personal norms are less likely to influence their actions (Schwartz, 1975).

The effectiveness of communication methods, including Awareness-of-Consequences (AC) messages and Ascription of Responsibility (AR) in reducing depreciative behavior has been experimentally evaluated in several types of settings, including developed forest campgrounds (Christensen and Clark, 1983; Oliver et al., 1985), a National Military Park (Gramann and Vander Stoep, 1986), and with respect to yard-burning behavior (Van Liere and Dunlap, 1978). Some studies (Van Liere and Dunlap, 1978; Christensen and Clark, 1983) supported the positive effect of AR messages on reducing depreciative behavior, while other studies (Oliver et al., 1985; Gramann and Vander Stoep, 1986) showed that a combination of AC and AR messages

significantly reduced depreciative activity.

In order to encourage visitors to take personal responsibility for helping reduce littering and other forms of depreciative behavior by other campers an "appeal-to-help" message was delivered either orally or through a printed brochure at a national forest campground in Washington State (Christensen, 1981). These results suggested that the AR had an effect on subjects' own behavior, even though neither direct intervention nor reporting behavior of treatment groups were significantly different from that of the control groups.

Van Liere and Dunlap (1978) examined whether variation in levels of awareness of consequences and ascription of responsibility were associated with backyard-burning behavior. In Van Liere and Dunlap's study, it was found that a strong AR message was more effective in reducing burning behavior under both a strong and weak AC condition than a weak AR message. Burning behavior was more in accordance with normative expectations when the AR and AC message were both strong than otherwise. These results suggested that AR and AC were important components in influencing the individual's environmental behavior. However, AR was the best predictor, while AC had a weak association with changes in yard-burning behavior.

According to Edney (1980), understanding impacts of depreciative behavior (e.g., through an AC message) may be a precondition to activating prosocial behavior, yet, knowledge is not sufficient by itself to bring about prosocial behavior without also increasing a person's feeling of responsibility to help.

Gramann and Vander Stoep (1986) evaluated the relative effects of three personally delivered messages (AC, AC plus AR and AC

plus AR plus the offer of an incentive) on the behavior of organized youth groups hiking in a national military park. Gramann and Vander Stoep reported that all three treatments significantly reduced serious forms of depreciative behavior when compared to the level observed in a control group. However, neither the AC+AR nor the AC+AR+Incentive treatments were any more effective than the AC treatment by itself in changing subjects' behavior. The authors suggested that the additional treatments, especially the incentive offer, might have reduced the subjects' ability to attribute their helping behavior to socially desirable prosocial motives. Schwartz(1977) has termed this the "boomerang" effect.

### Social Responsibility

Social responsibility has been defined as a composite of general attitude elements effecting an individual's dependability, sense of obligation to the group and willingness to accept the consequences of his own behavior(Gough et al., 1952). Socially responsible persons are those who have a sense of commitment to the group or to others. They tend to be greatly involved in their communities and do volunteer work, reflecting the generalized tendency to help people even when there is nothing material to be gained from helping(Berkowitz and Lutterman, 1968).

The person characterized by high social responsibility is more prosocial than one characterized by low social responsibility (Willis and Goethals, 1973 ; Midlarsky and Bryan, 1972). Responsible people may voluntarily contribute to public welfare through prosocial behavior because they have a deep concern over broader ethical and moral

problems and feel morally obligated to assist others in the larger social world(Gough et al., 1952), or because they realize that contributing will help the group as a whole (Fleishman, 1980). For this reason, the trait of social responsibility is thought to be a key determinant of prosocial behavior(Berkowitz, 1972).

In fact, Schwartz(1977) originally conceptualized ascription of responsibility(a major factor affecting the activation of personal norms) as a personality trait. Since individual differences in adherence to social responsibility play an important role in prosocial behavior, it also is possible that this trait interacts with situational variables, such as presence of an or absence of awareness-of-consequences messages or selective incentives, in influencing prosocial behavior.

In 1973, Willis and Goethals investigated the relationships between level of social responsibility (high and low) and threatened pressures on donating behavior among public high school students in Queens, New York. When there were high threat pressures the frequency of donation decreased sharply.

This study will further analyze the effect of the interaction of the personality trait of social responsibility with situational variables, including exposure to different types of information and pressure of a fear threat, on people's intentions to engage in prosocial behavior in outdoor recreation settings.

### Fear Threat

Many signs that have been used to manipulate behavior in outdoor recreation areas are quite direct in warning, compliance ; often these types of approaches directly or indirectly threaten punishment for non-compliance (Reich and Robertson, 1979). Implicit

in the use of such “fear threat” is the assumption that when emotional tension is aroused, a person will become more highly motivated to accept the recommendations advocated by the communicator (Janis and Feshbach, 1953).

Samdahl and Christensen (1985) demonstrated the effectiveness of implied punishment on reducing carving on picnic tables at national park campgrounds. This research indicated that the presence of an authority figure (i.e., a type of implied sanction) was effective in reducing depreciative behavior. These results also were supported by Swearingen and Johnson’s findings (In press), in which the presence of uniformed park employee was more effective in eliminating off-trail hiking compared with a condition in which uniformed employees were absent.

Other research has reported that fear threats on signs also can reduce rule violations in outdoor recreation areas (Schwarzkopf, 1984 ; Johnson and Swearingen, In press). However, one problem with the Swearingen and Johnson’s experiment was that message used in AC treatment may have been too general or too familiar to hikers. As pointed out Lucas (1981), general or familiar message may be less likely to capture the attention of potential readers. Many visitors may believe that they know the meaning of a message on a sign already, and thus feel there is no need to pay attention to the sign. Thus, visitors may not comply with the recommended behavior.

Also, the prosocial appeal in the Swearingen and Johnson’s study contained no logical explanation about the negative impacts of hiking off the trail. An important component of any AC message is the rationale for recommended behaviors. For an AC message to be effective, visitors should understand

the damage caused by not complying with recommended behaviors. If visitors do not fully understand the reasons for regulations, they may not comply with them (Christensen and Davis, 1984 ; Ross and Moeller, 1974).

In the contrast to studies showing positive results of threatened punishment in outdoor recreation areas, in another experiment, Pennebacker and Sander (1976) tested the effects of varying degrees of external pressure on the amount of graffiti in a men’s room. In this experiment, significantly more graffiti appeared under a high-pressure condition (“Do NOT write on the walls!”) than under a low-pressure treatment (“Please, do not write on the walls”). In other research, messages with explicit commands against littering (“Don’t Litter”) actually were associated with more littering than messages communicating social normative standards (“Help Keep Your Pool Clean”) (Reich and Robertson, 1979). These results were consistent with the findings of Geller, Witmer and Orebaugh (1976) in which a sign with a threatening message (“You must not litter, ...”) apparently induced psychological reactance and was therefore less effective in reducing litter than signs with a polite request (“Please do not litter, ...”).

The negative effects of external pressure have been induced through a wide variety of social control factors (reinforcements, threats, monetary rewards, unnecessarily close supervision), and the phenomenon has been shown to influence the behavior of adults and children alike (Crano and Sivacek, 1984). It is apparent that in some conditions when a threat or other form of strong external pressure is present, prosocial behavior will be reduced compared with a low-pressure condition (Willis and Goethals, 1973). This may be especially true if the subjects receiving

the pressure are "high" in social responsibility.

## METHODS

### Experimental Design and Treatments

This study employed a 2x2 blocked factorial design with subjects blocked on social responsibility. In a pre-test subjects' social responsibility scores were measured using the revised version of the "Social Values Questionnaire"(Perloe, 1967). Using these initial scores the subjects were arranged into blocks, i.e., high or low social responsibility. Within each block, the subjects(5 males, 5 females) were assigned at random to one of four experimental condition(Figure 1).

Treatments included : 1) the presence or absence of awareness-of-consequences (AC) information about negative impacts resulting from visitors' depreciative behavior ; and 2) the presence or absence of threatened sanctions.

The ten subjects in each cell were administered one of four versions of a "Social Dilemma Questionnaire"(SDQ). This questionnaire contained six scenarios describing dilemmas that visitors to outdoor recreation

place of the characters in the dilemmas, and in each case to assess the likelihood that they would either obey or disobey regulations that were described in the dilemmas.

Data collection was performed in two stages. First, in February and March of 1990 340 potential subjects completed a revised and pretested version of Perloe's "Social Values Questionnaire." This provided the data needed to block subjects on the trait of social responsibility.

The second stage of data collection took place in April of 1990. From the sample pool of 184 subjects who agreed to participate in a second survey, eighty(40males and 40 females) were selected according to their SVQ scores. They completed the "Social Dilemma Questionnaire" to measure their behavioral intentions.

### Measurement of Behavioral Intentions

In this research, subjects were presented with six short scenarios describing dilemmas that people could find themselves facing when visiting parks, campgrounds and other outdoor recreation areas. Four different versions of the SDQ were developed, corresponding to the three different treatment groups and a control condition. After each scenario, subjects were presented with potential acts that they might take in the situation. The behavioral-intention measure was self-administered and each item was rated on six-point scale.

In this study, all alpha levels were set at 05 to determine the level of significance for each p-value. All p-values less than 0.05 were considered significant whereas p-values exceeding 0.05 were insignificant.

#### AC Information

		AC Information			
		Yes		No	
		Soc. Resp.	Soc. Resp.	Soc. Resp.	Soc. Resp.
		High	Low	High	Low
Threatened Sanctions	Yes	1	2	3	4
	No	8	7	6	5

Figure 1. 2x2 Blocked factorial design

areas might find themselves in. Subjects were asked to imagine themselves in the

## RESULTS

### 1. Effect of social responsibility on behavioral intentions :

HA<sub>1</sub> : Intentions to commit depreciative behavior will be weaker among high social-responsibility subjects than among low social-responsibility subjects.

Results showed a significant effect of level of social responsibility on intention to commit rule-breaking behavior in outdoor recreation settings(Table 1). The comparison t-test indicated that high social-responsibility subjects were less likely to intend to violate regulations than low social responsibility subjects(Table 2). Based on these results, HA<sub>1</sub> was supported.

Effect of AC information on behavioral intentions :

Table 1. One - way ANOVA of Difference between High and Low Social Responsibility Subjects in Intentions against Rule-breaking Behavior (N=80)

Source	df	MS	F Ratio	F Prob.
Between	1	92.45	3.75	.05
Within	78	24.63		
Total	79			

Table 2. T-test of Mean Difference in Intentions toward Rule-Breaking Behavior between High and Low Social-Responsibility Subjects (N=80)

Variable	Mean	SD	t
High SVQ	-2.76	5.05	
Low SVQ	61	4.88	1.94*

\*p<0.05 (one-tailed test), alpha=0.05

HA<sub>2</sub> : Subjects who receive AC information about the negative impact of depreciative behavior will exhibit stronger intentions against committing depreciative behavior than those who do not receive such information.

Results showed a significant effect of AC information on behavioral intention against rule-breaking behavior(Table 3). Also, the t-test revealed that the mean score of intentions to commit depreciative behavior among subjects who received AC information was smaller than among those who did not receive such information(Table 4). Based on these results, HA<sub>2</sub> was supported.

### 3. Effect of threatened sanctions on behavioral intentions :

HA<sub>3</sub> : Subjects exposed to a threatened

Table 3. One-way ANOVA of Difference in Intentions against Rule-Breaking Behavior between Those Who Received AC Information and Those Who Did Not (N=80)

Source	df	MS	F Ratio	F Prob.
Between	1	268.81	11.71	.001
Within	78	22.45		
Total	79			

Table 4. T-test of Mean Difference in Intentions toward Rule-Breaking Behavior between Subjects Received AC Information and Those Who Did Not (N=80)

Variable	Mean	SD	t
Subjects with AC information	-3.50	4.79	
Subjects without AC information	.13	4.69	3.42*

\*p<0.001 (one-tailed test), alpha=0.05

sanction will exhibit stronger intentions against depreciative behavior than those who are not exposed to a threatened sanction.

Results of one-way ANOVA did not show a significant effect of the threatened-sanction treatment on behavioral intentions against rule-breaking behavior (Table 5). The t-test results showed very little difference in the composite behavioral-intention scores of the two groups (Table 6). Based on these results, HA<sub>3</sub> was not supported.

4. Comparing AC information and threatened sanctions :

HA<sub>4</sub> : Subjects who receive AC infor-

5. Interaction of social responsibility with AC information and threatened sanctions :

HA<sub>5</sub> : Subjects who are high in social responsibility will be less likely to intend to commit depreciative behavior after receiving an AC message than those who are low in social responsibility.

HA<sub>6</sub> : Subjects who are low in social responsibility will be less likely to intend to commit depreciative behavior after being exposed to a threatened sanction those who are high in social responsibility.

Results of a three-way ANOVA revealed significant main effects for AC information will have stronger intentions against depreciative behavior than subjects exposed to a threatened sanction.

Results of a 2×2 ANOVA revealed a significant main effect for AC information, but for threatened sanction information (Table 7). And a priori contrast (t-test) showed a significant difference in behavioral intentions between the 20 subjects who only received

Table 5. One-way ANOVA of Difference in Intentions against Rule-Breaking Behavior between Those Who Were Exposed to the Threatened-Sanction Treatment and Those Who Were Not (N=80)

Source	df	MS	F Ratio	F Prob.
Between	1	.20	0.008	.93
Within	78	25.81		
Total	79			

Table 6. T-test of Mean Difference in Intentions toward Rule-Breaking Behavior between Subjects Who Were Exposed to the Threatened-Sanction Treatment and Those Who Were Not (N=80)

Variable	Mean	SD	t
Subjects with Threatened Sanction	-1.74	5.05	0.09
Subjects without Threatened Sanction	-1.64	5.11	

\*p<0.050 (one-tailed test), alpha =0.05

Table 7. ANOVA of Differences in Intentions against Rule-Breaking Behavior by Subjects with AC Information and Subjects with Threatened-Sanction Treatment (N=80)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	P Values
Main Effects	263.01	2	131.51	5.74	.005
AC information	262.81	1	262.81	11.47	.001
Sanction	.20	1	.20	.01	.926
AC X Sanction	8.45	1	8.45	.37	.546
Residual	1742.23	76	22.92		
Total	2013.69	79	25.49		

AC information and the 20 subjects who were only exposed to the threatened sanction treatment (Table 8). The AC subjects had significantly lower intentions toward rule-breaking behavior than did the threaten-sanction subjects. Based on these results, HA<sub>4</sub> was supported.

and Social Responsibility ; however, there was no main effect for the threatened-sanction treatment. The interactions of Social Responsibility with AC information and threatened sanction were not significant at the 0.05 alpha level (Table 9). Based on these result, HA<sub>5</sub> and HA<sub>6</sub> were not supported. That is, the effect of AC information and threatened sanction on intentions against rule-breaking behavior did not differ between subjects who were high in social responsibility and those who were low in social responsibility.

### DISCUSSION

#### Hypothesis Related to the Effect of AC Information

The results of this study indicate that when placed in specific dilemmas in which there was a strong temptation to violate a regulation, people who received AC information had a stronger feeling of moral obligation (conceptualized as a behavioral intention) against rule-breaking than those who did not receive such information. This result further supports the application of s norm-activation model (1977) to outdoor recreation settings. In other words, when visitors receive AC information, they become aware of the consequences of their action for the recreation environment, and this awareness activates their feeling of moral obligation to not violate regulations in a specific

**Table 8.** T-test of Mean Difference in Intentions toward Rule-Breaking Behavior between Subjects with AC Information Only and with Threaten-Sanction Treatment Only (N=40)

Variable	Mean	SD	t
Subjects with AC information only	-3.78	5.54	2.02*
Subjects without Sanction only	-.25	5.48	

\*p < 0.05 (one-tailed test), alpha = 0.05

**Table 9.** Three-way ANOVA of Differences in intentions against Rule-Breaking Behavior by Subjects with Different Levels of Social Responsibility (SVQ), AC Information (AC) and Threatened Sanction (SAN) (N=80)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	P Values
Main Effects	355.46	3	118.49	5.34	.002
SVQ	92.45	1	92.45	4.17	.045
AC	262.81	1	262.81	11.84	.001
SAN	.20	1	.20	.01	.925
SVQ × AC	14.45	1	14.45	.66	.422
SVQ × SAN	25.31	1	25.31	1.14	.289
AC × SAN	8.45	1	8.45	.38	.539
SVQ × AC × SAN	12.01	1	12.01	.54	.464
Residual	1598.00	72	22.29		
Total	2013.69	79	25.49		

situation. In short, people are more willing to comply with regulations when detailed information about the situation and expected behavior are provided.

### Hypothesis Related to the Effect of Threatened Sanctions

In this experiment, there was no difference in behavioral intentions between people who received a threatened-sanction treatment and those who did not receive such a treatment.

In previous studies, the effectiveness of threatened or implied sanctions have been mixed. Some studies have found implied sanctions to be effective in reducing harmful behavior in outdoor recreation areas (Samdahl and Christensen, 1985; Swearinger and Johnson, 1990). In contrast, this study and others have found that the likelihood of antisocial behavior does not decrease, and in some cases may even increase, when sanctions are implied or threatened (Pennebacker and Sanders, 1976; Geller et al., 1976).

Threatening sanctions may be effective in decreasing deprecative behavior in some situations. However, in others, this approach may actually stimulate negative reactions from visitors. This may be especially true, if users disagree with the regulation.

The most likely explanation for the insignificant effect of a threatened-sanction treatment in this study relates to the loss of internal value-based motivation to behave altruistically. When the controlling aspect of external pressures (i.e., rewards and punishment) that is administered in a given situation is most salient, a person's intrinsic motivation to perform the task may be diminished (Petty and Cacioppo, 1981; Crano and Sivacek, 1984; Green, Sternberg, and Lepper, 1976; Lepper and Greene, 1976; Deci, 1971; 1975). This could be because the opportunity to attribute an action to one's prosocial "nature" is diminished by the pres-

ence of overt external pressure, such as the threat of a probable sanction.

The results of the hypothesis comparing AC information with the threatened-sanction treatment indicated that AC information was more effective in reducing depreciative behavior than the threat of a probable sanction for rule violations. Some field research also has found that the relationship between expectation of a sanction and actual depreciative behavior is nonsignificant (Robinson, 1976). Rather than enforcing a sanction, AC information seeking to guide behavior in terms of socially-approved and personally-accepted standards may be most effective in reducing depreciative behavior in outdoor recreation settings. Obviously, the effect of sanctions on depreciative behavior in outdoor recreation areas requires additional systematic field and laboratory study.

### Hypothesis Related to the Effect of Social Responsibility

The result of the hypothesis test regarding the effect of social responsibility on intentions to break rule ( $H_{O1}$ ) is consistent with previous studies that found that people characterized by relatively high levels of social responsibility are more apt to engage in prosocial behavior than people characterized by relatively low levels of social responsibility (Willis and Goethals, 1973; Berkowitz and Daniels, 1964; Midlarsky and Bryan, 1972). High social-responsibility visitors may have a deeper concern over recreation resources and be more willing to voluntarily observe posted regulations than other users. Alternatively, they may simply feel a stronger obligation to obey society's laws, regardless of their moral concern for the pro-

tection of recreation environments. Either of these two explanations could account for the finding in this study that subjects who scored higher on the SVQ were less likely to intend to violate rules than subjects with relatively low SVQ scores.

The tests of hypotheses 5 and 6 suggest that social responsibility does not interact with either AC information or the threat of sanctions in affecting intentions to commit depreciative behavior. The lack of a significant interaction between social responsibility and threatened sanction is inconsistent with the previous finding that threat pressure to promote prosocial behavior results in less donating behavior among subjects who are high in social responsibility (Willis and Goethale, 1973). However, even though the interaction in this study was statistically insignificant, when socially responsible subjects were threatened with a sanction, their intentions against rule-breaking behavior decreased from the baseline level established by the no-sanction group. It is possible that with a greater range of SVQ scores, or with a stronger sanction treatment, a significant interaction between social responsibility and threatened sanctions might occur.

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