

Backcountry Encounter Norms, Actual Reported Encounters, and Their Relationship to Wilderness Solitude

Michael E. Patterson and William E. Hammitt
Department of Forestry, Wildlife, and Fisheries
University of Tennessee

Backcountry backpackers' norms concerning the maximum acceptable tolerance limits for visual-social contacts at three encounter sites (trailhead, trail, and campsite) were examined in the Great Smoky Mountains National Park. Actual encounter levels were examined by asking backpackers to report the number of parties encountered at each of these three locations. Although 83% of the respondents reported encountering more parties than their acceptable norms, only 34% of the respondents reported that the number of encounters detracted from their solitude experience. Overall, 61% of the respondents whose personal norms were exceeded at one or more of the three encounter sites indicated that the number of encounters did not detract from the trip experience. Possible explanations for this finding are: (a) many backcountry users do not have a clear or salient conception of what a tolerable number of encounters is, (b) visual-social encounters are only of minor importance in the overall solitude experience found in remote environments, (c) limitations in our measurements resulted in the apparent noncongruent relationships between norms and reactions, and (d) the number of encounters is important to respondents, but conformity of behavior to normative beliefs is not a certainty.

KEYWORDS: *Backcountry Encounters, Encounter Norms, Wilderness Recreation, Wilderness Solitude*

Introduction

Normative theory has recently been introduced in recreation research literature as a way to help managers and planners make evaluative decisions regarding appropriate use of recreation resources (Vaske, 1978; Shelby, 1981; Shelby & Heberlein, 1986; Vaske, Shelby, Graefe, & Heberlein, 1986). The underlying premise of normative theory is that segments of society share standards or rules that prescribe what is acceptable in specific settings (Shelby & Heberlein, 1986; Vaske et al., 1986). Proponents of the normative approach argue that if these standards can be identified, they will provide an objective basis for making and defending management decisions requiring value judgments.

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Previous leisure research regarding normative theory has focused on developing and refining techniques for measuring norms, applying these techniques in a variety of contexts, and examining the amount of consensus among norms within various subpopulations of recreationists (Vaske, 1978; Shelby, 1981; Shelby & Harris, 1986; Vaske et al., 1986; Shelby, Vaske, & Harris, 1988; Vaske & Donnelly, 1988). However, questions regarding origin of recreational norms, stability of recreational norms across time, and reactions to violations of recreational norms have not yet been addressed. The purpose of this paper is to address an aspect of the latter issue: congruency between stated norms and reactions to actual conditions encountered. The specific objectives of the paper are (a) to identify norms for the acceptable number of visual-social contacts for backpackers seeking a wilderness solitude experience, (b) to examine backpackers' reactions to these types of encounters during a specific outing, and (c) to determine whether or not these reactions are congruent with encounter norms.

Norms

A detailed discussion regarding the conceptual definition of norms in relation to leisure research has already been presented by Vaske et al. (1986). The following is primarily a summary of the major points in their discussion. Norms are rules that prescribe what people should think, say, or do in specific circumstances (Blake & Davis, 1964). Personal norms are an individual's standards about what is acceptable (Schwartz, 1977), while social norms are standards shared by members of a social group (Black & Heberlein, 1979). Personal norms may differ from social norms, but usually an individual's norms are similar to the social norms of groups to which they belong (Fishbein, 1967).

A model for quantitatively measuring and describing norms was developed by Jackson (1965). This model is represented by a graph with two dimensions. The x-axis quantitatively represents a behavior (e.g., number of encounters) and the y-axis represents evaluative responses (e.g., a scale ranging from strongly approve to strongly disapprove) to each quantitative level of the behavior. A curve plotted between these axes represents personal evaluations of the acceptability of different levels of encounters. Jackson (1965) proposed two structural characteristics of personal norms that may be identified from this curve: range of tolerable contacts and norm intensity. Range of tolerable contacts is the range of contacts evaluated favorably (e.g., 0-6 encounters). Norm intensity refers to the strength of approval or disapproval (e.g. slightly disapprove vs. strongly disapprove).

Social norms are not evaluated directly with this approach, rather their existence is inferred from the amount of agreement or consensus among personal norms. The amount of consensus is referred to as crystallization. The degree of crystallization can be evaluated based on the size of standard deviations for the mean evaluative ratings. If crystallization is high, social

norms can be approximated by plotting mean evaluative ratings in place of individual evaluative ratings.

The first application of Jackson's model in recreation research was on the Brule River in Wisconsin (Vaske, 1978; Shelby & Heberlein, 1986). In this study, canoers were asked to indicate the pleasantness of encountering 1, 2, 3, 5, 7, 9, 15, 20, and 25 other canoers, fishermen, or tubers. Because this approach is tedious for respondents, Shelby (1981) developed a less repetitive technique for examining norms of floaters on the Colorado and Rogue rivers. Recreationists on these rivers were asked to state the highest number of river encounters that could be tolerated before the type of experience changed (e.g., wilderness experience vs. semiwilderness experience). With this approach individual responses represent personal norms, the median response is usually used as an indicator of social norms, range of tolerable contacts is defined as zero to the median response, and norm crystallization is represented by the standard deviation. Norm intensity cannot be examined when this single question approach is used.

Since first being introduced into the field of leisure research, the normative approach has been used in a variety of contexts including identification of: (a) standards for ecological impacts (Shelby & Harris, 1986; Shelby et al., 1988), (b) support for hunting regulations (Vaske & Donnelly, 1988), and (c) encounter norms (Vaske, 1978; Shelby, 1981). In this paper, congruency between user specified encounter norms and reactions to actual encounter levels is examined in the context of wilderness solitude.

Solitude and Encounter Norms

Solitude is a legally mandated and distinguishing characteristic of wilderness recreation. Efforts to ensure that opportunities for solitude are available in wilderness settings have focused on the concept of crowding and acceptable number of visual and social encounters with other backpacking parties at various backcountry locations. In the context of carrying capacity, crowding is often thought of as a negative evaluation of use density (Graefe, Vaske, & Kuss, 1984), where visual and social encounters serve as an operational measure of use density.

Two models explaining why individuals feel crowded in some situations are the social interference model and the stimulus overload model. According to the social interference model, perceived crowding occurs when the presence or behavior of others interferes with attainment of goals (e.g., solitude) (Gramann, 1982). The stimulus overload model suggests that perceived crowding occurs when "the level of social stimulation exceeds that desired and the individual is unable to reduce that stimulation through adaptive strategies" (Gramann, 1982). Hammitt and others (Hammitt, 1982; Hammitt & Brown, 1984; Hammitt & Madden, in press) link stimulus overload to solitude, suggesting that wilderness solitude is a form of privacy occurring in a natural environment where individuals have an acceptable degree of control over the type and amount of information that must be processed.

Although there are many types of encounters (e.g., visual, social, physical, behavioral) and a variety of factors such as visitor characteristics (e.g., past experience), situational characteristics (e.g., environmental setting), and characteristics of parties encountered (e.g., party type) contribute to perceptions of crowding (Manning, 1985), most wilderness recreation research has focused on the role of number and location of visual and social encounters with other people. In these studies, encounters serve as the dominant operational measure of user contacts, crowding, and inferred solitude.

Most studies examining encounter norms have used the single question approach described by Shelby (1981) rather than a full range of encounter levels (Vaske et al., 1986). General conclusions about encounter norms in backcountry settings are that recreationists desiring certain types of recreational experiences have norms for specific types of encounters; recreationists are capable of expressing these norms; and there is some consensus among personal norms for individuals desiring certain types of experiences (Vaske et al., 1986).

The premise underlying this paper and the conceptual relationship posited for variables is as follows: if solitude is important to the wilderness recreation experience and if recreationists have specific norms defining acceptable visual-social encounter levels, then in cases where these encounter norms are exceeded, respondents ought to indicate that these encounters detracted from their wilderness solitude experience. Thus the main focus of this paper concerns the congruence between norms for acceptable number of encounters for a wilderness solitude experience and resultant reactions when these norms are exceeded.

Methods

Study Area

The study site was the Great Smoky Mountains National Park (GSMNP) which is located along the North Carolina-Tennessee border. Although it is not currently in the Wilderness Preservation System, congressional designation is pending, and 90% of the 500,000 acres is managed as undeveloped backcountry. Eighty-two undeveloped campsites and 18 shelters are available for backcountry camping. Undeveloped sites have a capacity of 6 to 20 tents and shelters can accommodate 10-14 campers. A 70 mile section of the Appalachian Trail passes through the park, and most of the shelters (13) are adjacent to this trail.

Sampling

Two hundred fifty-two backpackers, 16 years of age or older, were sampled from July to September, 1987. These individuals were contacted in the backcountry at shelters, campsites, or on the trail. Due to the time

and effort required to obtain an adequate sample, sampling effort focused primarily at backcountry shelters and on trails leading to shelters. Only 3.8% of respondents used undeveloped campsites.

When contacted, backpackers were asked to complete a short on-site contact card. Later, they were sent a 9-page mail-back questionnaire. The initial mailing and three follow-up reminders resulted in a response rate of 73%.

Questionnaire Content and Evaluation

Norms for the maximum number and size of party-encounters were investigated using the following question:

In your opinion, about what is the *maximum number of parties and size of party* that you could tolerate before solitude reaches unsatisfactory levels?¹

	<u>Number of Parties</u>	<u>Size of Parties</u>
At trailhead?	_____	_____
At campsite?	_____	_____
Along trail?	_____	_____

Previous research regarding recreational norms has predominantly reported the median when discussing norms. Apparently this is partly due to the intuitive appeal of being able to interpret the median as the point at which 50% of the clients would be satisfied and partly due to the fact that the median has been deemed the appropriate surrogate for social norms. However, the analytical procedures used in this and previous studies actually measure personal norms and the focus of this paper is congruence between personal norms and reactions to actual encounters. Thus we would prefer to report only the mean encounter norms to help make this distinction between personal and social norms clear. However, the medians also are presented so that the results will be comparable to previous studies and because nonhomogeneous variances made nonparametric statistical tests more appropriate.

Actual encounter levels for the trip were estimated by asking backpackers to report the number of parties encountered at each of the three sites. Individuals also were asked to estimate the average size of parties encountered, however, this variable was not analyzed by location of encounter.

¹We acknowledge that encounters, as related to solitude experience, involve much more than numbers and sizes of parties encountered. We are aware of the limitations of operationalizing encounters in this narrow context. However, it is a common measure of encounters used in carrying capacity and normative research, and has implications for manipulations by recreation managers.

Backpackers' reactions to the number and size of parties encountered were evaluated using the following question:

Did you feel the number of parties that you encountered:

- _____ Added greatly to your experience?
- _____ Added a little to your experience?
- _____ Neither added or detracted from your experience?
- _____ Detracted a little from your experience?
- _____ Detracted greatly from your experience?

A similar question was asked with regard to party size.

The overall importance of solitude to the backpacker's wilderness experience was measured using a single item (How important is solitude to your wilderness experience?) and a 7-point importance scale (1 = extremely important, 7 = not at all important). The cognitive dimensions of wilderness privacy/solitude were evaluated using a 21-item wilderness privacy scale developed by Hammitt (1982). A 7-point importance scale (1 = extremely important, 7 = not at all important) was used to register individual ratings of importance for various forms of privacy. Factor analysis involving principal components analysis and orthogonal varimax rotation (Norusis, 1985) was used to determine common dimensions of privacy/solitude among scale items (Hammitt & Madden, in press).

In addition, past experience was included in the analysis because of its possible relationship to encounter norms. Hammitt and colleagues (Hammitt & McDonald, 1983; Hammitt, Knauf, & Noe, 1989) have shown indices based on the number of years of experience and frequency of participation in an activity to be meaningful measures of user experience. Therefore, a past experience index based on these variables was used in this study. Four measures of past experience were included. These were years of general backpacking experience, number of trips taken per year, years of GSMNP backpacking experience, and number of trips taken per year in the GSMNP. A single index using all four of these variables was created to evaluate the effects of past experience. The index was computed as follows:

$$I = (\text{years of general experience} \times \text{trips per year}) \\ + (\text{years of GSMNP experience} \times \text{GSMNP trips per year}).$$

Only the 131 respondents who answered all three questions about norms for number of parties encountered, all three questions about number of actual contacts, and the question dealing with effect of number of encounters on the trip experience were included in the analyses presented in this paper.

Results

Solitude was important to the wilderness experience of most backpackers in the study. The average importance rating of solitude was 2.46.

Fifty-four percent of the respondents felt that solitude was extremely-very important, and only 9% were neutral or felt it was unimportant.

The average norm for the maximum tolerable party size did not vary greatly among the three encounter locations (3.18-3.90 people) (Table 1). The median response for these norms ranged from 3-4 individuals (Table 1). The size of parties actually encountered in the park ranged from 2 to 6 individuals, but the average size ($M = 3.02$) was lower than the maximum tolerable norm for all three encounter locations and the median size of parties encountered (median = 3.0) was equal to or lower than the median norm for each individual encounter site. As would be expected from these results, most of the respondents (75%) indicated that the size of parties encountered did not detract from the solitude experience.

The average number of encounters that respondents stated could be tolerated before solitude reached unsatisfactory levels ranged from 5.52 parties on the trail to 2.68 parties at campsites (Table 2). The medians ranged from 4 parties on the trail to 2 parties at the campsite. The mean and median number of parties actually encountered exceeded these encounter norms at two sites: on the trail and at the campsite (Table 2).

Comparison of norms to actual encounters on an individual by individual basis indicates that 71% of the backpackers reported encounter levels that exceeded trail-side encounter norms and 63% of the respondents reported campsite encounter levels that exceeded campsite encounter norms (Table 3). Overall, 83% of the backpackers in the study encountered more parties than they stated they could tolerate in at least one of the three encounter sites (trailhead, campsite, or trail). However, only 34% of the respondents indicated that the number of encounters detracted from the solitude experience (Table 4). Thus, many backpackers expressed maximum tolerable encounter norms concerning solitude that were not meaningful as tolerance limits. That is, even when personal "norms" for acceptable solitude levels were exceeded, the number of encounters did not detract from the solitude experience.

However, there were some backpackers who evaluated the number of encounters negatively when their normative levels for encounters were exceeded. In fact, 93% of the backpackers who stated that the number of encounters detracted from their experience also had their personal norms for maximum tolerable number of encounters exceeded at one of the three

TABLE 1
Party Size Encounter Norms, Great Smoky Mountains National Park, 1987.

Location	Party Size Encounter Norms		
	Median	<i>M</i>	<i>SD</i>
Trailhead	4.0	3.89	2.73
Trail	4.0	3.90	3.05
Campsite	3.0	3.18	1.90

TABLE 2
Encounter Norms and Actual Number of Encounters, Great Smoky Mountains National Park, 1987.

Location	Encounter Norms (# of Parties)			Reported Encounters (# of Parties)		
	Median	<i>M</i>	<i>SD</i>	Median	<i>M</i>	<i>SD</i>
Trailhead	3.0	3.93	4.14	1.0	2.79	9.31
Trail	4.0	5.52	6.01	10.0	10.39	7.22
Campsite	2.0	2.68	1.87	4.0	4.16	2.61

encounter locations. Thus there was a subset of backpackers who exhibited the anticipated reaction to norm violation: they indicated that the number of encounters detracted from their wilderness solitude experience.

In the following analyses, three categories of respondents were defined on the basis of: (a) norms for the maximum number of tolerable encounters, (b) reported encounter levels, and (c) reactions to encounters. The first category includes the 42 backpackers who reported that the number of encounters detracted from their experience when encounter norms were exceeded. This category is referred to as 'Congruent Reactions' in the following discussion. The second category includes the 67 backpackers who did not report a negative reaction when encounter norms were exceeded, and is referred to as 'Incongruent Reactions'. The third category includes the 19 backpackers whose norms were not exceeded and who indicated that the number of encounters did not have a negative effect. This category is referred to as 'Norms Not Exceeded'. A fourth category also could have been defined as those backpackers whose norms were not exceeded, but who reported that the number of encounters detracted from their experience. However, since only three respondents fit this definition, they were not included in the following analyses.

TABLE 3
Percent of Backpackers whose Actual Encounter Levels Exceeded Norms for the Maximum Tolerable Limit for Acceptable Levels of Solitude, Great Smoky Mountains National Park, 1987.

Encounter Location	Exceeded Norms	Did Not Exceed Norms
	(%)	(%)
Trailhead	13.7	86.3
Trail	71.0	29.0
Campsite	62.6	37.4

TABLE 4
Backcountry Backpackers' Reactions to the Number of Parties Encountered, Great Smoky Mountains National Park, 1987.

Effect on Experience	<i>n</i>	% of Backpackers Who Expressed Response
Number of encounters added greatly to experience	17	13.0
Number of encounters added a little to experience	42	32.1
Number of encounters neither added nor detracted from experience	27	20.6
Number of encounters detracted a little from experience	36	27.5
Number of encounters detracted greatly from experience	9	6.9

First, actual encounter levels for individuals in the three categories were compared to determine if the Congruent Reaction category was an artifact of encounter levels; that is, did this category simply consist of the backpackers who encountered the highest use levels? There were no differences in encounter levels between the three categories of respondents at the trailhead (Table 5). At the campsite and along the trail, those whose

TABLE 5
Reported Encounter Levels for Backpackers Who Showed Congruent Reactions, Incongruent Reactions, or Whose Norms were not Exceeded, Great Smoky Mountains National Park, 1987.

Reported Encounters	<i>n</i>	Median	Mean Rank	<i>P</i> -Value ^a
Trailhead				
Congruent Reactions	42	1.0	66.48	0.8576
Incongruent Reactions	67	1.0	64.19	
Norms Not Exceeded	19	0.0	61.21	
Trail				
Congruent Reactions	42	10.0	70.67A ^b	0.0000
Incongruent Reactions	67	10.0	70.84A	
Norms Not Exceeded	19	4.0	28.53B	
Campsite				
Congruent Reactions	42	4.0	67.58A	0.0001
Incongruent Reactions	67	4.0	71.97A	
Norms Not Exceeded	19	2.0	31.34B	

^aKruskal-Wallis one-way analysis of variance test.

^bGroups with different letters are significantly different ($p < 0.05$). Based on multiple comparison tests for nonparametric data (Zar, 1984).

norms were not exceeded did report fewer encounters than those in the Congruent Reactions and Incongruent Reactions categories. However, there was no difference in encounter levels between backpackers in the Congruent Reactions and Incongruent Reactions categories.

Norms for each category were compared next to see if there were differences in the maximum tolerance levels and degree of norm crystallization between the three subsets of backpackers. A nonparametric comparison (Kruskal-Wallis) was used because the variances were not homogeneous (Table 6). In all cases, the norms for the respondents in the Congruent Reactions category were lower than those of the Norms Not Exceeded category. The results for the Incongruent Reactions category were mixed. Their norms for trail encounters were similar to the Congruent Reaction norms, but their norms for campsite encounters were similar to those of the Norms Not Exceeded category.

Norm crystallization in each of the three categories is reflected by the standard deviation (Table 6). The Norms Not Exceeded respondents showed the lowest consensus for all three encounter sites. The Congruent Reactions category showed the highest consistency in norms for two of the three encounter sites.

The final issue examined was whether or not respondents within a category shared characteristics that distinguished them from respondents in the other categories. The first characteristic examined was amount of

TABLE 6
Encounter Norms and Degree of Norm Crystallization for Backpackers who Showed Congruent Reactions, Incongruent Reactions, or Whose Norms were not Exceeded, Great Smoky Mountains National Park, 1987.

Norms	<i>n</i>	<i>M</i>	Median	Mean Rank	<i>P</i> -Value ^a	<i>SD</i>	<i>P</i> -Value ^b
Trailhead							
Congruent Reactions	42	3.17	2.0	58.76A ^c		3.26	
Incongruent Reactions	67	3.34	2.0	62.62AB	0.036	2.83	0.000
Norms Not Exceeded	19	7.05	4.0	83.82B		7.34	
Trail							
Congruent Reactions	42	3.74	3.0	51.90A		2.93	
Incongruent Reactions	67	5.08	3.0	63.67A	0.000	4.51	0.000
Norms Not Exceeded	19	10.79	8.0	95.26B		11.31	
Campsite							
Congruent Reactions	42	1.88	2.0	48.29A		1.13	
Incongruent Reactions	67	2.72	3.0	69.57B	0.001	1.47	0.000
Norms Not Exceeded	19	3.90	3.0	82.47B		2.89	

^aKruskal-Wallis one-way analysis of variance test.

^bBartlett-Box *F* test for equality of variance.

^cGroups with different letters are significantly different ($p < 0.05$). Based on multiple comparison tests for nonparametric data (Zar, 1984).

past experience. This was done by comparing the four individual experience measures (years of general experience, general trips per year, years of GSMNP experience, and GSMNP trips per year) as well as the experience index formed using all four of the variables. However, there was no relationship between any of the past experience measures and the categories in which respondents were grouped (Table 7).

Another characteristic examined was the importance of solitude to the wilderness experience. The backpackers in the Congruent Reaction category rated solitude as significantly more important than backpackers in the other two groups (Table 8). The median rating for the Congruent Reactions category was 'very important', while the median ratings in the other two categories were both 'somewhat important'.

The wilderness privacy scale permits a more detailed analysis of the solitude issue by revealing the specific dimensions of solitude that are rated differently by the three groups. The rank order of importance of the five dimensions of solitude was the same for all groups. However, respondents with congruent reactions rated Intimacy as significantly more important than did respondents in the other two categories (Table 8).

TABLE 7
Past Experience Level of Backpackers Who Showed Congruent Reactions, Incongruent Reactions, or Whose Norms were not Exceeded, Great Smoky Mountains National Park, 1987.

Norms	n	Median	Mean Rank	P-Value*
Years of General Experience				
Congruent Reactions	42	5.00	66.83	0.8682
Incongruent Reactions	67	3.00	62.99	
Norms Not Exceeded	19	4.00	64.68	
General Trips Per Year				
Congruent Reactions	42	3.00	67.61	0.7308
Incongruent Reactions	67	2.00	62.43	
Norms Not Exceeded	19	2.00	61.42	
Years GSMNP Experience				
Congruent Reactions	42	0.00	62.32	0.3851
Incongruent Reactions	67	1.00	62.25	
Norms Not Exceeded	19	2.00	74.42	
GSMNP Trips Per Year				
Congruent Reactions	42	0.00	59.23	0.1661
Incongruent Reactions	67	1.00	63.37	
Norms Not Exceeded	18	1.50	77.47	
Experience Index				
Congruent Reactions	42	19.00	66.26	0.8728
Incongruent Reactions	67	10.00	62.51	
Norms Not Exceeded	18	14.00	64.28	

*Kruskal-Wallis one-way analysis of variance test.

TABLE 8
Importance Ratings of Solitude and Privacy Dimensions by Backpackers Who Showed Congruent Reactions, Incongruent Reactions, or Whose Norms were not Exceeded, Great Smoky Mountains National Park, 1987.

	<i>n</i>	Median ^a	Mean Rank	<i>P</i> -Value ^b
Solitude—Overall Importance				
Congruent Reactions	35	2.00	38.49A ^c	0.0001
Incongruent Reactions	58	3.00	63.37B	
Norms Not Exceeded	19	3.00	68.71B	
Natural Environment				
Congruent Reactions	42	1.25	55.33	0.0899
Incongruent Reactions	66	1.25	66.02	
Norms Not Exceeded	19	1.50	76.13	
Individual Cognitive Freedom				
Congruent Reactions	42	1.75	61.04	0.7662
Incongruent Reactions	66	2.00	66.11	
Norms Not Exceeded	19	2.00	63.24	
Social Cognitive Freedom				
Congruent Reactions	39	2.00	54.36	0.1946
Incongruent Reactions	66	2.17	67.39	
Norms Not Exceeded	19	2.33	62.21	
Intimacy				
Congruent Reactions	41	2.25	46.68A	0.0012
Incongruent Reactions	66	2.75	70.29B	
Norms Not Exceeded	19	3.00	76.21B	
Individualism				
Congruent Reactions	42	3.33	64.31	0.7114
Incongruent Reactions	67	3.33	62.84	
Norms Not Exceeded	19	3.67	70.76	

^a1 = extremely important, 7 = not at all important.

^bKruskal-Wallis one-way analysis of variance test.

^cGroups with different letters are significantly different ($p < 0.05$). Based on multiple comparison tests for nonparametric data (Zar, 1984).

Discussion

If norms are standards that distinguish between the acceptable and the unacceptable, it seems logical to expect recreationists to express negative feelings when norms are violated. We attempted to evaluate this assumption for wilderness solitude visual-social encounter norms and found that 61% of our study respondents whose encounter norms were violated did not express a negative reaction when actual encounters exceeded personal norms. There are several possible explanations: (a) many backcountry users do not have a clear or salient conception of what a tolerable number of encounters is, (b) visual-social encounters are only of minor importance in the overall solitude experience found in remote environments, (c) limitations

in our measurements resulted in the apparent noncongruent relationships between norms and reactions, and (d) the number of encounters is important to respondents, but conformity of behavior to normative beliefs is not a certainty.

The suggestion that many backcountry users may not have a salient definition of an acceptable number of visual-social encounters suggests the need to perhaps qualify or at least add a cautionary note to Vaske et al.'s (1986) conclusion that backcountry users are able to specify encounter norms when asked. Vaske et al. already note that norms exist for *certain types of experiences*. Our results suggest that only *certain types of users* seeking *certain types of experiences* have backcountry encounter norms.

This qualification of Vaske et al.'s conclusion does not appear to conflict with previous evidence used to draw this conclusion. Their conclusion seems to be based to a large extent on the fact that backcountry users provide encounter norms when asked. However, backcountry users' willingness to specify encounter norms does not necessarily mean that these norms are congruent with actual evaluations of encounters, as suggested by this study. It is possible that users' willingness to respond to this question reflects the existence of a general norm that a large number of encounters is inappropriate in backcountry wilderness settings.

This idea is supported by the results of a study of norms for whitewater rafters (Roggenbuck & Bange, 1983). Whitewater rafters were given the opportunity to indicate that encounters made a difference, but that they were not able to specify a number. This option was selected by 21-34% of the rafters responding to questions regarding three types of wilderness whitewater encounters.

The suggestion that the number of encounters may have only a small effect on some recreationists' solitude experience is related to the idea that solitude has a broader meaning than simply visitor encounters and perceived crowding. Solitude need not be the opposite of social crowding (Hammit, 1983). Research by Hammit and colleagues (Hammit, 1982; Hammit & Brown, 1984; Hammit & Madden, in press) suggests that solitude also refers to remoteness, primitiveness, nonconfinement, cognitive freedom, and autonomy. In fact, many of these other aspects of solitude appear to be more important than being alone. Thus encounters do not represent the whole solitude experience for many wilderness users.

However, the importance attributed to the various dimensions of solitude differs among individuals. To some, being alone is more important to the solitude experience than it is to others. In our study, backpackers who showed the anticipated reaction when norms were violated tended to focus more on the Intimacy dimension of privacy/solitude than did others. Thus, it is possible that the existence of a clear conception of acceptable encounter levels and the ability to specify salient encounter norms are related to the personal meaning of solitude.

A third possibility is that limitations in our measurements caused the apparent noncongruent relationship. The question regarding backpackers'

reaction to encounter levels asked respondents to indicate how encounters affected their 'experience'. To be more precise, we should have specified 'wilderness solitude experience'. 'Experience' can refer to things other than solitude, and it is possible that ambiguity associated with our use of the term is responsible for the noncongruent relationship with norms. However, we believe that the questionnaire cover page title (Wilderness Solitude Study), the cover letter instructions accompanying the questionnaire that referred to a wilderness solitude experience, and the norm question that asked for tolerable party encounters in relation to solitude, set the context so that respondents answered the question in reference to wilderness solitude.

A related issue is the appropriateness of our assumption that violations of norms would be reflected by a negative reaction regarding the effect of number of encounters on the solitude experience. That is, even if the number of encounters is important to solitude and backpackers have norms regarding solitude, should we necessarily expect congruency between norms and reactions to norm violations? Biddle's (1986) review of research regarding normative concepts in role theory suggests that this assumption was not appropriate. Biddle describes norms as a mode of expectations² and concludes that conformity (i.e. compliance) to norms is not a certainty. He suggests that when conformity does occur it "probably results from the resolving of several modally distinct expectations which may or may not favor the conforming response." The two other modes of expectations identified as influencing conformity are preferences and beliefs.

Biddle and colleagues differentiate the three modes of expectation using the following definitions: norms are "expectations which prescribe or proscribe the characteristic in question", preferences are "expectations which indicate how the speaker feels about the characteristic", and beliefs are "expectations which describe the characteristic, its consequences, or the ways in which people behave toward it" (Bank et al., 1977). These definitions suggest that we actually measured beliefs rather than norms, and that we then evaluated whether or not backpackers' predictions about the consequences of encounters were correct. Therefore, a more appropriate statement of our conclusion may be that many backpackers were not able to accurately predict the consequences that encounters would have on the wilderness solitude experience. This inability to predict the consequences of encounters may relate back to the suggestion that encounters are of only minor importance to solitude. An alternative possibility is that the impacts encounters have on the wilderness solitude experience are so dependent on factors such as characteristics or behavior of those encountered that backpackers cannot make predictions based only on information regarding number of encounters.

²Expectations in this context are defined as "those attitude components which express a reaction" (Bank, Biddle, Keats, & Keats, 1977).

Implications for Future Research

Shelby and Heberlein (1984) suggest that three conditions are necessary to establish regulations regarding management of factors that impact the quality of recreational experiences: (a) a known relationship between manageable impact parameters and experience parameters, (b) agreement about the type of experience to be provided, and (c) agreement about the appropriate levels of experience parameters. The normative approach has focused on the second two conditions (appropriate levels of experience parameters for specific types of experiences). However, the question of whether or not the evaluative standards identified through normative research are related to the quality or character of the recreational experience has not been examined.

The central question is: How do visitors react when norms are violated? Our results suggest that many backpackers' personal encounter norms for solitude were not related to their solitude experience. This suggests a need to emphasize the fact that only certain types of backpackers are able to provide encounter norms. Therefore, techniques to differentiate between individuals who can provide salient norms and those who cannot are needed. One way simply may be to provide recreationists the opportunity to indicate that number of encounters is important, but that they are unable to specify an acceptable number (e.g., Roggenbuck & Bange, 1983). However, it also may be necessary (and possible) to identify characteristics that differentiate between the two groups; for example, an individual's personal interpretation of the meaning of solitude (e.g., the importance of intimacy to the solitude experience).

However, normative research from the field of role theory suggests we should not expect a straightforward relationship between norms and reactions to norm violation. Biddle (1986) suggests that conformity to norms is "by no means a certainty." This suggests that rather than focusing on the question of who conforms to norms, future research should ask: Under what circumstances are individuals likely to conform to norms?

A final consideration for future research is the question of whether or not normative research in recreation has consistently measured norms. Based on definitions used by role theorists, it would appear that some studies have measured norms (i.e. used questions dealing with what is appropriate or acceptable—e.g., Shelby, 1981; Roggenbuck & Bange, 1983; Shelby et al., 1988), while others have measured preferences (i.e. used scales dealing with what is considered to be favorable or unfavorable—e.g., Vaske, 1978; Heberlein, Alfano, & Ervin, 1986), and still others have measured beliefs (i.e. used questions asking respondents to predict consequences—e.g., Whittaker & Shelby, 1988). Are all three approaches equivalent? Research from other disciplines suggests they are not and that each mode of expectation can have independent effects (Bank et al., 1977; Biddle, 1986). Thus, future leisure research should determine if these approaches are equivalent and if not, which is the most appropriate approach.

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