

CONTROL OF LITTERING: A COMPARISON OF THREE APPROACHES

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[The following discussion is, to some extent, adapted from Fisher, Bell, and Baum's (1986) chapter entitled, "Changing Behavior to Save the Environment"]

Approaches to Littering

Environmental psychologists have used four major approaches to the control of littering: environmental education, prompting, environmental design, and consequence control. The environmental education approach usually uses mass media campaigns such as television to make the public aware of the problem. An example is the TV campaign that attempted to convince the viewer not to be a litterbug. The second approach, prompting, attempts to give the public specific instructions at the scene of the potential site of misbehavior. Prompting usually involves the use of signage (e.g., "Do not litter"), but may also involve the presence of a model. Environmental design attempts to design the facility so that the desired behavior is more likely. For example, a design strategy might involve placing a large number of trash cans in locations where they are likely to be used. The last approach to littering is consequence control. This method includes rewarding the public for throwing away litter, or giving feedback to the public, or a threat of a fine.

Environmental Education

So far, attempts at controlling littering through environmental education have been disappointing. It is assumed that "education will lead to environmental awareness and attitude change, which in turn will affect behavior advantageously" (Fisher, Bell, & Baum, 1984, p. 347). However, the assumed relationship between attitudes and behavior has been questioned. For example, Bickman (1972) showed little relationship between behavior and attitudes in a study in which trash was planted on a path. Almost all of the students walked by the trash without picking it up, even though 94 percent of the students agreed that "It should be everyone's responsibility to pick up litter when they see it." Although environmental education has not been shown to be extremely effective as of yet, it may eventually prove useful, particularly if it is combined with prompting and/or consequence control. This technique may help shape attitudes toward littering which make people more likely to respond to prompts.

Prompts

Studies testing the effectiveness of prompts have provided more encouraging results. Prompts are often in the form of written signs or occasionally verbal reminders by staff members. For example, Baltes and Hayward (1974) found that an antilitter sign produced a 45 percent reduction in littering at a football game at Pennsylvania State University.

Modelling is another type of prompting. People are more likely to use trash cans if they see others using them. Similarly, people are more likely to litter if others have littered (e.g., Cialdini, 1977, reported in Fisher et al, 1986).

Fisher, et al (1986) give the following summary of the effects of prompting:
"...Generally, prompts that state the specific antilitter response desired (e.g., "Place this paper in a trashcan") are more effective than general ones. Antilitter prompts are also more effective when given in close temporal proximity to an opportunity to dispose of litter, when proper litter disposal is relatively convenient, and when the prompt is phrased in polite, nondemanding language." [p. 358]

Environmental Design

Several researchers have studied the effects of designing the environment to facilitate antilitter behavior. Finnie (1973) found that the amount of littering was directly related to the number of trash cans available: the greater the number of trash cans, the less the amount of litter. Finnie also found that colorful trash cans were more effective than ordinary cans. Miller, Albert, Bostick, & Geller (1976) found that brightly colored trash cans that looked like birds were more effective than plain cans.

Another prompting technique that appears effective is restricting areas for eating and drinking. Most trash is generated from food and drink refuse. Museums appear to use this restrictive area technique more than zoos. Restricting areas for eating and drinking combined with written and verbal reminders (prompts) appears to be very effective, although we have not found any studies that confirm this informal observation.

Consequence Control

Rewarding individuals for placing trash in receptacles has been successful (e.g., Kohlenberg & Phillips, 1973) although one must consider the cost-effectiveness of such procedures. Many of these techniques are costly in terms of personnel and/or equipment. Other techniques may be more viable in terms of resources. Some studies have used a trash receptacle that responds to depositing trash either by talking to the person or by displaying a "thank you" sign (Geller, Winnett, & Everett, 1982).

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In summary, consequence control has been shown to be the most effective technique, but it is also the most costly. Cost-effectiveness has to be a major consideration since it may be less costly to hire staff to pick up litter than to purchase and maintain equipment and materials for consequence control.

Suggestions for Litter Control

Although much work remains to be done to determine the most cost-effective approach to littering, some suggestions can be made based on the above review. Most of you appear to be applying these suggestions already. By combining as many of these techniques as you possibly can, control over littering should be improved.

1. Keep your facility free of trash. The evidence clearly suggests that litter breeds more litter.
2. Provide enough trash receptacles. Make it convenient to throw away trash.
3. Display signs that remind visitors to place trash in the appropriate place.
4. Make the trash cans salient so they will be noticed. Trash cans are more likely to be used if they are unusually shaped or brightly colored.
5. Require that the staff set a good example for visitors.
6. Restrict eating and drinking to designated areas.
7. Use staff to remind visitors where to deposit trash.
8. If possible, give positive feedback to visitors when they do deposit trash appropriately.

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PUBLIC FEEDING OF ANIMALS - RESULTS OF A ZOO SURVEY

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Summary of "Public Feeding of Zoo Animals" from Proceedings of 1975-76 Regional American Association of Zoological Parks and Aquariums.

Several years ago, Wilson reported the results of a questionnaire sent to 56 zoos in the U. S. All but two zoos responded. We suspect that, if this survey were repeated, similar results would be found today.

QUESTION	YES	NO
Does your zoo:		
1. Allow public feeding of animals (that the public can reach)?	31	23
2. Have signs posted indicating a "no feeding" policy?	42	9
3. Allow public feeding in the contact area or other specific areas?	26	19
4. Sell animal foods?	34	20
5. Have problems with public feeding (whether allowed or not)?	34	20
6. Do you feel zoos should allow public feeding?	25	29

In addition to the above results, Wilson summarized the arguments for and against allowing public feeding:

Arguments for:

1. Source of revenue.
2. Allows staff to lure the animals for examination and medical treatment.
3. Stimulates healthy competition among animals and creates peaceful interaction between visitors and animals.

Arguments against:

1. Makes it difficult to provide a balanced diet.
2. Increases the possibility of disease and injury to man and animal.
3. Encourages a negative impression of wild animals ("begging is not natural").