

EDUCATIONAL TRAINING AND ATTITUDES TOWARDS RECYCLING AMONG CAMPGROUND MANAGERS IN IOWA

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In surveying managers of Iowa's campgrounds to determine their attitudes and behavior regarding recycling, it was found that attitudes were related to the type of educational backgrounds. For example, managers with park and recreation degrees had less strong conservation orientation than those with educational training in natural sciences which tended to develop the strongest conservationist orientation.

Introduction

The garbage crisis has become a critical issue for nearly every governing body in this country. With the amount of waste increasing every year and solid waste disposal sites filling up and closing rapidly, the need to encourage recycling becomes more critical each day. Yet developing and implementing waste disposal plans is increasingly difficult especially for park and recreation agencies with limited resources and vague directives.

Iowa's parks and camping areas provide an excellent setting for the exploration and evaluation of attitudes and behaviors regarding recycling and comprehensive waste management programs. In the fall of 1991, Iowa State University completed a comprehensive study of Iowa campground managers to document current solid waste management practices and recycling efforts and to identify recreation site managers' attitudes, perceptions, knowledge and motives regarding recycling and solid waste disposal technologies.

When one tries to look at the reasons why one manager is more accepting of recycling in their campground and more motivated to develop and implement new solid waste disposal programs and policies, many questions arise. There are many factors which affect people's attitudes and behaviors. One factor that has been examined in other studies is educational training (Pletcher, Walther & McConocha 1989). In this paper we examine that link between educational background and attitudes towards recycling.

Thus, the objectives of this paper are twofold:

1. To identify and classify park managers' perceptions of the benefits and barriers to the development of comprehensive park based recycling programs;
2. To examine the relationship between educational training and park managers recycling perceptions.

Methods

The survey of all public and of Iowa's campgrounds was conducted in the Fall 1991 by Iowa State University (Robertson 1992). A 10-page booklet was sent to the managers of all 488 of Iowa's public and private campgrounds. Subtracting questionnaires found to be duplicative, a total of 378 usable questionnaires were completed for a final response rate of 86%. Because of non response on the educational background question, only 292 respondents are included in our analysis of variance. The

response rate varied by administrative unit of camping area, 88 % of managers of state parks responded, 100% of the federal campground managers, 74% of the county and local managers and only 30% of the private campground managers. The final number of managers included in the study is shown in Table 1.

Table 1. Number of response by type of campground.

# of managers	type of campground
59	State
19	Federal
263	County
12	Local
2	Not for profit
23	Private

This paper looks at the relationship between two variables, educational background and the attitudes of campground managers towards recycling. The variable of educational background was defined by grouping the different educational programs which managers listed as their "educational training" into three main categories which we called Natural Sciences, Resource Management and Park and Recreation/Social Sciences. Table 2 shows how the variable was defined.

Table 2. Definition of educational training.

	Number	Percent
NS <u>Natural Sciences</u>	161	54.9%
(Biology, Ecology, etc.)		
RS <u>Resource Management</u>		
Forestry	25	8.5%
Natural Resource Management	15	5.1%
(Fish & Wildlife, Range Mgmt.)		
PR <u>Park and Recreation /Social Sciences</u>		
Park & Recreation Management	66	22.5%
Social Science	3	1.0%
Law Enforcement	5	1.7%
Education	6	2.0%
Business Administration	6	2.0%
Associate of Arts	6	2.0%

The variable of attitude towards recycling was developed by performing a factor analysis on the 39 reasons listed in the questionnaire for recycling or not recycling. Respondents were asked to rate on a 5 point scale from "not important" to "extremely important" 22 reasons for recycling and 17 reasons for not recycling. The factor analysis yielded 10 interpretable and conceptually meaningful factors with eigenvalues above 1.0 which we tested for internal reliability. These 10 factors explained 65% of the total variance. Table 3 lists the factor names, the item content, the reliability test's alpha level, the eigenvalues and the proportion of variance explained by each of the 10 factors. Finally, to examine the relationship between the attitude variable and educational background, we used a one-way analysis of variance of the 10 scales created from the factors and the 3 types of educational background.

Table 3. Results of factor analysis.

(alpha)	Factor Loading	Explained Variance
Factor 1 (.882)		18%
<u>Resource Conservation</u>		
To conserve energy	.798	
To conserve natural resources	.773	
It saves resources for future generations	.771	
Due to shortages in raw materials	.762	
Recycling is an effective way to protect and preserve resources	.693	
To save landfill space	.689	
Factor 2 (.718)		14%
<u>Social values</u>		
To be recognized as an environmentalist	.78	
Because I recycle at home	.678	
Because it makes a person feel good	.671	
Because it is the right thing to do	.559	
Factor 3 (.653)		7%
<u>Inconvenience</u>		
Don't want to be bothered	.695	
Abundance of raw materials	.687	
Lack of financial incentives	.629	
Factor 4 (.766)		5%
<u>Administrative barriers</u>		
Not enough staff to manage a recycling program	.814	
Lack of appropriate facilities for recycling	.687	
No pickup service in the area	.616	
Too costly to administer	.569	
Factor 5 (.829)		4%
<u>Educational values</u>		
To introduce park visitors to recycling	.714	
To educate park visitors on the values of recycling	.632	
To set a good example for park visitors	.549	
Factor 6 (.684)		4%
<u>Social pressures</u>		
Legal requirements	.72	
Because other park and recreations areas recycle	.66	
To help charitable organizations	.647	
To create local jobs	.491	
Factor 7 (.630)		4%
<u>No support</u>		
Agency doesn't encourage development of recycling programs	.684	
Campers would not participate in programs	.687	
Lack of volunteer or interest group support	.51	
Too costly to administer	.569	
Factor 8 (.717)		3%
<u>Structural barriers</u>		
No market for the recycled materials	.78	
Not enough garbage to justify development of recycling program.	.46	
Too costly to administer	.403	
Lack of volunteer or interest group support	.326	
Factor 9 (.593)		3%
<u>Not required</u>		
Should be left to volunteer and not-for-profit groups	.75	
Should be left to private sector	.67	
Don't know how to recycle	.404	
Factor 10 (.424)		3%
<u>Economic reasons</u>		
To reduce the cost of garbage collection	.789	
To get money for recyclable materials	.590	

Results

The results of the analysis of variance are shown in Table 5, but can be summarized in the following 10 statements:

1. Park and Recreation Management graduates consider conservation a less important reason for recycling than graduates of Natural Sciences.
2. Resource Management graduates consider social values significantly more important reason for recycling than either of the other two groups.
3. Park and Recreation Management graduates rate inconvenience as a more important reason for NOT recycling than graduates of either Natural Sciences or Resource Management.
4. Administrative barriers were rated as significant reason for NOT recycling by all campground managers regardless of educational background.
5. Resource Management graduates felt the educational value of recycling programs were significantly more important than the Natural Science majors.
6. Resource Management and Park and Recreation graduates felt significantly more social pressure to recycle than the Natural Science majors.
7. No significant differences were found between the groups ratings of the lack of support variable.
8. Park and Recreation Management graduates consider structural barriers to be significantly more important reasons for NOT recycling than graduates with Natural Sciences backgrounds.
9. Resource Management graduates rated leaving recycling programs to other groups as a significantly less important reason for NOT recycling than the managers of the other two educational backgrounds.
10. Resource Management graduates consider economic reasons significantly more important reason for recycling than either of the other two groups.

Table 4. Results of analysis of variance.

Factor number and name F ratio and probability	Means for each type of educational background (codes used to indicate significant difference)		
	NS (a)	RS (b)	PR (c)
1. Conservation F=4.21 .016	3.57	3.53	3.37a
2. Social values F=6.67 .001	2.89	3.19ac	2.66
3. Inconvenience F=5.67 .006	1.78	1.98	2.13a
4. Administrative barriers F=1.90 .152	3.33	3.43	3.12
5. Educational values F=3.69 .026	3.56	3.94a	3.62
6. Social pressures F=7.45 .0007	2.32	2.60a	2.60a
7. No support F=1.88 .155	2.16	2.32	2.07
8. Structural barriers F=4.47 .012	2.78	3.09	3.11a
9. No requirements F=8.71 .0002	1.70	1.29ac	1.81
10. Economic reasons F=5.69 .004	2.69	3.14ac	2.63

a, b, c indicate which variables are significantly different from each other

Conclusions and Implications

To summarize the conclusions, the Natural Science majors were the most conservation oriented, tending to see the need to recycle in more scientific or biological terms. They were the least likely to see the educational benefits of recycling programs, and weren't swayed by social pressures.

The Resource Management majors were the most interested in being recognized as an environmentalist and recycled because it was the "right thing to do". They more strongly favored using recycling program for educational purposes and though they wanted to educate the public, they were least likely to think the job of recycling should be the responsibility of anyone else but themselves. They were the group that saw the most value in recycling for economic reasons.

Park and Recreation/Social Science majors were the least conservation oriented, tended to be most likely to see the barriers to recycling. They more than any other group felt that recycling

was an inconvenience. Not surprisingly they were most likely to think that someone other than themselves should handle the job of recycling and were the group most often to say that they didn't know how to recycle. Managers with this type of educational background were the least interested in being recognized as environmentalists. They were most swayed by social pressures of others recycling and were more likely than other groups to cited reasons to recycle in terms of helping charitable groups or created local jobs.

The implications of the findings of this study could be seen from a number of different orientations. Certainly there are implications for those in the educational training field. College programs should be aware of both the strong points and the deficiencies of their respective programs. Natural Science majors could use more emphasis on social aspects, for example, to see the educational benefits in recycling programs. Park and Recreation educational training could certainly benefit from more emphasis on the biological aspects as they apply to programs such

as recycling. Helping Park and Recreation majors develop a stronger conservation ethic would broaden their view of management jobs.

Another orientation might be that of marketing. One could use these findings to better market recycling programs to each of these different groups. Tailoring the message of the need to recycle to each groups' orientation will more than likely help "sell" the concept.

Literature Cited

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