

Fee-based Field Trips to Jirisan National Park; Eco-guide Led Programs

Kye-joong Cho*

Department of Forest Resources, Sunchon National University, Jeonnam 540-742, Korea

Abstract : Arguments against charging fees for use of recreational forests and parks generally rest on the assumption that the public sector has the responsibility to provide as many recreational opportunities as it can to all visitors in Korea. The entrance fee in recreational forests allowed some governmental resource management agencies to keep a portion of user fees generated on-site, instead of returning all revenue to the general treasury. Funded primarily through entrance, activity, parking, and mountain villa-use fees, this legislation has been successful in reducing the maintenance backlog for participating agencies. However, it is unclear what effect user fees might have on visitors attending interpretive programs and the benefits that agencies might receive from implementing this policy. From this point of view, this study is a similar case at the Visitor Center and Species Restoration Center at Jirisan in terms of fee-based field trips to the places. In this research, two hundred twenty-three visitors at the Visitor Center and Species Restoration Center at Jirisan National Park answered questions about their trips from 2005 to 2006. Results indicated that the ecoguide not only increased visitor's appreciation of the resource, but also enhanced their perceptions of the Korean National Park Service (KNPS) fee policies.

Key words : *interpretive programs, fee-based field trips, recreational forest, species restoration center, Korean National Park Service*

Introduction

Visitor management provides logical direction and service to the user to enhance the user's experience while obtaining the management objectives set for the area. Essentially, visitor management provides user satisfaction and site preservation within the framework of the management objectives. If visitor satisfaction is a goal of resource management agencies, then a range of opportunities should be provided which reflect four types of recreation demand: activities, settings, experiences, and benefits (Manning, 1999).

Even the preservation aspect of recreation management is included in the term "user satisfaction" (Douglass, 2000) through the objectives established for the area's management. Visitor satisfaction is the true purpose of recreation resource management. Visitors come to a recreation area expecting certain things. If those things are found in a pleasant enough setting, they provide the visitor with satisfaction. User satisfaction is difficult to quantify. Dissatisfaction, however, can be measured in part by complaints, by people being dis-

placed to other places, or by people substituting other activities. Other factors such as insufficient funding, time, and personnel limit our understanding of communication processes in outdoor settings. Since the number of published studies on interpretation are not plentiful, resource managers must speculate about the potential benefits that accrue to visitors and agencies. Carlson (1995) challenged the interpretive profession to determine the effectiveness of communication strategies by means other than intuition and common practice.

Visitor management is one of the challenging issues facing Korean National Parks (KNPS). It is difficult to maintain a balance between visitation and resource protection at some sites. Korean National Parks support most recreational choices made by visitors, provided that their activity selection does not impair the resources in the park. As a management tool, interpretation is used frequently to accomplish management goals and to promote public awareness of agency rules, regulations, and policies. In addition, interpretation relates to the strict application of ecological principles without regard to public opinion. Biologically sound decisions on environmental issues often result in criticism, failure, or, litigation because of misinformation (Jacobson, 1999). Developing an extensive information network with the public is essen-

*Corresponding author
E-mail: cho140@sunchon.ac.kr

tial if resource management agencies wish to broaden their base of political and financial support. In fact, Morgan (1993) suggested that communication ought to be one measure of success. The KNPA eco-guides can assist with this task. Because the public often lacks knowledge about natural resources or specific management policies, many government agencies try to modify visitors' knowledge, attitudes and behavior through information-based approaches. Typically these messages are framed within the broader context of interpretation. Many agencies, such as KNPA and Korea Forest Service (KFS), have implemented user fees to recover program costs, especially for personal communication services. How much is known about the potential effects of fees and charges, now that some visitors are paying for persuasion? What is the relationship among price, expectations, and visitor satisfaction? This study addresses these research questions and provides some managerial implications for setting fee policies in designated areas for field trips including national parks.

Literature Review

Recreation land is managed to provide service to the user, to protect the resource base, to protect the user from harm, and-in some cases-to produce a product. Generally, recreation land is providing a service to the user in the form of user satisfaction. Preservation of the resources is often a purpose for establishing a park; however, user satisfaction is the key ingredient to recreation management. Even the preservation aspect of recreation management is included in the term "user satisfaction" through the objectives established for the area's management (Douglass, 2000). User/visitor satisfaction on public lands has become a high priority since the passage of the 1996 Omnibus Consolidated Rescission and Appropriations Act (PL 104-134). This legislation authorized the U.S. Forest Service (USFS) and other resource management agencies to collect revenues at certain locations under a provision known as the Recreation Fee Demonstration Program (RFDP). The Recreation Fee Demonstration Program (RFDP) has stimulated a considerable amount of interest in fees and charges in the recreation literature, such as the *Journal of Park and Recreation Administration* (1999) and the *Journal of Leisure Research* (1999). Agencies are allowed to keep a portion of funds and use them for on site enhancements, such as maintenance projects. This influx of "new" money has been a financial windfall for agencies participating in the RFDP and many outdoor recreationists seem to support user fee policies (Vaske, Donnelly, & Taylor, 1999).

Most of the published literature on user fees is either

philosophical or policy-oriented. Of the empirical articles published, most are descriptive studies. Several authors (Shank, 1986; Wolf, 2000; Kyle *et al.*, 1999; McCarville & Crompton, 1987; McCarville, 1991; McCarrville *et al.*, 1993) have used social science theory to help understand, explain, or predict certain outcomes.

Regarding user fees, does the simple act of charging a fee raise the expectations for those participating in interpretive programs in recreation sites? This relationship has been widely speculated, but not empirically tested (Kundson, Cable & Beck, 1995). In theory, if costs exceed the benefits, then dissatisfaction would result. Negative publicity generated through word-of-mouth might result in lower attendance at programs in recreation sites.

McDonald *et al.* (1987) tested the relationship between user fees and expected benefits using Social exchange theory (SET). It was anticipated that more benefits would be expected as costs increased. Except for those willing to pay \$5 or more, it was found that recreationists were reluctant to expect more benefits (services, facilities, and programs) as willingness-to-pay (costs) increased. One conclusion of this study was that managers could implement a modest fee without causing visitors to desire more benefits. However, the cost-benefit relationship was not positive, because it was thought that some visitors would pay higher fees to limit development of interpretive facilities.

Social science theory was used in this research as a basis for understanding visitors' reactions to user fees for interpretive programs. Social exchange theory (SET) is one way to explain the decision-making process used by many individuals. Based on cognitive psychology, this theory assumes that people utilize a cost-benefits strategy when evaluating the relative merits of goods, products, or services (Foa & Foa, 1975). If costs are high, then benefits (rewards) must be significant. In contrast, most people are willing to accept fewer benefits if costs decrease. Many people seek opportunities which will bring them the greatest satisfaction. At the very least, people want to maintain congruence over the cost-benefit relationship. If costs outweigh the benefits, then many people will react negatively (Vaske, Donnelly, & Taylor, 1999).

The purpose of this study was to determine the outcomes of fee-based field trips by school groups, environment/ecological groups, and Nongovernmental Organizations (NGOs) to designated areas for interpretive programs on national park visitors. Specifically, it compared self-perceptions of the visitor, and beliefs about KNPS user fees. An experimental design was used to isolate and test these effects. It was hypothesized that no significant differences would occur between treatment and

control groups for any dependent variable.

Methods

1. The setting and subjects

Jirisan National Park, the oldest and the largest national park in Korea, was selected as the testing site. Jirisan National Park is one of the most attractive mountains in terms of its availability for outdoor recreation purposes. Approximately 3 million tourists visit the area annually. Faced with a large demand for services, but working on a limited budget to facilitate visitor information services. The Jirisan National Park remodeled its the Visitor Center and hired 3 ecoguides to conduct interpretive programming. The park also constructed the Species Restoration Center (SRC) and hired 7 ecoguides to conduct interpretive programming at the center.

The KNPA does not have any fee-based interpretive programs itself but school groups, environmental groups, and NGOs organizing students and persons pay the entry fees for field trips to national parks. This study want to determine how user fees affected visitor satisfaction of interpretive programs. Due to the limited number of visitors at the sites, the KNPS attempted to collect data from every visitor during the study period (July, 2005 to July, 2006). Using a census approach improved the statistical power of the design and generalizability of the results. It was not possible to control the number of visitors who participated in the tours.

2. Experimental design and treatments

Roggenbuck (1979) recommended the use of field experiments as a way to measure the effectiveness of interpretive programs. The primary advantage of using this approach is to draw better conclusions since cause-effect relationships can be tested. This study evaluated visitor satisfaction of fee-based interpretive programs at Jirisan National Park using two controls and two treatments, paired within a 2×2 factorial design. Figure 1 shows the main effects included two levels of "timing" (before and after visiting) and two levels of "structure" (self-guided and ecoguide-led trips). Self-guided participants (C1 & T1) were defined as those visiting the visitor center and the Species Restoration Center (SRC) at Jirisan National Park for free. This interpretive information was comparable to the ecoguide-led trips, but self-guided visitors were less exposed to interpretive information than ecoguide-led visitors. The selection of self-guided visitors was not random since a sampling frame was unavailable.

In order to minimize variance, however, participants were selected at the same place used by the organized field trip group by the agencies, such as school groups,

Timing	Structure	
	self-guided	ecoguide-led
pre-trip	C1	C2
post-trip	T1	T2

Figure 1. Experimental design applied to Species Restoration Center visitors.

environmental groups, and NGOs for fee-based programs, and on the same weekends that the treatments occurred. To improve statistical comparisons, the goal was to obtain at least 30 self-guided tourists in C1 and T1. Ecoguide-led tourists paid either 10,000 Won or 20,000 Won (depending on agency prices, respectively) for an interpretive program at Jirisan National Park. Participants in C2 and T2 were led by the same ecoguide and were presented with virtually identical interpretive programs.

In this study, measurement occurred either preceding or immediately after interpretation. The author surveyed all self-guided visitors, either before or after their trips. Person to person survey by the author, self-guided visitors completed their questionnaires at the site. The author distributed questionnaires in all the fee-based trips. For the control group, this was accomplished at the Species Restoration Center (SRC) prior to departure. The treatment group answered their questionnaires at the site immediately after the trip was completed. Testing times (before or after interpretation) were systematically rotated to minimize the effect that weekdays trip might differ from those taken on weekends. Time constraints of a pretest sensitization effect prevented the use of a pre- and post-test design. This quasi-experiment is known as a post-test only, control group design (Campbell & Stanley, 1963).

Experiments are especially well suited to research projects involving relatively limited and well-defined concepts and propositions. Experimentation is appropriate for hypothesis testing. It is better suited to explanatory than to descriptive purposes (Babbie, 1992). Experimental designs are valuable to the degree they lessen the number of rival hypotheses. Threats to internal validity were minimized by controlling the following variables: time (days and start times), location, ecoguide, and the presentation. Efforts were made to ensure that differences in the dependent variables were attributed to trip structure, but the inherent nature of field experiments makes this difficult to control (Babbie, 1992). There is a certain degree of tension between internal and external validity when using experimental designs. In this study, naturalistic conditions somewhat weakened internal validity, but strengthened external validity. Naturalistic generalizations develop within a person as a product of experience

(Stake, 1983). The benefit of generalizability (increasing external validity) should outweigh any potential criticisms of not maintaining stricter controls over the design (maximizing internal validity) (Babbie, 1992).

3. Questionnaire

The KNPS wanted to determine the outcomes of fee-based interpretation which resulted from ecoguide-led VC and SRC trips at Jirisan National Park. Some factors used to evaluate interpretative effectiveness included attitudes, knowledge, and perceptions of the naturalists (Morgan *et al.*, 1997). Building on the previous work, two additional aspects were included in the study: motives and beliefs about KNPS user fee policies. These outcomes can be grouped according to visitor experiences (motives, attitudes, and knowledge) or agency benefits (perceptions of the ecoguide and beliefs about KNPS user fee policies).

In this study, participants received one of four questionnaires, depending on which field trip was taken. If visitors were part of a control group, questions were phrased as "expectations", whereas treatment groups were asked about "satisfaction" with their trips. Distinguishing between a motive and a benefit can be difficult. For example, education can be viewed as an activity, experience, or benefit, depending upon how the item is phrased (Manning, 1999). Driver (1990) defined a benefit as an "improved condition" that occurs in individuals.

In this study, a motive scale was developed which included the following items: relaxing, escaping daily routines, experiencing quietness, learning about the outdoors, developing skills, spending time with family/friends, enjoying the sights and sounds of nature, and meeting others with similar interests. Each item was scored independently using a 5-point Likert scale (1 = "not at all", through 5 = "extremely important"). An overall score was calculated for each visitor by averaging the 8 items. The scale was tested for internal consistency using Cronbach's alpha and yielded a reliability coefficient of 0.817.

In this study, the attitude scale measured visitors' emotional responses to the Jirisan ecosystem. It consisted of five statements, each having a possible range in scores from strongly disagree to strongly agree (coded 1 through 5, respectively). The attitude items measured: fragility of the resource, closure of areas from public use, multiple-use management practices, impacts of non-native species, impact of Temple, and performance levels of the KNPS. Attitude items were averaged for each visitor, but no alpha coefficients were calculated since the scale only consisted of five items.

The knowledge test measured the amount of information visitors knew about the natural history of Jirisan

National Park. This section contained five questions and was scored in a multiple choice format (true, false, or I don't know, but coded 1 = right or 0 = wrong/don't know). Visitors were asked two questions about wildlife, two concerning natural resources, and one over historical resources in the area.

Visitors in C2 and T2 were asked about the naturalist conducting the program. Cho and Ann (2004) measured some attributes of nature-based interpretive programs and found that visitors rated knowledge, enthusiasm, and communication skills of the instructors as very important. These characteristics were included in the survey. In addition, five more items were listed: organizational skills, teaching ability, professionalism, grooming/appearance, and concern over safety. Each item was scored from 1 through 5 (from least to most important), and averaged to form a composite score. The alpha coefficient was 0.852.

Moreover, visitors were asked several questions about fee-based interpretation. Three questions measured participants' beliefs about KNPS user fee policies (whether programs should be free, what to do with the revenue, and amount of trust they placed in the agency). Each item was scored separately using a 5-point Likert scale (1=strongly disagree to 5=strongly agree). The item, "I believe that interpretation programs in the National Park Service should be free" was reverse-coded. A composite score consisting of responses to KNPS fee policies was used for testing purpose.

Demographic questions included age, gender, primary residence, and job. Other information requested was travel distance, number of times visiting Jirisan National Park, previous attendance at fee-based interpretive programs, and how much they paid for these programs.

4. Data analysis

In this study, the Statistical Package for Social Sciences (SPSS) 11.0 for Windows was used for data entry and analysis. The means were calculated for each dependent variable and compared to determine if they were significantly different at the 0.05 alpha level. Hypotheses were evaluated using analysis of variance (ANOVA) and the Student-Numan-Keuls (SNK) multiple comparison test. The Newman-Keuls (also called Student-Newman-Keuls test) is used to compare all pairs of means following one-way ANOVA. Although this is called post tests, it can be performed regardless of the results of the overall ANOVA results. If groups were found to be non-significant, they were combined and retested using a larger sample size. This procedure not only increased the statistical power of the design, but also allowed for comparisons between ecoguide-led and self-guided field trips in this study. This means it can find that a difference

between two groups is 'statistically significant' in this study.

Results

In this study, a total of 216 Visitor Center (VC) and Species Restoration Center (SRC) visitors were surveyed (n=28 in pre-trip self-guided; n=26 in post-trip self-guided, n=71 in pre-trip ecoguide-led; and n=91 in post-trip ecoguide-led). Non-respondent bias was minimal since nearly 100 percent of the visitors completed the questionnaires with the researcher waiting nearby. Even though participation in the experiment was voluntary, the captive nature of trips made it awkward for visitors to leave without complying. There were no complaints from respondents using this procedure because the researcher explained all this research procedure and asked cooperation for this study.

1. Group and Trip Characteristics of Respondents : Group and trip characteristics of respondents are as follows. Results from the demographic questions revealed that Visitor Center (VC) and Species Restoration Center

(SRC) field trip visitors were male (44.65%); at least college graduate (54.9%); over 40 years old (\bar{x} =40.0); familiar with the area (\bar{x} =15.2 visits); about 100 kilometers away from home (\bar{x} =112.71). Over 20 different city or counties were represented in the sample. In this study, participant characteristics by trip type were similar, but not identical. Please see Table 1.

2. Motivations : In this study, the eight item motive scale was tested for possible effects. Based on results from the two-way ANOVA, both the "timing" and "structure" effects were significant (F=26.31; 1, 232 df; p<0.001 and F=10.78; 1, 321 df; p<0.001, respectively). This indicates that the expectations of field trip visitors were significantly different from the benefits obtained (\bar{x} =3.65 and \bar{x} =4.25, respectively). Moreover, the scores of self-guided visitors (\bar{x} =3.69) were significantly different from those taking ecoguide-led trips (\bar{x} =4.03).

As can be seen in Table 2, a one way Analysis of Variance (ANOVA) was used to test the relative effectiveness of self-guided trips (C1 & T1) vs. those led by a ecoguide (C2 & T2). The overall effect was significant (F=17.37; 3,221 df; p<0.001). The Student-Numan-

Table 1. Demographic profile of SRC and VC at Jirisan National Park.

STRUCTURE		
Timing	self-guided	ecoguide-led
pre-trip	age: n=30; \bar{x} =29.9; s.d.=7.11 male: n=14; 47.0% previous visits: n=23; \bar{x} =5.12; s.d.=5.47 age: n=30; \bar{x} =29.9; s.d.=7.11 male: n=14; 47.0% previous visits: n=23; \bar{x} =5.12; s.d.=5.47	age: n=60; \bar{x} =42.4; s.d.=10.58 male: n=21; 35.0% previous visits: n=55; \bar{x} =15.8; s.d.=27.45 age: n=60; \bar{x} =42.4; s.d.=10.58 male: n=21; 35.0% previous visits: n=55; \bar{x} =15.8; s.d.=27.45
	age: n=33; \bar{x} =32.1; s.d.=8.66 male: n=17; 52.0% previous visits: n=26; \bar{x} =19.2; s.d.=30.84 age: n=33; \bar{x} =32.1; s.d.=8.66 male: n=17; 52.0% previous visits: n=26; \bar{x} =19.2; s.d.=30.84	age: n=53; \bar{x} =44.7; s.d.=11.69 male: n=37; 44.6% previous visits: n=52; \bar{x} =15.6; s.d.=39.41 age: n=53; \bar{x} =44.7; s.d.=11.69 male: n=37; 44.6% previous visits: n=52; \bar{x} =15.6; s.d.=39.41

Table 2. Visitor benefits resulting from Jirisan National Park.

STRUCTURE		
Timing	self-guided	ecoguide-led
pre-trip	motives (expectation): n=32; \bar{x} =3.59; s.d.=0.659 attitude: n=28; \bar{x} =3.89; s.d.=0.477 knowledge: n=32; \bar{x} =1.06; s.d.=0.928 motives (expectation): n=32; \bar{x} =3.59; s.d.=0.659 attitude: n=28; \bar{x} =3.89; s.d.=0.477 knowledge: n=32; \bar{x} =1.06; s.d.=0.928	motives (expectation): n=75; \bar{x} =3.79; s.d.=0.511 attitude: n=72; \bar{x} =3.88; s.d.=0.470 knowledge: n=75; \bar{x} =1.50; s.d.=1.313 motives (expectation): n=75; \bar{x} =3.79; s.d.=0.511 attitude: n=72; \bar{x} =3.88; s.d.=0.470 knowledge: n=75; \bar{x} =1.50; s.d.=1.313
	motives (expectation): n=30; \bar{x} =3.89; s.d.=0.788 attitude: n=30; \bar{x} =4.11; s.d.=0.425 knowledge: n=30; \bar{x} =1.22; s.d.=1.061 motives (expectation): n=30; \bar{x} =3.89; s.d.=0.788 attitude: n=30; \bar{x} =4.11; s.d.=0.425 knowledge: n=30; \bar{x} =1.22; s.d.=1.061	motives (expectation): n=90; \bar{x} =4.28; s.d.=0.462 attitude: n=89; \bar{x} =4.07; s.d.=0.451 knowledge: n=90; \bar{x} =4.18; s.d.=0.897 motives (expectation): n=90; \bar{x} =4.28; s.d.=0.462 attitude: n=89; \bar{x} =4.07; s.d.=0.451 knowledge: n=90; \bar{x} =4.18; s.d.=0.897

Table 3. Agency benefits resulting from field trips to VC and SRC at Jirisan National Park.

STRUCTURE		
Timing	self-guided	ecoguide-led
pre-trip	fee policies (expectation): n=28; \bar{x} =3.57; s.d.=0.495	fee policies (expectation): n=56; \bar{x} =3.60; s.d.=0.576
	ecoguide (expectation): n=61; \bar{x} =4.32; s.d.=0.049	fee policies (expectation): n=56; \bar{x} =3.60; s.d.=0.576
post-trip	ecoguide (expectation): n=61; \bar{x} =4.32; s.d.=0.049	ecoguide (expectation): n=61; \bar{x} =4.32; s.d.=0.049
	fee policies (expectation): n=27; \bar{x} =3.32; s.d.=0.701	fee policies (expectation): n=70; \bar{x} =3.80; s.d.=0.519
	ecoguide (expectation): n=27; \bar{x} =3.32; s.d.=0.701	ecoguide (expectation): n=76; \bar{x} =4.59; s.d.=0.599
		fee policies (expectation): n=70; \bar{x} =3.80; s.d.=0.519
		ecoguide (expectation): n=76; \bar{x} =4.59; s.d.=0.599

Keuls (SNK) procedure revealed that C1 \bar{x} (=3.59) was not significantly different from C2 (\bar{x} =3.79). In order words, participants had similar expectations about the sites visiting, despite paying different amounts for their trips. Treatment 1 (\bar{x} =3.89) was significantly different from C1 and T2 (\bar{x} =4.28) was significantly different from C1 and T1. This means two effects were produced, one by the self-guided trip and another by the ecoguide-led trip.

3. Attitudes : Participants' attitude scores were compared to determine if the main effects were significantly different from each other. Two-way ANOVA showed that "timing" was nonsignificant ($F=0.433$; 1,218 df; $p=0.502$), but "structure" was statistically significant ($F=6.500$; 1,211 df; $p=0.012$). In other words, visitors had similar attitudes about Visitor Center (VC) and Species Restoration Center (SRC) before and after trips ($\bar{x}=3.89$ and $\bar{x}=4.11$, respectively). (See Table 2)

4. Knowledge : Participants' knowledge of the Visitor Center (VC) and Species Restoration Center (SRC) environment was significantly related to trip "timing" ($F=64.667$; 1,225 df; $p<0.001$) and "structure" ($F=124.883$; 1,321 df; $p<0.001$). Knowledge scores about Visitor Center (VC) and Species Restoration Center (SRC) should increase as a result of attending the interpretive program, but not for self-guided visitors because they were not exposed to any information. To test this assumption, one-way ANOVA was used to determine if the ecoguide had a significant effect beyond any possible influences of the trip. In other words, all cells were compared simultaneously. The effect was significant ($F=122.63$; 3,231 df; $p<0.001$). The SNK procedure revealed that C1 ($\bar{x}=1.06$) was no different from T1 ($\bar{x}=1.22$), but T2 ($\bar{x}=4.18$) was significantly different from both C1 and T1. This fact indicates that self-guided visiting produced an insignificant amount of learning, but the ecoguide had a profound effect on visitors' knowledge scores. Please see Table 2.

5. User Fees for Field Trip : In this study, program participants were asked about field trip operation agencies' fee policies for field trip and composite score was

used for testing purposes. Two-way ANOVA showed no significant differences due to the "timing" effect ($F=0.599$; 1, 209 df; $p=0.503$). The "structure" effect was significant ($F=10.19$; 1,189 df; $p<0.003$), meaning that the trips were different from each other on this issue. Therefore, participants in the ecoguide-led trips were more supportive of an agency's fee policies than self-guided visitors. (Table 3).

6. Perceptions of the Ecoguide : Self-guided participants were excluded from this analysis because they had no contact with the ecoguide. In this study, visitors in C2 and T2 were asked about the ecoguide who conducted their programs. There was a significant difference between the control and treatment groups ($F=8.42$; 1,080 df; $p=0.0021$). This means that perceptions of the ecoguide improved as a result of familiarity ($\bar{x}=4.32$ to $\bar{x}=4.59$, respectively). See Table 3.

Discussion and Conclusion

This study indicated that VC and SRC interpretive programs were highly successful, as evidenced by numerous benefits derived from this activity. Participants in ecoguide-led trips scored higher on most dependent variables when compared with those in control groups. Agency benefits included perceptions of the ecoguides and beliefs about user fee policies for field trip. Visitor outcomes were defined as motives, attitudes, and knowledge. By offering this program, the Jirisan National Park is helping visitors achieve greater satisfaction and generate some revenue in the process. However, these findings are suggestive, and generalizations should be made with caution. Whenever possible, field experiments should be used to test the effectiveness of interpretive programs. If outcomes are measured, then a stronger justification for interpretation can be made to administrators.

There are some limitations present. First, the field experiment did not allow for pre-and post-testing, therefore changes in dependent variables are implied, but not measured. Second, the demographic composition varied

somewhat between treatment and control groups. This difference was most apparent in C1. In general, self-guided visitors were younger and exhibited more regional diversity. It is possible these (and other) variables affected the outcomes. Lastly, other limitation is the inability to separate respondents who paid money for field trips as opposed to those who did not. It is likely that one person paid for another field trip in the same family members for example, two brothers paid each different program. Those taking "free" field trips might answer some questions differently than paying participants at that times.

1. Motivations : As noticed, the largest effect was produced by the ecoguide after the field trip was completed (T2). These findings underscore the importance of active involvement and personal service during interpretive programs at the sites. In this study, visitors in C2 had higher expectations than those in C1, but the difference was not significant. Even though this result is inconsistent with Social Exchange Theory (SET) predictions, it could be a pleasant surprise for resource managers/interpreters who fear that price alone will increase visitors' expectations. The trip made a positive impact on VC and SRC visitors, with or without a ecoguide. The motive or benefit scores of ecoguide-led trips were significantly higher than what self-guided visitors answered.

2. Attitudes : As mentioned earlier, attitude scores were compared to determine whether the main effects were significantly different from each other. From the Korea National Park Service and Office of Korea Forest's perspective, attitudinal change is a desirable outcome of interpretive programs since persuasive communication is often used by natural resource managers. In this study, the ecoguide had a positive effect on visitors' attitudes as revealed in the control. The scores were $\bar{x}=3.88$ and $\bar{x}=3.84$, respectively.

3. Knowledge levels : The most knowledgeable visitors (C2 and T2) wanted additional information about VC and SRC and were willing to pay against its control group. Self-directed visitors made no appreciable gains in knowledge, but both the ecoguide-led group improved their scores significantly. Both of these results were consistent with SET. This result was understandable since visitors paying 30,000won for the trip probably knew more about the sites than the self-directed visitors to the site.

4. User Fees for Field Trip : User fees for field trip is very interesting subject in this study. Because many sites generate revenue from program and activity fees, it is important to measure public response to fiscal policies. Visitors in ecoguide-led trips yielded more positive responses than self-guided visitors. The results suggest that the mere presence of a ecoguide can make positive

impact on visitors' beliefs about fee policies. This result has some important managerial implications.

5. Perceptions of the Ecoguide : This study also asked about the visitors on C1 and T2 were asked about expectations of and satisfaction with the ecoguide conducting their interpretive programs. Expectations of the ecoguide were high ($\bar{x}=4.32$), but impressions became even more favorable after a two-hour exposure during the trip ($\bar{x}=4.59$). The average expectation score in C2 was only 0.54 points away from the maximum value (five points). In general, scores in this range do not increase because of a "low ceiling" effect, but not in this case. Based on these results, participants seemed to be well pleased with the ecoguide. This result could be an indicator of satisfaction with the KNPS since the ecoguide was wearing the KNPS uniform during the presentations at the sites. Especially, visitors acknowledge and realized the ecoguide has a lot of knowledge to guide them at the sites and they heavily rely on the uniformed ecoguide at the trip.

In general, we assume that most people want to balance the cost and benefit ratio. If the benefits obtained are less than expected, then dissatisfaction usually occur. A positive correlation between price and expectations does not necessarily indicate a cause and effect relationship between these two variables. In this study, SET provide a useful explanation for many of the results. Visitors paying higher fees for trips received the most benefits.

The VC and SRC at Jirisan National Park will continue to offer those programs, but price will likely determine who participates in the trips. If the profit margin is most important, then fees could remain at the same level. The ecoguide-led field-trip was popular and visitors reported high levels of satisfaction with this activity. However, this type of trip attracted older adults, mostly retirees. If these visitors are not repeat customers, then trip profits may be short-lived once the market has been saturated. Few families participated in the ecoguide-led trips, probably because of higher costs that means they come themselves without paying any cost. In order to encourage more family-oriented participation and friend-oriented by children, a price reduction is probably needed by school groups, NGOs, and other environmental/ecological groups. Different outcomes will be produced, depending upon which target market VC and SRC at Jirisan National Park wishes to pursue for future.

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