

THE EFFECT OF SOCIAL STRUCTURE ON NATIONAL PARK-GOING PATTERNS¹

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ABSTRACT

Outdoor recreational participation typically has been "explained" by reference to individual-level variables, such as personal characteristics, personality, psychological needs, life experiences, and attitudes. Little attention has been given, other than in a theoretical vein, to the potential explanatory importance of system-level variables, such as structural and cultural patterns.

Structural-effects analysis is used in this study to test the impact of a system-level variable (social-class structure) on the relationship of socioeconomic status to national park-going. It was found that several individual-level status variables were positively related to the frequency of the respondents' national park-going; but more importantly, that these relationships were affected by the social-class structures of the respondents' communities. Working-class persons in a middle-class community displayed higher rates of park-going than their class counterparts in a predominately working-class community. Conversely, the park-going rates of middle-class people tended to be lowered by their residence in a predominately working-class community. These findings suggest the necessity of incorporating system-level (contextual) variables, along with individual-level variables, in explanatory models of recreational participation.

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INTRODUCTION

Considerable examination has been made of the nature and correlates of outdoor recreational participation in the United States. Although significant relationships often have been shown between independent variables (e.g., age and income) and rates of participation, the results have been generally disappointing in that only a small amount of variance in participation can be explained (Brodie, et. al., 1975).

Failure to obtain more substantial explanation of recreational participation is produced by several factors, including: 1) use of inappropriate independent variables, 2) deficient theoretical and/or methodological models, 3) inadequate conceptualization and measurement of recreational participation, and 4) measurement error. But another factor which may hinder more adequate explanation of recreational participation is the general failure to incorporate "system-level," as compared to "individual-level," variables in study designs.

Rates and styles of recreational participation typically are conceptualized as being "caused" by differences in the attributes and orientations of individuals. Numerous individual-level variables have been studied, including: personal needs (Witt and Bishop, 1970; Knopp, 1972), personality (Ferriss, 1970; McKechnie, 1974), life experiences (Yoesting and Burkhead,

1973; Kelly, 1977), personal characteristics (Cicchetti, 1972; Sessoms, 1963) and attitudes-motives (Christensen and Yoesting, 1973; Hollander, 1977). Despite the fact that the potential impact of system-level variables (especially group type) on recreational participation has been noted (Burch, 1969; Cheek, 1976; Field and Cheek, 1974; Bultena and Wood, 1970), few studies have systematically tested for the importance of these variables (Field and O'Leary, 1973).⁴

System-level variables are distinguished from individual-level variables in the units being considered; that is, whether the variable measures a characteristic of a social system (e.g., a society, organization, community, or group) or of an individual. System-level variables can be derived: 1) by aggregating the characteristics and/or orientations of group members into a global measure, such as in classifying communities as either progressive or conservative on the basis of the prevailing attitudes of their members, or 2) by identifying social characteristics that are distinct from the personal attributes and orientations of individuals, such as classifications of communities by population size or by levels of industrialization.

"Structural-effects" analysis (Blau, 1960) offers a methodological procedure for simultaneously examining the impacts of system-level and individual-level variables on behavior. This procedure served to distinguish the effects of social structures upon patterns of action from influences exerted by the characteristics and/or orientations of individuals. Structural effects are to be distinguished from differences between

populations that accrue solely because of the makeup of their membership (i.e., from compositional effects). Thus, a finding of differential rates of recreational participation in two communities could be due to structural effects (i.e., influences exerted by the structural or cultural patterns of the systems) and/or by compositional effects (i.e., by the mere predominance of persons in one community whose characteristics or orientations predispose them to higher levels of participation). *Structural effects are produced by the fact that the cultural values and norms that characterize social systems and influence behavior may be different from the values and norms personally held by some individuals within the systems.*

The procedure for identifying structural effects normally consists of three steps:

- 1) Measuring an attribute of individuals (X_1) that has theoretical bearing upon a dependent variable (Y).
- 2) Measuring an attribute of a social system (X_2) that is theoretically relevant to this dependent variable.
- 3) Determining the relationship between the system attribute (X_2) and the dependent variable (Y) while holding the corresponding attribute of individuals (X_1) constant. Blau (1961) proposes use of a multivariate table to test for structural effects, but other statistical techniques, such as partial correlation, also have been used (Tannenbaum and Bachman, 1964; Flinn, 1969).

Previous structural-effects analysis has shown that the ways in which individual attributes and orientations are associated with behavior can be a function of the structural or cultural contexts of that behavior (Blau, 1960; Blau, 1961; Tannenbaum and Bachman, 1964; Campbell and

Alexander, 1965; Bultena, 1974). Persons holding positive attitudes toward innovation who reside in tradition-oriented communities, for example, have been found to display markedly different adoptive behaviors than their attitudinal counterparts residing in liberal communities (Flinn, 1969). Perhaps the earlier failure to obtain larger relationships between individual-level variables and recreational participation partly reflects an inattentiveness to various structural or contextual conditions that may be impinging upon, or constraining, these relationships.

We used a structural-effects analysis in the present study to examine the relationship of social status to one form of outdoor recreation -- National Park visitation. The analysis partly replicates a previous study (Bultena and Field, 1977) in which we demonstrated that several individual-level variables (income, education, and occupation) were positively associated with the frequency with which persons visited national parks. The previous analysis, however, was cast in the conventional mode, considering only individual-level variables as explanations of park-going. The present exploratory study served both to replicate the previous analysis on a different population and, more importantly, to advance the investigation by using a structural-effects analysis to pursue possible interaction between individual-level and system-level variables. A structural effect would be demonstrated in this study if it can be shown that respondents, regardless of their personal characteristics, were more apt to visit national parks if they resided in high-status populations than in low-status populations.

THEORETICAL PERSPECTIVE

Pursuant to the findings of our previous study of park-going behavior (Bultena and Field, 1977), and consistent with a sizeable body of research on other types of recreational behavior (Burdge, 1969; Cicchetti, 1972; Christensen and Yoesting, 1973; White, 1975), we posited (H_1) that several individual-level status attributes would be related to the frequency with which persons visited national parks:

- H_1 Income, education, occupations and socioeconomic status scores are positively related to the frequency with which persons visit national parks.

Given that the samples in this study were purposely drawn from communities with distinct social-class structures, and assuming confirmation of the first hypothesis on the importance of individual-level status characteristics for park-going behavior, it followed that these communities themselves would display different corporate profiles of park-going (H_2).

- H_2 The community with a predominately middle-class population will display a greater frequency of national park-going than the community with a predominately working-class population.

Hypothesis two taps a "compositional effect" in which the numerical representation of different social-class groups in these communities is

deemed important to the corporate park-going profiles of their residents. Moving beyond the first two hypotheses, it appears that the posited relationships of status characteristics and respondents' park visitation behavior (H_1) could be materially influenced by the nature of the social-class systems in these communities (i.e., by structural effects).

Social values supportive of national park-going would seem more firmly established, promulgated, emulated, and legitimized in a milieu in which many persons are ardent park-goers (e.g., a middle-class community) than where fewer persons exhibit park-going behavior (e.g., a working-class community; See Hypothesis 2). If differences in community attitudes and values toward park visitation are operative (an assumption in this study), it can be theorized that the numerically underrepresented social-class groups in a population may be substantially affected in their park-going behavior by the actions, beliefs, and values that prevail among the numerically predominant class group. That is, the specific relationships between individual-level status attributes and national parkgoing, as stated in Hypothesis 1, may be influenced by social-class structures. Hypotheses 3 and 4 specify the structural effects anticipated in this study.

- H_3 Working-class persons in a predominately middle-class community will display a higher frequency of national park-going than their status counterparts in a predominately working-class community.
- H_4 Middle-class persons in a predominately working-class community will display a lesser frequency of national park-going than their status counterparts in a predominately middle-class community.

In both hypotheses 3 and 4, the parkgoing patterns of the numerically smaller social-class group in each community are posited to be influenced in the direction of the park visitation patterns of the numerically predominant class group. In other words, the class structure of the system (whether weighted toward the middle or the working class) is of theoretical importance to the ways in which individual-level status attributes affect national park-going behavior.

SAMPLE AND METHODOLOGICAL PROCEDURES

Two populations, distinguished by their social-class profiles, were studied. First, a representative sample ($N = 277$) was drawn of adults living in Marin County, California. As seen in Table 1, Marin County is characterized by relatively high income, educational, and occupational levels compared to state-wide patterns.

The second sample ($N = 275$) was drawn of adults living on the Olympic Peninsula in Washington. Unlike Marin County, the Olympic Peninsula ranks below state averages on the income, education, and occupational attributes of its residents (Table 1).

These two populations are thus sharply distinguished in their overall class structures, with Marin County being predominantly "middle class" and the Olympic Peninsula being predominantly "working class". These divergent class structures were reflected in the socioeconomic characteristics of persons sampled in the two areas. Marin County respondents ranked significantly higher than those on the Olympic Peninsula

Table 1. Income, Education, and Occupational Characteristics of Residents of Marin County, California and the Olympic Peninsula, Washington, 1970.

	<u>Marin County</u>		<u>Olympic Peninsula</u>	
Median Income	\$13,935	(\$10,732) ¹	\$9,200	(\$10,407) ²
Median Years of Education	13.1	(12.4)	12.2	(12.4)
Percent of labor force employed in white-collar jobs	70	(54)	40	(53)

¹Comparable figures in parenthesis are for the state of California.

²Comparable figures in parenthesis are for the state of Washington.

on income, education, occupation and socioeconomic status scores (Table 2). But especially important to our analysis is the fact that persons from both middle and working-class groups were sampled in each community.

A telephone interview technique was used to obtain the data. Households were identified by using prefix numbers of local telephone exchanges and randomly generating the last four digits of telephone numbers. This procedure removed the potential bias posed by unlisted telephones (Field, 1973). Both study areas had a high percentage of households with telephones (96 percent in Marin County; 87 percent on the Olympic Peninsula).

Households identified in the sampling procedure were contacted by telephone and enumerations were made of adults (aged 18 and older). Following pre-established procedures for ensuring a representative sample, interviewers randomly selected one person in each household to be interviewed. If this person was unavailable at the time of the first call, additional calls were made to solicit that individual's participation. The procedure of randomly sampling household members served to avoid a bias that might accrue by interviewing whomever answered phones, especially given the lesser probability during daytime hours of reaching male heads of household than females and adult children. The samples in both study areas contained equal proportions of men and women. Eligible respondents were asked a set of questions that measured their socioeconomic status and frequency of national park-going.

Table 2. Socioeconomic Status Characteristics of Respondents in Marin County and the Olympic Peninsula.

S Status C	Marin County (N = 277) Percent	Olympic Peninsula (N = 275) Percent	Cutting Point for Structural Effects Analysis ¹
<u>Family Income</u>			
Under \$5,000	9	20	W = to \$9,999
\$5, - 6,999	6	14	
\$7, - 9,999	10	26	M = \$10,000 or more
\$10, - 14,999	29	23	
\$15,000 or more	35	10	
No data	11	7	
Total	<u>100</u>	<u>100</u>	
(x ² = 34.96; 4df.; P < .05; Gamma = .53)			
<u>Education</u>			
8th grade or less	1	12	W = to completion of high school
Some high school	7	19	
Completed high school	23	33	M = Post high school education
Some college	28	19	
Completed college	23	7	
Graduate training	17	4	
No data	1	1	
Total	<u>100</u>	<u>100</u>	
(x ² = 95.71; 5df.; P < .05; Gamma = .57)			
<u>Occupation of Household Head</u>			
Unskilled blue collar	28	60	W = Blue-Collar
Skilled Blue collar	9	14	
Clerical, sales	15	7	M = White-Collar
Manager	17	10	
Professional, technical	30	8	
No data	1	1	
Total	<u>100</u>	<u>100</u>	
(x ² = 77.47; 4df.; P < .05; Gamma = .55)			

Table 2 Continued.

Socioeconomic Status Score

3-6 (low	5	29	W = 3-9
7-9	23	41	
10-12	34	20	M = 10-15
13-15 (high)	36	8	
No data	2	2	
Total	<u>100</u>	<u>100</u>	

$(\chi^2 = 111.91; 3df.; P < .05; \text{Gamma} = .66$

¹W = working class; M = middle class

Socioeconomic Status

Four socioeconomic status measures were used in testing the hypotheses. Income was defined as family income, before taxes, in the year preceding the survey. Respondents selected one of five income categories ranging from under \$5,000 to over \$15,000. Median family income was \$14,300 for Marin County and \$8,900 for the Olympic Peninsula (Table 2).

Education was defined as the highest level of formal schooling completed by the respondents, ranging from elementary school to graduate degrees. Two-thirds (68 percent) of the Marin County respondents, compared to 31 percent on the Olympic Peninsula, had completed some education beyond high school (Table 2).

Occupations were determined for household heads and were placed into seven prestige categories ranging from "unskilled laborer" to "professional." Sixty-three percent of the respondents (or household heads) in Marin County were employed in white-collar jobs (versus blue collar), as compared to only 25 percent in white-collar jobs on the Olympic Peninsula (Table 2).

In addition to these three status variables, a cumulative status score was obtained by assigning respondents 1 to 5 points on each status variable depending upon their relative positions. The cumulative status scores ranged from 3 to 15, with the median score being 12 for Marin County and 8 for the Olympic Peninsula (Table 2).

For purposes of the structural-effects analysis (Hypotheses 3 and 4), respondents' scores on each of the four status measures were categorized into "working" and "middle" class. The cutting points used in this classification are given in Table 2. A sizeable majority of respondents

in Marin County were in the middle class, whereas most of those interviewed on the Olympic Peninsula were working class.

Frequency of National Park-going

Respondents were queried about the numbers of visits, if any, they had made during the previous year to park areas (herein called national parks) administered by the National Park Service (i.e., national parks, monuments, recreation areas, historic sites, and seashores) in California, Oregon, Washington, Idaho, and Alaska.⁵ It was first determined if respondents had traveled outside their home states in the past year to visit national parks. The names of all parks in their home states, and in visited states, were read by the interviewers. A total of 35 national parks were listed in the interviews (Table 3). Visits ranged from none to 12 different parks, with an average of 1.4 parks having been visited. It is important to an interpretation of our findings to observe that the frequency of national park-going, as used in this study, refers to the number of different national parks visited by respondents, and does not measure the number of different visits to a specific park.

An added factor, important to an interpretation of our findings, is the relative physical availability of national parks to the two populations. Differences in rates of park-going between Marin County and the Olympic Peninsula (H_2) could reflect differences in the physical availability of national parks rather than, as argued here, differences in their social-class structures. However, as seen in Table 4, each of the two communities was situated near several national parks, with the average mileage to the nearest five national parks being 114 miles for Marin County and 112 miles for the Olympic Peninsula.

Table 3. National Park Areas Included in the Study

Washington

Coulee Dam National Recreation Area
Fort Vancouver National Historic Site
Lake Chelan National Recreation Area
Mount Rainier National Park
North Cascades National Park
Olympic National Park
Ross Lake National Recreation Area
San Juan Island National Historical Park
Whitman Mission National Historic Site

Oregon

Crater Lake National Park
Fort Clatsop National Memorial
McLoughlin House National Historic Site
Oregon Caves National Monument

California

Cabrillo National Monument
Channel Islands National Monument
Death Valley National Monument
Devils Postpile National Monument
John Muir National Historic Site
Joshua Tree National Monument
Kings Canyon National Park
Lassen Volcanic National Park
Lava Beds National Monument
Muir Woods National Monument
Pinnacles National Monument
Point Reyes National Seashore
Redwood National Park
Sequoia National Park
Whiskeytown-Shasta-Trinity National Recreation Area
Yosemite National Park

Idaho

Craters of the Moon National Monument
Nez Perce National Historical Park

Alaska

Glacier Bay National Monument
Katmai National Monument
Mount McKinley National Park
Sitka National Monument

Table 4. Mileage to Five Nearest National Parks from Marin County and the Olympic Peninsula.

	<u>Marin County</u>	<u>Olympic Peninsula</u>
	(mileage)	(mileage)
Nearest national park	0	0
2nd nearest	0	104
3rd nearest	148	135
4th nearest	200	153
5th nearest	220	170
Average mileage to 5 nearest parks	114	112

¹Mileage is from the center of the study area to the park boundary.

Statistical Procedures

Chi-square analysis was used to test for the statistical significance of differences between the subgroups specified in the four hypotheses. Differences between groups were considered statistically significant if at or exceeding the .05 level of probability. Gamma was used to measure the magnitude of relationships between variables. Multivariate tables were constructed to test for structural effects (Hypotheses 3 and 4).

FINDINGS

The hypothesized relationships (H_1) between the four socioeconomic variables and national park-going were only partly confirmed in these data. Whereas education, occupation, and the cumulative status score were significantly related to park-going, income was not related (Table 5).

These findings are similar to those of a previous investigation of national park-going (Bultena and Field, 1977) in which it was shown that income was of lesser importance for rates of park visitation than either educational or occupational status. The present findings also complement previous results in that only modest relationships to participation were obtained for any of the four status variables. There were numerous persons at the lower rungs of each of the status hierarchies who had visited national parks, indicating that there may be a less pronounced class bias in national park-going patterns than has sometimes been portrayed (Bultena and Field, 1977).

Table 5. Relationships of Socioeconomic Status Variables to National Park-going.

Status Variable	Chi-square	df	Significance Level	Gamma
Income	15.42	16	P < .49	.08
Education	20.96	12	P < .05	.20
Occupation	24.67	15	P < .05	.18
Socioeconomic Status Score	21.37	12	P < .05	.19

As expected (Hypothesis 2), the population with the larger representation of middle-class persons (Marin County) had a significantly higher rate of national park-going than the population where working-class persons predominated (Olympic Peninsula). Two-fifths (41 percent) of the respondents in Marin County, but only half as many (22 percent) on the Olympic Peninsula, had visited two or more national parks (Table 6). These community differences partly reflect a compositional effect in that the greater prevalence of upper-middle class persons in Marin County, than on the Olympic Peninsula, served to inflate its corporate parkgoing

Evidence of structural effects, as stated in Hypotheses 3 and 4, was pursued by separating the respondents in both communities into "middle" and "working" class on each of the four status variables. Comparisons were made of the rates of national park-going of comparable status groups (i.e., W/W and M/M) within these communities. In each comparison, one status group was numerically dominant in its system whereas its counterpart was numerically in the minority.

Data on the park visitation patterns of working and middle-class persons in each of the two communities are presented in Table 7. Examination of differences between the adjacent columns for the four status variables reveals, as previously tested (Table 5), that several of the individual-level status attributes were related to frequency of national park-going. The presence of structural effects, however, is demonstrated in the comparison of alternate columns (i.e., similar class groups) for each of the status variables.

Table 6. National Park-going Patterns in Marin County and the Olympic Peninsula.

Number of National Parks Visited	<u>Marin County</u>		<u>Olympic Peninsula</u>	
	Number	Percent	Number	Percent
None	111	41	137	50
One	50	18	76	28
Two	41	15	27	10
Three	34	12	15	5
Four or more	39	14	20	7
Total	<u>277</u>	<u>100</u>	<u>275</u>	<u>100</u>

$\chi^2 = 24.03$; $df = 4$; $P < .05$; $\text{Gamma} = .24$

As hypothesized (H_3), working-class persons consistently displayed higher rates of park-going if they resided in the middle-class community (Marin County) rather than in the working-class community (Olympic Peninsula). Conversely, middle-class persons, as hypothesized (H_4), were found on two of the four status measures (income and occupation) to have visited parks less frequently if they lived in the working-class community, rather than in the middle-class community (Table 7). Statistical tests of the differences stated in the two structural-effects hypotheses are given in Table 8.

These findings revealed the presence of a structural effect in that the class profiles of the two communities were of demonstrated importance for the ways in which individual-level status attributes were related to national park-going. In six of the eight comparisons, the park-going of the numerically smaller class group (whether working or middle-class) was skewed in the direction of the patterns of the dominant class group (Table 8). Thus, the rates of national park-going tended either to be enlarged or diminished for the smaller class group, depending upon the social-class characteristics of the community.

SUMMARY AND DISCUSSION

Selection of appropriate units of analysis comprises one of the more perplexing problems in recreation and leisure research (Meyersohn, 1969; Cheek, 1976). This is particularly true of studies of outdoor

Table 7. Relationship of Socioeconomic Status Attributes to National Park-going by Community.

Frequency of National Parkgoing	Marin County		Olympic Peninsula	
	(1) <u>Income</u> (Percent)			
	W ¹ (68) ²	M ¹ (179)	W (166)	M (90)
Low	54	61	80	73
High	46	39	20	27
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
	(2) <u>Education</u> (Percent)			
	W (87)	M (188)	W (187)	M (83)
Low	59	59	82	66
High	41	41	18	34
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
	(3) <u>Occupation</u> (Percent)			
	W (67)	M (171)	W (142)	M (66)
Low	61	55	81	71
High	39	45	19	29
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
	(4) <u>Socioeconomic Status Score</u> (%)			
	W (77)	M (179)	W (193)	M (73)
Low	58	60	81	67
High	42	40	19	33
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

¹W = working-class; M = middle-class.
²Number of respondents

Table 8. Comparisons of National Park-going Patterns of Similar Status Groups in the Two Communities.

Status Variables	COLUMN I (Hypothesis 3) Comparisons of Working-Class Groups			COLUMN 2 (Hypothesis 4) Comparisons of Middle-Class Groups		
	Chi Square	Statistically Significant ₁ Difference	In Hypothesized Direction	Chi Square	Statistically Significant ₁ Difference	In Hypothesized Direction
Income	13.93	YES	YES	3.77	YES	YES
Education	15.60	YES	YES	0.98	NO	
Occupation	8.40	YES	YES	4.56	YES	YES
Socioeconomic Status Score	14.13	YES	YES	0.90	NO	

¹All statistical tests were on 2 X 2 tables containing the data distributions in Table 7. Differences were considered statistically significant when at or exceeding the .05 level.

recreation participation, where the customary approach has been to use individual-level variables in explanatory models, to the virtual exclusion of system-level variables.

Structural-effects analysis was used here to examine the interplay of individual-level status attributes and system-level class patterns as they mutually affected park-going behavior. It was posited that social-class structures of communities would be important to the ways in which the personal status attributes of their residents were correlated with park-going.

Positive relationships were found between the respondents' educational and occupational statuses (but not income) and the frequency of their recreational visits to national parks. Partly because of "compositional effects," the community (Marin County) with the larger representation of middle-class persons, than that with more working-class persons (Olympic Peninsula), displayed a significantly higher corporate rate of national park-going. But most important to our analysis was the fact that the class structures of the two communities were of demonstrated importance to the ways in which individual-level status attributes were associated with park-going. Specifically, a numerical prevalence of middle-class persons was found to be associated with more frequent park-going by both middle and working-class respondents than where working-class persons predominated. The data thus are consistent with the theoretical orientation in this study that consideration of social contexts is essential, along with knowledge of individual attributes, in explaining recreational behavior.

Two communities, distinguished by their social-class structures, were studied. Inclusion of a broader spectrum of community class structures in future research would permit a more definitive examination of the posited structural effects. Also, the inclusion of more communities would lessen the possibility of structural effects being attributable to system variables other than those measured, in the absence of a rigorous matching of studied communities. The two communities in this research, in addition to displaying diverse class structures, differed in other ways, such as population size (Marin County = 206,000; Olympic Peninsula = 126,000). Although population was not of theorized importance in explaining parkgoing, its influence, as with that of other potentially important structural variables, could not be statistically controlled because of sample size limitations. Critical to our analysis, however, was that the communities were closely matched in their physical proximity to national parks.

Findings of this study point out the desirability of incorporating system-level variables in explanatory models of recreational participation. As shown here, the influence of individual-level attributes on parkgoing was affected by the social-class contexts in which the participation occurred. The past inattentiveness of recreation researchers to system-level variables might be a salient factor in their failure to produce more definitive explanations of recreational behavior, and could be important to explaining seeming inconsistencies between findings, taken from diverse social systems, on the relationships of specific individual-level variables to participatory behavior.

FOOTNOTES

¹This research was supported by funds from the Cooperative Park Studies Unit at the University of Washington, Seattle.

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⁴Attention paid to the role or importance of social groups in recreational activities typically has been directed to identification of the types of groups found in recreational settings rather than, as in structural-effects analysis, to an empirical test of the importance of group characteristics for individual recreational behavior.

⁵These five states were selected for analysis of park visitation patterns since they comprise an administrative unit (Pacific Northwest Region) in the USDI National Park Service.

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