

RELATIONSHIPS BETWEEN MOTIVATIONS, ACTIVITIES AND SETTINGS: THE RECREATION OPPORTUNITY SPECTRUM WITHIN THE DELAWARE STATE PARK SYSTEM

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Abstract: The Recreation Opportunity Spectrum (ROS) was first developed by the US Forest Service to classify lands available for recreation by activities, settings, and visitor expectations. This paper examines the relationship between these three criteria within the Delaware State Park System. Respondents were asked to rank the importance of 22 reasons for visiting a state park, and to report their preferences for 18 activities available at Delaware state parks. Factor and cluster analyses were used to reduce these data to general motivation factors and activity preference groups. The relationships between these new variables and the state park setting in which they occurred were examined. This study demonstrates that there is a relationship between park visitors' activity preferences, their motives for visiting a park, and the setting attributes which are available.

Introduction

The reasons behind why people choose one recreational setting over another have been the topic of much research and are important considerations for both planners and managers of recreation resources. One framework that may be useful in exploring this topic is the Recreation Opportunity Spectrum (ROS).

The ROS is a tool developed by the US Forest Service to insure that recreation visitors are provided with a spectrum of settings to meet their diverse experience and activity

needs. While this spectrum is based on setting categories along a "level of development" continuum from primitive to urban, the general concept of the ROS focuses on matching visitors' desired experiences and activity preferences with appropriate recreation settings. Thus, as long as recreators have a diversity of setting types to choose from, their motives and activity preferences should dictate what setting they will visit. The purpose of this research was to determine if visitation motives and activity preferences determine what settings recreators visit within the Delaware State Park System.

Related Literature

One long standing theme of recreation research has been to explore the relationships between recreationists and the resources or settings that they choose. A spur of this topic has focused on motivational aspects of this relationship by breaking up the recreational experience into activities and desired experiences, and then matching these to settings which contain appropriate attributes (Driver, et al. 1987)

However, the ROS is not the only framework to examine the relationship between desired experiences, activities, and site selection. Clark and Downing (1985) contended that decisions on where to go are dependent on social pressures (one possible motive) as well as activity preferences.

Other research has focused on the relationship between site choice and just one of the aforementioned components. For example, Shelby (1985) found that activity preferences are strongly linked to recreation destination decision making. He found that salmon fishermen were not likely to substitute similar activities for salmon fishing, but concluded that they would switch to alternative settings where salmon fishing was available. On the other hand, Schreyer Lime and Williams (1984) contested that people choose activities and recreation destinations based on need fulfillment or their motives for going on a trip. They theorized that people would seek out activities and destinations that they perceived to be consistent with motives such as relaxation or adventure.

Conversely, a few researchers have downplayed the relationship between motives, activities, and settings. For example Williams et al. (1992) stated that place attachment may be more directly linked to destination choice than activity preferences. On the other end of the spectrum, Field and Cheek (1974) noted that site selection was more likely to be determined by social groups than by setting attributes or the specific activities for which the parks were designed.

Despite the lack of a true consensus on what the exact nature of the relationships are, past research efforts tend to suggest the existence of some relationships among user groups, activity choices, and leisure settings as postulated by the ROS management model. Further research may also be needed to determine the effect of distance and repeat visitation to destination decision making.

Methods

This study examined visitors to the Delaware State Park system and included all of the State Parks that charged

entrance fees (11 of the 13 parks). Data were collected through a combination of on-site interviews and follow-up mail questionnaires sent to a sample of those interviewed at the parks. The follow-up questionnaire was designed to collect more in depth information regarding park visitors' attitudes and characteristics.

Sampling was conducted from May through October, 1993, according to a detailed sampling schedule. Sampling was limited to weekends for the months of May, September and October. During June, July and August, each park was sampled once each weekend and one week day per week. Interviewers were instructed to conduct about ten interviews on any given sampling day. Sampling times were rotated between the morning and afternoon to ensure a representative sample of users to each park. The interviews were generally conducted at the entrance stations, where visitors who entered during the sampling periods were asked to participate in the survey after they had paid their entrance fee.

Questionnaires were sent to 1,528 of 2,577 visitors interviewed in Delaware's State Parks (59%). Following several reminder mailings, 870 completed questionnaires were received, representing an overall response rate of 57% to the mail survey portion of the study.

Data analysis procedures included factor analysis, cluster analysis, one-way analysis of variance, two-way analysis of variance, and chi square analysis. Factor analysis was used to examine the underlying dimensions within the motivation data. Cluster analysis identified distinct segments of park visitors based on the activity preference scores. Chi Square Analysis determined the relationship between the activity clusters and the settings. One-way analysis of variance examined the relation between motives and settings; and the two-way analysis of variance examined the relationship between all three variables.

Results

The first step in examining the relationship between the variables was to define the variables being used in the analysis. The development of these variables is as follows:

Motives

Respondents were asked to rank the importance of 22 possible reasons for visiting a Delaware State Park. Factor Analysis with varimax rotation was used to reduce these 22 items to the five general motivation factors shown in table 1. The factor analysis explained just under 70% of the variance in the importance ratings.

Activities

In addition to answering questions on what motivated them to visit Delaware State Parks, subjects were also asked about their activity preferences. Respondents were shown a list of 18 activities available for participation at Delaware State Parks, and asked to indicate which activities they participated in (or planned to participate in) during their visit. They were

also asked to rank in order of importance the three activities that represented the most important reasons why their group had come to the state park. Cluster analysis was then used to group subjects into activity preference clusters based on how they ranked the available activity choices. A seven cluster solution appeared to be the best fit, and is outlined in Table 2.

Table 1 : Motivations for visit summary

Motive Factor	# of Items	Alpha
Escape/Solitude	8	.88
Nature/Harmony	4	.88
Nature Learning	4	.85
Fun/Recreate	2	.86
Social	4	.86

Table 2 Summary of Activity Cluster Solution

Cluster	% of Respondents
Picnickers	14%
Anglers/Boaters	12%
Misc. Pursuits	23%
Boaters/Campers/Swimmers	8%
Swimmers/Sunbathers	18%
Hikers/Walkers	17%
Other Activities	7%

Settings

Each of the 11 Delaware State Park Settings included in the sample were examined and placed into one of four park classification types based on the physical characteristics and location of each park. Table 3 illustrates this classification.

Table 3 Setting Types

Classification Type	Number of Parks
Historical	1
Suburban	3
Pond	3
Seashore	4

After the development of the variables, several tests were run to determine if visitor motives and activity preferences affect site choice. The first of these tests concentrated on examining the relationship between motivations and settings. One-way analysis of variance was used to check for differences between settings in regard to motivation scores (table 4). Significant differences were found between settings for all of the motive factors except the social factor, which is consistent with Cheek and Field's (1974) earlier proposal that settings may be interchangeable for people motivated primarily by social interaction. The largest differences were found between the historical setting and the other settings. Visitors to the historic park placed more emphasis on the nature/learning motive and less emphasis on the escape, nature/harmony, and fun motives than visitors to the other types of parks.

A Crosstab analysis was employed to explore the relationship between activity preferences and setting choice. As depicted in table 5, significant differences were

found between setting types in regard to activity preferences. These differences were largely as anticipated. Swimmer/sunbathers dominated the seashore parks and were absent from the historical setting. Hikers/walkers

were the dominant activity group at suburban parks. And the pond settings showed a mixture of activities with no single activity accounting for more than 24% of the park users.

Table 4 Motivation Factors by Park Settings

Motives	Overall	Historic	Suburban	Pond	Seashore	F
Escape	3.6	2.9	3.6	3.6	3.7	13.6*
Nature/Harmony	3.7	3.3	3.9	3.7	3.6	8*
Social	3	2.9	2.9	3.1	3.0	1.8ns
Nature/Learning	2.8	3.4	2.9	2.9	2.7	10.7*
Fun	4.3	4.1	4.2	4.4	4.5	8.1*

* indicates significance at 0.05

Table 5 Park Settings by Activity Clusters

Activity Clusters	Historical	Suburban	Pond	Seashore	Total
Picnickers	6%	18%	24%	5%	14%
Anglers/Boaters	2%	3%	11%	22%	12%
Misc. Pursuits	59%	26%	20%	15%	23%
Boaters/Swimmers/Campers	3%	1%	17%	7%	8%
Hikers/Walkers	19%	43%	10%	4%	17%
Swimmers/Sunbathers		1%	13%	41%	18%
Other Activities	12%	9%	5%	6%	7%

$X^2 = 1323.78$ Significant at .000

Table 6 Motivations by Activities and Settings

Factors		F-Value	Significance
Escape	Combined	5.0	.000
	Setting	10	.000
	Activity	.90	.491
Nature/Harmony	Combined	4.0	.000
	Setting	4.3	.005
	Activity	2.3	.032
Social	Combined	3.2	.001
	Setting	.18	.908
	Activity	4.2	.000
Nature/Learning	Combined	4.4	.000
	Setting	7.8	.000
	Activity	7.5	.181
Fun/Recreate	Combined	4.7	.000
	Setting	2.3	.076
	Activity	3.2	.004

Finally, a two-way anova was used to examine the relationship between all three variables using the activity preference clusters and the settings as the independent variables and the motive factors as the dependent variables (table 6). While the overall model for each motive factor indicates a significant relationship, note that significant differences between activity preferences and between park settings depend on which motive factor is being examined. The escape and both nature-oriented motives differed significantly by setting, while the social, fun, and nature/harmony motives varied by activity. Only the nature/harmony motive showed significant differences for both activity and setting.

Conclusions

Study results confirmed the existence of relationships between motivations and activity participation among Delaware State Park users. Visitors to different types of

state parks differed in their motivations for visiting as well as the packages of activities they pursued at the parks. Both settings and activities were instrumental in explaining variation in visitors' motivations. The results show that managers need to be aware that their settings are attracting visitors with specific activity preferences and expectations that may not be available everywhere.

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