

EXPERIENCE USE HISTORY AND ITS RELATIONSHIP TO MANAGEMENT ACTIONS AND SATISFACTION

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Abstract.—This paper analyzes the relationship between recreationists' patterns of prior experience and their preferences for and satisfaction with specific management actions. A mail-back survey was administered to a random sample of 1,500 off-highway vehicle (OHV) owners in Utah, and data for this study come from the 600 owners who completed the questionnaire. The sample was segmented into four experience use history groups based upon respondents' number of OHV trips during the past 12 months and the total number of years they had been riding OHVs. These four groups' preferences for and satisfaction with five specific management actions were then compared. Results show that patterns of prior experience are related to the importance placed upon three management actions: adequate provision of trailhead facilities, presence of adequate signage, and presence of law enforcement. There were no significant differences among any of the five satisfaction measures.

1.0 INTRODUCTION

Over the past four decades, off-highway vehicle (OHV) use has become one of the most rapidly growing outdoor recreation activities in the United States (Cordell et al. 2005). Because of the large increase in participation, federal land managers and other recreation planners badly need information on how to meet recreationists' demands while minimizing resource degradation and conflict. Related recreation research would also benefit from a foundational understanding of the unique nature of OHV use and its users. This paper begins to address

these needs by examining how OHV users' preferences for and satisfaction with management actions relate to their prior experience with the activity.

To a large extent, the provision of high quality recreation experiences depends upon managers and planners being aware of how recreationists differ, what experiences they seek, and how they perceive their environment. Consequently, identifying within-activity differences has long been a goal of both recreation researchers and managers. The study of prior experience is one approach to identifying within-activity differences that is easily understood by managers and useful to researchers. Prior experience is a particularly useful analytical approach for recreation researchers because it is grounded in cognitive development theory and represents a link between external behavior and the internal cognitive states that constitute attitudes, feelings, and motivations. Given prior experience's dual benefit to both managers and researchers, this study will employ it to explore within-activity differences among OHV users. More specifically, prior experience will be used to understand differences in the importance placed upon specific management actions, as well as different satisfaction levels with those actions.

2.0 RELATED LITERATURE

2.1 Experience Use History

Prior experience is the sum of accumulated life experiences a recreationist has within a particular activity (Virden 1992). Prior experience theoretically informs perceptions of recreation experiences; understanding individuals' prior experiences is therefore important to understanding their motivations and attitudes. Prior experience is particularly useful for recreation research because it represents similar cognitive structures created through recreationists' amount, type, and diversity of participation (Schreyer et al. 1984).

Prior experience either at a particular site or with a particular activity has frequently been employed as a method for segmenting recreationists. Typically, prior

experience is used to analyze within-activity differences with respect to a variety of dependent variables such as site choice (Watson et al. 1991, McFarlane et al. 1998) or place attachment (Hammitt et al. 2004, White et al. 2008). Segmenting users according to prior experience is usually completed based upon recreationists' total number of previous visits to an area, total length of time visiting an area, and/or their frequency of visitation to an area or similar areas (Hammitt and McDonald 1983, Schreyer et al. 1984, Ibitayo and Virden 1996).

Identifying experience use history groups has been useful in exploring variability within specific groups of recreationists. For example, individuals with similar patterns of prior experience have been shown to have similar perceptions of recreation conflict (White et al. 2008), similar perceptions of crowding (Graefe and Moore 1992), and similar views toward depreciative behavior (Ibitayo and Virden 1996).

2.2 Experience Use History and Management Preferences

Previous research suggests that a recreationist's past experience with an activity is a proxy measure for their exposure to and familiarity with management actions, and therefore informs their perceptions of current resource management. In a survey of raft floaters and tubers in eastern Tennessee and western North Carolina, preferences for 8 out of 12 management actions were significantly different across three levels of prior experience (Hammitt and McDonald 1983). These findings, as well as the guiding hypothesis of this research, are grounded in the assumption that recreationists with more experience are likely to be more familiar with resource conditions and resource management, therefore making them more likely to favor different forms of management than less experienced recreationists (Jacob and Schreyer 1981). This point will be rejoined later in the paper as we examine the results of this study of Utah OHV owners.

3.0 METHODS

3.1 Data Collection

For the purposes of this study, OHVs are defined as any non-street-legal recreational vehicle, such as all-terrain

vehicles, dune-buggies, rock-crawlers, and off-highway motorcycles. While over-snow machines are often included under the umbrella term "OHV", they were not included in this study. The state of Utah requires that all OHVs be registered with the Utah Department of Motor Vehicles. We acquired this list and adjusted it so that an individual's probability of selection would be independent of the number of vehicles owned. We mailed a survey to a random sample of 1,500 owners. We administered the survey according to a modified Dillman Method (Dillman 2000). Three waves of surveys were sent with reminder postcards sent between mailings. Of the 1,500 surveys sent, 84 were returned because respondents had moved or died. Out of the 1,416 Utah OHV owners who received surveys, 600 returned completed surveys, for a 42.4 percent response rate.

3.2 Experience Use History (EUH) Groups

Despite the simplicity of the EUH concept, different methodological approaches have been used to segregate recreationists based upon their prior experience. Most approaches consider the EUH concept multidimensional, consisting of both length and frequency components. Beyond this area of agreement, researchers differ on appropriate operationalization of the concept. EUH research addressing experiences or perceptions of specific recreation settings has often segregated groups based on experience indexes created from researcher-defined high, medium, and low categories of both the length and frequency variables (Hammitt and McDonald 1983). Setting-specific approaches include simple segregation based on whether a recreationist has visited the area before, which can be differentiated further based upon general experience with the activity (Schreyer and Lime 1984). The most common method has been to split recreationists into high/low categories based upon both frequency of recreation participation in the previous 12 months and the total number of years they have participated in the activity (Schreyer and Lime 1984, Williams et al. 1990, Hammitt et al. 2004, Backlund et al. 2006). Other methods include independent analysis of the length and frequency measures (Watson et al. 1991, Budruk et al. 2008), and a one-dimensional operationalization composed solely of the number of years a recreationist has visited an area (White et al. 2008).

Table 1.—Comparison of experience use history groups

	Group Identification				F (sig.)
	M (SD)				
	Casual Veterans (n = 217)	Casual Newcomers (n = 181)	Frequent (n = 21)	Occasional (n = 124)	
Years riding	30.09 (8.816)	6.97 (3.969)	18.52 (10.870)	22.60 (9.983)	281.614***
No. of times riding in last 12 months	5.14 (3.180)	6.00 (4.402)	60.60 (23.749)	17.77 (6.015)	575.162***

Because this study is not site-specific, segregation based upon visitation to specific OHV riding areas or to the diversity of OHV riding areas would be misplaced. We believe conceptualizing EUH as a product of both length and frequency of past experience is important in identifying unique patterns of participation and helps divide participants into the most heterogeneous groups. A two-dimensional approach is also more directly tied to the cognitive development theory that grounds EUH research. Based upon these criteria, the experience use history of OHV riders for this study was determined by 1) the total number of years they had been riding; and 2) the total number of times they went riding over the previous 12 months. Data for both of these variables were standardized, with the most heterogeneous groups being identified through a K-means cluster analysis procedure. Four distinct means were specified for interpretation and consistency with prior research (i.e., to retain the quadrant structure of prior experience patterns (Hammit et al. 2004, Backlund et al. 2006)). The cluster analysis procedure eliminates problems of dealing with two variables of different scales; it also enables the most heterogeneous groups to be identified, working around problems of splitting variables at their medians. Continuous measures of both experience levels can also still be explored through Pearson correlation coefficients to lend support to findings.

3.3 Management Actions

Five specific management items were included in the survey instrument. Respondents were asked to rate how important each management action was and how satisfied they were with current management provisions. Responses were obtained through a 5-point Likert scale, where 1 = *not important at all* or *extremely dissatisfied* and 5 = *extremely important* or *extremely satisfied*. The five items explored were:

- The availability of information, which includes information about rules, hazards, and conditions that may be included in maps, brochures, newsletters, or online
- Trailhead facilities, including restrooms, water, unloading ramps, signs, garbage receptacles, and camping areas
- Site maintenance, which includes facilities and the OHV trail or area
- Signage, such as directional, reassurance, information, and caution
- Law enforcement, which includes the enforcement of rules and regulations by ranger patrols or other enforcement officials

4.0 RESULTS

4.1 Group Identification and Characteristics

The K-means cluster analysis was specified to determine the four most homogenous groups based upon the two prior experience variables. These groups were subsequently identified according to their patterns of prior experience as *casual newcomers*, *casual veterans*, *frequent*, and *occasional* (Table 1). The groups were significantly different in the number of years they had been riding ($F_{3, 539} = 281.61, p < .001$), and in their frequency of trips over the previous 12 months ($F_{3, 539} = 575.16, p < .001$). The *casual newcomers* were identified by their relatively short length of involvement in the activity, as well as the relatively few number of trips they take per year. The *casual veterans* were identified by their relatively long length of activity involvement and the relatively few trips they took over the past year. The *frequent* riders were identified as such because they take far more trips per year than the other groups. Finally, *occasional* riders were those riders who participate in the

Table 2.—Socio-demographic characteristics of Off-Highway Vehicle owners by experience use history group

	Experience Use History Group				Entire sample
	Casual veterans	Casual newcomers	Frequent	Occasional	
Mean Age	50.0	49.2	41.7	44.9	48.6
% Completing 4 year college degree	25.1	31.5	25.0	29.9	28.3
Income (Modal Category)	\$75,000 - \$99,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$50,000 - \$74,999	
% Married	87.7	86.9	76.2	83.6	86.0

Table 3.—Differences in importance for management actions across and between experience use history groups

Management Action	Experience Use History Groups					All groups
	Comparison across all groups	Casual Veterans	Casual Newcomers	Frequent	Occasional	
Provision of Information	$F_{3, 530} = 0.02$	4.01	4.02	4.00	4.03	4.02
Provision of Trailhead Facilities	$F_{3, 531} = 2.50^*$	3.83 ^a	3.78	3.62	3.52 ^a	3.73
Provision of Site Maintenance	$F_{3, 531} = 0.23$	4.01	4.01	3.86	3.96	3.99
Provision of Signage	$F_{3, 531} = 3.12^*$	4.05 ^a	4.24 ^{abc}	3.81 ^b	3.96 ^c	4.08
Provision of Law Enforcement	$F_{3, 532} = 1.31$	3.69	3.74	3.90	3.53	3.68

Note. Groups with significant differences are noted with similar superscripts.

activity more often than both of the *casual* groups, yet far less often than the *frequent* riders.

The socio-demographic characteristics of the four groups are in Table 2. The entire sample of OHV owners was predominantly white (98.4 percent), married (86.0 percent), and self-identified as politically conservative (59.5 percent). The frequency distributions of respondents' ages across EUH groups were significantly different from expectations ($\chi^2 = 39.70$, $df = 15$, $p = 0.001$). The obvious deviation came from the fact that *frequent* riders tended to be younger compared to those in other groups. However, we found no significant relationships between EUH group membership and income ($\chi^2 = 17.82$, $df = 18$, $p = 0.468$) or group membership and education ($\chi^2 = 14.82$, $df = 15$, $p = 0.464$).

4.2 EUH and the Importance of and Satisfaction with Specific Management Actions

Using simple one-way ANOVAs, we found that EUH is related to two of the five importance questions ($p \leq 0.05$). The comparisons across all groups, as well as the between-group differences, are reported in Table 3. OHV owners with different patterns of prior experience also

gave significantly different rankings to the importance of providing adequate trailhead facilities. Between-group comparisons reveal that *casual veterans* (riders who had been riding for a relatively long time but on average take fewer than six trips per year) differed significantly from *occasional* riders. Given the two groups' similar length of activity involvement, this finding suggests that increased frequency of participation in the activity is related to a decreased need for developed trailhead facilities. OHV riders with different patterns of prior experience also exhibited significant differences in the importance placed on the provision of signage. Post-hoc tests revealed that *casual newcomers* differed significantly from every other EUH group. This finding suggests that both increased frequency of participation and increased length of involvement in the activity are related to a decreased need for trail or area signage.

Next, we followed the same analytical procedure to test for significant differences across the four EUH groups with regard to satisfaction with the provision of each of the five management actions. The results of our analysis revealed no significant differences in satisfaction with management based on patterns of prior experience.

5.0 DISCUSSION

As mentioned previously, the guiding hypothesis of this research is the assumption that recreationists with more experience are likely to be more familiar with resource conditions and resource management, and are therefore more likely to favor different forms of management than less experienced recreationists. However, we found significant variations in only two out of five management actions and our findings therefore offer only mixed support for this assumption.

The findings of this study can inform future research in four distinct ways. First, the research has shown that understanding the effects of prior experience on the importance placed on specific management actions can produce results that are both theoretically and managerially informative. Second, this study has shown that prior experience, which is often relegated to the margins of recreation research in favor of more robust (e.g., recreation specialization) or more psychologically focused (e.g., enduring involvement) measures, can lead to a new understanding of how cognitive structures influence perceptions of recreation experience and preferences for certain management actions. Analyzing patterns of prior experience remains a useful and informative framework for examining within-activity differences. Third, our analytical approach to defining EUH groups through a clustered solution was an appropriate method for differentiating the most heterogeneous subgroups within the activity group. Finally, our analysis provides insight into OHV recreation, which is rapidly becoming an extremely popular outdoor recreational activity.

6.0 CITATIONS

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