

AN ANALYSIS OF DAYHIKER ACCEPTANCE OF AND BEHAVIOR IN
THE PRESENCE OF A UNIFORMED PARK EMPLOYEE IN A
FRONTCOUNTRY AREA OF MOUNT RAINIER NATIONAL PARK

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Abstract The traditional managerial tactic for intervention to control depreciative visitor behavior in a National Park or wilderness area is to favor passive management techniques such as visitor education or interpretive information systems and to avoid direct approaches such as fines, threatened sanction messages, or the visible presence of uniformed employees. In this context, the presence of uniformed personnel is often viewed as unnecessarily intrusive on the visitor experience, but little research documents either the effectiveness of such direct intervention techniques in

a park setting or visitor attitudes toward these approaches. Results are submitted from a quasi-experiment testing the effectiveness of the presence of a uniformed Park Service employee as a deterrent to dayhiker off-trail hiking at a popular subalpine frontcountry area in Mount Rainier National Park. Additional information from a survey instrument concerning visitors perceptions of the impact of the uniformed employee's presence on their recreational experience is also presented. Managerial implications of the findings for park managers are discussed.

Key Words: depreciative behavior; uniforms;
authority figures; national parks;
visitor attitudes; rule violations

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INTRODUCTION

Traditional management strategies to control undesirable visitor behavior in National Parks or wilderness areas favor passive management techniques, such as visitor education or interpretive information systems. Direct approaches such as fines, threatened sanction messages, or the visible presence of uniformed employees are avoided. In this context, the presence of uniformed personnel is viewed as unnecessarily intrusive to the visitor experience and is presumed to have negative consequences for visitor trip satisfaction. However, little research documents either the effectiveness of direct intervention techniques in a park setting or visitor attitudes toward these approaches. This paper reports a study of the impact of a uniformed Park employee on visitor behavior and attitudes toward the impact of the presence of a uniformed employee on trip enjoyment.

This paper reports one component of a social science study conducted at Paradise Meadow in Mt. Rainier National Park during the summer of 1987

(Swearingen and Johnson, 1988a and 1988b). With visitation estimated at 5000 persons a day at peak periods during the summer, the potential for human impact upon the area is substantial. Since Paradise Meadows is a fragile subalpine meadow near the tree line at Mt. Rainier, the problem is exacerbated by the low physical carrying capacity of the popular dayhiking area.

There were two specific research questions concerning uniformed employees addressed in the larger study. First, is the presence of a uniformed Park employee an effective deterrent to off-trail hiking in an environmentally sensitive frontcountry park setting? Second, do visitors perceive the uniformed employee presence to detract from trip enjoyment?

LITERATURE REVIEW

Natural resource management agencies commonly face the often contradictory mandates to provide for the recreational visitor experience and to protect the natural environment. As visitation increases, visitor impacts upon the natural environment can reach

untenable levels. This increase often results in the rationing of some recreational opportunities in an attempt to preserve both the desirable social-psychological aspects of the visitor experience and the physical integrity of the recreational resource (c.f. Behan, 1976; Clawson, 1975). This rationing has primarily occurred in park or wilderness backcountry areas rather than frontcountry day use areas. Rationing of the recreational opportunity is generally viewed as the least desirable managerial alternative (Lime and Stankey, 1971; Stankey and Baden, 1977).

In general, the preferred managerial response to an unacceptable level visitor impact upon the natural environment is to avoid negative influences upon the visitor autonomy and the recreational experience by favoring less intrusive management strategies (Hendee, et.al., 1978; Sharpe, 1982; Christiansen, 1983; Krause and Curtis, 1982; Lucas, 1982, 1983). While originally conceived as a wilderness management tactic (Hendee, et.al., 1978), the preference for indirect management has been broadly extended to many contexts of park management (Manning, 1986). Thus, indirect approaches such as education and facility design are viewed as

preferable to such direct intervention strategies as rationing use or rule enforcement in most instances where social control techniques are necessary to deter undesirable visitor behavior.

Most managers generally feel that enforcement and other regulatory controls are more likely to reduce problems of overuse of the recreational resource than other less direct managerial strategies (Bury and Fish, 1980). Direct control or regulatory tactics to reduce visitor depreciative behavior are not favored to avoid negative influences upon the visitor recreation experience. In this context, the presence of uniformed personnel is frequently viewed as intrusive to the visitor experience.

Since the basis for this managerial approach lies in the presumed intrusive nature of the presence of the uniform, research into the impact of a uniform on park visitors' attitudes becomes relevant. However, little research documents either the effectiveness of this direct intervention technique to control undesirable visitor behavior in a recreational setting or visitor

attitudes toward the presence of a uniformed park employee.

If uniformed presence is intrusive to the recreational experience, it could well be in the context of a reduction of the visitor's perceived freedom. Iso-Ahola (1980) maintains that perceived freedom (autonomy) is a necessary element of individual perception of the leisure experience. Lucus (1982) supports his position and considers visitor regulation contradictory to this element of the recreational experience. Other writers (Hendee, et.al, 1977; Lee, 1977; Stankey, 1973; Twight, et.al., 1981) have identified privacy as being of significant importance to the recreational experience.

Research relating to authoritarian figures and reactions to uniforms has primarily concerned the authoritarian perceptions of police officers in uniform. A study by Muchmore (1975) found that the introduction of a uniformed police officer into group processes invoked negative perceptions of the officer as a symbol of authority that represented a lack of personal freedom, even when the officer was not

exercising that authority. Similarly, Tenzel, Storms, and Sweetwood (1976) found that distortions of the police role have led to negative perceptions of the police as suppressive and authoritarian when the need for their presence is not readily apparent.

In a study of visitors' perceptions of security and safety issues at recreational areas around an Army Corps of Engineers reservoir in Texas, Fletcher (1984) found that the increased presence of uniformed park rangers and law enforcement personnel and controlled access (entrance fees) reduced occurrences of security and safety problems. Visitors' attitudes toward the presence of the uniformed police or park rangers were also reported to be positive. The positive reaction of visitors to the presence of the uniformed rangers and law enforcement personnel might be related to a perceived need for their authoritarian presence as a means to maintain order. However, the security problems addressed in this study are not directly comparable to undesirable visitor behavior that degrades the natural environment.

Ornstein (1986) conducted a study of organizational symbols in the workplace that included analysis of the effect of authority figures. The framework of the study was the ecological perspectives approach to information processing which is based on the premise that people react to others (objects and events) in their environment based on their perceptions formed by experiences with similar others. Ornstein found that the presence of authority symbols in the workplace reduced feelings of individual autonomy.

Given these findings, it is consistent to expect that people will react to different types of uniformed personnel such as police and park rangers in a related manner. If one type of uniformed presence is perceived as an authoritarian figure, the other uniformed person may well invoke similar perceptions.

In summary, the literature suggests that:

- 1) The recreational experience depends, in part, on the feelings of autonomy and freedom derived from the setting.
- 2) In general, people associate the presence of authority figures with a loss of autonomy.

- 3) People generally perceive police to be authority figures and relate their presence to a loss of autonomy, particularly when their presence is not related to a perceived need.
- 4) People form perceptions of objects and events based on previous exposure to similar objects and events.
- 5) Regulatory methods of visitor control are perceived as effective by managers, and the authoritarian presence of uniformed personnel does reduce instances of security and safety problems.

By inference, since a ranger uniform resembles a police uniform, the literature suggests that one could expect visitors to react to the ranger uniform negatively when there is no perceived need for the authoritarian presence. Further, the negative reaction would involve a perceived loss of personal autonomy, and this perception would in turn imply a degradation of the quality of the recreational experience. Despite possible visitor negative reactions, undesirable visitor behavior such as minor rule breaking could be expected to be reduced with the presence of uniformed personnel in a problem area.

RESEARCH HYPOTHESES

Based on the preceding literature, the research hypotheses of this work were:

(1) The presence of a uniformed Park employee will reduce off-trail hiking in an environmentally sensitive frontcountry park setting.

(2) Visitors will perceive the uniformed employee presence to detract from trip enjoyment only in certain specific circumstances:

- a) if they consider the presence unwarranted or
- b) feel the presence invokes perceptions of a loss of autonomy or
- c) feel the uniformed presence is an authoritarian symbol.

(3) Perceptions of a need for safety or security will elicit a positive visitor reaction toward the uniformed park employee.

RESEARCH DESIGN

The research design consisted of a field experiment testing the effectiveness of selected trailside signs and barriers intended to deter off-

trail hiking. Data were recorded on an observation sheet concerning treatment, time of day, visitor behavior (compliance or noncompliance), other party proximity and behavior, size and ethnic composition of the visitor parties, and selected other variables. As an additional nested treatment at one experimental site, a uniformed Park Service employee was alternately present and absent through random rotations of all treatments (signs and a control - no sign). The employee was a female roving interpreter dressed in the Class B National Park Service uniform with green jeans, baseball style cap, and a regulation military type shirt with insignia. The employee did not speak to visitors unless directly approached and did not reprimand off-trail hikers.

At an unobtrusive position along the trail above the experimental sites, all noncompliers and a random sample of compliers to the experimental treatments were contacted by the researchers for inclusion in a mail survey designed to develop a noncompliant visitor profile. The contact procedure in the field consisted of a brief explanation the study and a request for participation. The visitors did not know their

behavior had been observed. The instrument used in the mail survey included questions concerning exposure to low impact messages, human impact information, and park facilities, descriptive visitor data, psychological variables, and reactions to the presence of uniformed personnel in the meadow. From 1664 original visitor contacts, 1152 valid responses were received, a response rate of 72 percent.

RESULTS

This paper reports only the results of those observations of the experiment where the dependent variable was visitor behavior (off-trail hiking) and the independent variable was the uniformed presence of the Park Service employee. Table 1 contains the behavioral data from the experimental analysis of the effectiveness of uniformed presence as a deterrent to off-trail hiking. There was a significant difference (chi square = 32.19, $p \leq .0000$) in the compliance rate at this site with the uniform present.¹ Noncompliance (off-trail hiking at the site in the presence of sign treatments or control) was only 0.6 percent with the

Table 1. Uniform Presence by Compliance Status -
1987 Paradise Meadows Sign Experiment.

Cells:	Row Percent	COMPLIANCE STATUS ¹		
	Column Percent			
	Count	C	NC	Row Totals
Uniform Present	99.4%	0.6%	100.0%	
	33.9%	11.4%	33.5%	
	2627	17	2644	
Uniform Absent	97.5%	2.5%	100.0%	
	66.1%	88.6%	66.5%	
	5123	132	5255	
Column Totals	98.1%	1.9%	100.0%	
	100.0%	100.0%	100.0%	
	7750	149	7899	

Missing Cases = 0

Chi-Square = 32.19 $p \leq .0000$

Phi = .06

uniformed NPS person at the site, compared to 2.5 percent when the uniformed NPS person was absent. The crosstabulation was rerun excluding of groups of greater than 14 visitors to check for potential anomalous results caused by the behavior large groups. The results were not significantly different.² These results support the first research hypothesis that the uniformed presence is an effective deterrent to depreciative behavior (off-trail hiking) in a popular frontcountry area of a national park.

Thirty-six percent of all survey respondents felt the presence of the uniformed person enhanced their trip enjoyment to some degree (Table 2). Only two percent felt that the presence of a uniformed NPS employee detracted from their trip enjoyment, and forty percent felt there was no impact on their trip enjoyment. Twenty-one percent of the respondents did not see a uniformed Park employee during their visit to Mt. Rainier.

Table 2.

Q-28 While hiking at Paradise Meadows, did the presence of uniformed Park Service employees affect your trip enjoyment?

<u>Response Label</u>	<u>Frequency</u>	<u>Percent</u>	
1) I DID NOT SEE A UNIFORMED NPS EMPLOYEE	238	21.0	
2) PRESENCE GREATLY ENHANCED TRIP ENJOYMENT	176	15.6	
3) PRESENCE SLIGHTLY ENHANCED TRIP ENJOYMENT	235	20.8	
4) UNIFORMED PRESENCE HAD NO EFFECT	454	40.1	
5) PRESENCE SLIGHTLY DETRACTED FROM TRIP ENJOYMENT	23	2.0	
6) PRESENCE GREATLY DETRACTED FROM TRIP ENJOYMENT	<u>5</u>	<u>0.4</u>	
TOTAL	1131	100.0	
Valid Cases	1131	Missing Cases	21

Removing those visitors who did not see a uniformed employee from the analysis, 46 percent of those respondents who saw a uniformed employee felt the presence enhanced their trip enjoyment to some degree, and 51 percent felt the uniformed person's presence had no effect on trip enjoyment. Only three percent of those respondents who encountered a uniformed NPS person during their hike considered the presence of that person a detraction to any degree from their trip enjoyment.

Discussion

While these results seem contradictory to earlier research on perceptions of uniformed employees, they could also suggest that the reason for a positive or neutral reaction to the uniform lies in the perceived need for the presence of the uniform in the frontcountry park setting. A qualitative open-ended question included in the questionnaire encouraged visitors to comment on their reaction to the presence of the uniformed Park employee. A total of 383 visitors offered open-ended comments to the question.

Of these responses, only 24 negative responses were received, representing 6.3 percent of the open-ended comments. These respondents primarily cited three reasons for the negative reaction to the uniformed presence: (1) reactions to the verbal sanction of an employee when the visitor was off-trail or engaged in any other depreciative act (thirteen respondents); (2) fear of enforcement (as when visitor was in charge of group of young foreign children - four respondents); and (3) employees were unfriendly or uninformed (four respondents), with miscellaneous negative remarks accounting for the other three respondents. The open-ended negative comments received support the second research hypothesis.

In contrast, 359 positive comments were received, representing 93.7 percent of all open-ended responses. Of the positive comments, 158 respondents (44 percent) mentioned the interpretive role of the Park Service employees to provide information or directions. Seventy-eight positive comments (21.7 percent) mentioned both the employees' interpretive role and either resource protection/rule enforcement or visitor

safety. Sixty of the positive responses (16.7 percent) mentioned the positive aspects of the agency's efforts to protect the natural environment, usually specifically citing the enforcement role as a positive benefit of the uniformed employees' presence. Thirty-seven visitors (10 percent) cited visitor assistance or safety issues (without mention of information dissemination function of the interpretive role). Seven percent of the positive comments (26 respondents) cited miscellaneous reasons (e.g., employee personality or appearance) for perceiving the uniformed presence as an enhancement of their enjoyment of the visit to the park. Several comments of this type specifically mentioned that the Ranger uniform belongs in a National Park; it is considered part of the recreational experience. The positive open-ended responses clearly support the third research hypothesis and offer additional reasons for the visitors' perceived need for the uniformed presence, noting in particular the interpretive, information dissemination function of the uniformed employee.

CONCLUSIONS

The results of the field experiment strongly support the hypothesis that the uniformed employee presence is an effective deterrent to off-trail hiking in a frontcountry park setting. The compliant behavior of the visitors in the presence of a uniformed employee also very strongly suggests that few visitors are actually ignorant of the Park Service rules. It remains plausible, however, that minor rule infractions such as off-trail hiking occur in a park due to the visitors' ignorance of the impact of their behavior on the natural environment of the park.

The results of the survey indicate that visitors generally do not perceive the uniformed employee to be an intrusion that detracts from trip enjoyment. The majority of respondents felt the uniformed presence either enhanced their trip enjoyment or had no effect. A very small minority of the visitors (less than three percent) felt the presence of a uniformed Park Service employee detracted from trip enjoyment. There is a perceived need for the uniformed Park Service employee presence related to information dissemination, rule

enforcement, resource protection, and safety. The perceived need validated the uniformed presence in the perspective of most park visitors. The minority of visitors who view the employees as an unwanted presence generally were engaged in a depreciative act when confronted by a Park employee or feared being caught "in the act".

MANAGEMENT IMPLICATIONS

Since the mere presence of a uniformed employee is an effective deterrent to some types of undesirable visitor behavior, this direct management tactic should be considered when the resource protection issues warrant the approach. On the basis of this research in a national park frontcountry setting, there does not appear to be an unwarranted negative impact on the visitor recreational experience due to the uniformed presence of a Park employee.

To ensure a positive visitor response, it may be important that visitors perceive a need for a direct managerial tactic such as a uniformed presence. Thus, communications to reduce visitor impacts should be

designed with some explanation of the reason for the rules and rule enforcement. For example, if visitor impacts are a problem, the visitors should know there is a problem. The use of trailhead and trailside signs as a primary communication media should be considered because these media will reach all visitors on-site.

SUGGESTIONS FOR ADDITIONAL RESEARCH

The implications of these findings for management of wilderness and other settings are unclear. It is entirely plausible that visitor reactions to the uniformed Park Service employee would have been entirely different in such settings. Suggested additional research would include the recommendation for similar studies in both wilderness and urban park settings.

Other research might consider general public perceptions of the role and image of the ranger in a park. This research did not resolve the issue of whether the ranger uniform represents an authoritarian figure to the public. The public's perceived need for the uniformed presence in a frontcountry national park

area may, in fact, be a positive reaction to the authoritarian image. Public relations and communications by park employees can be enhanced with better understanding of visitor role perceptions of the park ranger.

The number of negative reactions to the uniformed employee suggests a need for investigation into the best strategy to approach the visitor engaging in depreciative acts. While the number of such visitors may be small, maintaining the goodwill of these visitors and still protecting the resource are not incompatible management objectives.

Finally, the assumption that direct management tactics impinge on the visitor recreation experience is an assumption with limited existing empirical support. This research suggests that many visitor negative reactions to direct management tactics may be mitigated by educational messages concerning the reasons for the management policies. Research into the circumstances when visitors accept and support direct management tactics is indicated.

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- 1 Note that a group behavior effect observed in roughly 40 percent of the cases of noncompliance means the assumption of independence between units of analysis (individual visitors) is not completely accurate. This violation of the assumptions of the chi square statistic means that interpretation of the p value generated by the chi square procedure is confounded, and should be approached with caution.
- 2 It should be noted that there was a significant, though slight, difference between sign effectiveness even in the presence of the uniformed Park Service employee.