Participants' Preferences for Interpretive Programs and Social Interactions at a Japanese Natural Park

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ABSTRACT

A case study at Okutama-Kohan Park in Japan was designed to explore adult participants' preferences for interpretive programs. The study included adults who participated in an interpreter-led program in the park. A questionnaire survey with 492 participants examined their preferences for interpretive program types, topics, timing, and types of social interaction during a program. The associations between participants' preferences and their age, gender, or group composition were also explored. Designing programs that are consistent with these preferences should help to enhance free-choice adult learning environments.

Many authors have discussed the importance of understanding audiences when designing interpretive programs (Brochu & Merriman, 2002; Jacobson, 1999; Knudson, Cable, & Beck, 1995; Lewis, 1980). Interpreters must know audiences' chief interests so that they will be able to determine how to stimulate them in a manner that will capture and maintain their interests (Beck & Cable, 1998). Brochu and Merriman believed that market-driven programs, which are crafted based on the audience's true interests, may be able to help interpreters connect more completely with audiences. Brochu (2003) asserted that when a program relates to the audience's desires and results in satisfying them, it becomes relatively successful in the form of constituency support, resource protection, higher revenue, or lowered maintenance. In designing programs, it must be remembered that interpretive audiences are non-captive and require a unique communication approach (Ham, 1992). Non-captive audiences typically participate in free-choice learning, which is self-directed, voluntary, and guided by an individual's needs and interests (Falk & Dierking, 2000). Programs that trigger audiences' interests and preferences may be able to engage non-captive audiences at a higher level. For example, in a study about participants who attended guided interpretation in Taiwan National Parks, Chen, Hwang, and Lee (2006) investigated five clusters of visitors based on the participants' characteristics and suggested different designs of personal interpretation to target each of those five clusters.

Despite arguments for the importance of audience research, few studies have been conducted with regard to audiences' desires for interpretation (Poria, Reichel, & Biran, 2006). Particularly at Japanese natural parks in which interpretation has gained visitors' attention, scant research, to date, has reported participants' desires and interests. Given that a large percentage of the participants are adults who make decisions on program participation, designing a program with a market-driven approach requires the knowledge of adult participants' desires and interests. This study attempted to investigate characteristics of Japanese adult participants in terms of their desires for and interests in interpretation in order to obtain baseline information that will inform the design of future programs.

Interpretation at Natural Parks in Japan

Over the last 30 years, the practice of interpretation has expanded at natural parks, wildfowl reservations, science centers, museums, and other educational leisure settings in Japan. Natural parks, including national parks, quasi-national parks, and prefectural natural parks are one of the leading settings for interpretation, and the Ministry of the Environment began appointing nature instructors in the parks in 1974 (Office of Communication with Nature, 2008). In responding to the government's introduction of nature instructors in natural parks, non-governmental organizations (NGOs) also started to offer nature instruction or guiding in the parks, and these NGOs have been a driving force to advance interpretation in Japan (Hiramatsu & Horie, 2009; Hiwasaki, 2006; Nishimura, 2006). Fujita (2004) pointed out that the expansion of visitor centers in 1995 contributed to the growth of interpretive guided walks in natural parks.

In accordance with the expansion of interpretation in Japan, increased attention has been paid to experiencing, advocating, and studying interpretation. A range of interpreter-led and non-interpreter-led programs and services are currently made available in natural parks in Japan, and studies have reported the progress of interpretation in the parks (Takahashi & Hirota, 2006; Yui, Katsunori, & Kiso, 1996). A survey conducted by the Ministry of the Environment (2009) revealed that 36% of the randomly selected public respondents wanted more information on interpretive programs in national parks. The Ministry of the Environment (2004) viewed interpretation as an avenue of conservation management and public nature experience in natural parks.

Some researchers have discussed the impacts of interpretation on visitors' experiences in Japan. For example, Matsushima (2007) examined the effects of interpretation on visitors' awareness of environmental problems at the public beach in Ishikari and found that visitors who received interpretation regarding the conservation of the beach were more aware of the problem caused by visitors' depreciative behaviors. He recommended the use of interpretation as a management tool of beach resorts. Contrary to this positive impact, with a survey at Yakushima Island in a natural park, Baba and Morimoto (2006) observed that visitors had failed to understand the basic information about the site, safety information on the site, and awareness of the overuse of the site even if an ecotour guide accompanied the visitors. The authors argued the lower understanding and awareness may have been due to the guides' lack of skills in interpretation. The quality of interpreters' skills is one issue that needs to be enhanced in natural parks (Hiwasaki, 2006). In another study, Ichiba, Anrui, and Furuya (2008) investigated participants' satisfaction with guided tours among different tour group

sizes in Oze National Park. They found that participants in a guided tour with a small number of participants, such as five, were more likely to give higher scores in the areas of content, enjoyment, interpreter, and walking speed than those in a tour with a larger number of participants, such as 20. Their study showed the influence of the physical environment and participants' demography on visitors' experiences. Furthermore, Iwaya, Kanaoka, Ichimura, Shimada, and Kurosawa (2008) investigated participants' assessments of interpretive programs in Kiso Sansen National Government Park in association with their past program experiences. It was observed that repeat participants were more satisfied with the programs than first time participants. The diversity of programs did not influence the satisfaction level of the repeat participants but did positively influence the satisfaction level of the first-time participants. In a two-day survey conducted by Yamamoto and Hongo (2006) at a natural park on Mt. Fuji, visitors' demography, such as age, group size, and past visits, was assessed, together with their perceptions of the need for guides on site. The survey findings showed that visitors over 60 years old were more likely to perceive the need for guides. Visitors in a group with three or more members perceived the need for guides whereas visitors in a group of two people stated no need. Further, repeat visitors perceived a need for guides while first time visitors did not. This may indicate that past park visits influence visitors' information search behavior, which may result in visitors' engagement in different activities or interaction with guides. The influence of participants' demographic backgrounds on interpretive experiences can be further investigated.

Although some research has examined participants' traits at interpretive settings in Japanese natural parks, little work has been done to understand participants' desires or interests regarding interpretation. Visitors pay attention when they are interested and allocate their limited time and attention to experiences that will satisfy their curiosity. To design market-driven programs and enable interpreters to connect participants with parks more completely, information about participants' desires and interests needs to be obtained. Research is needed to explore these topics.

Free-Choice Learning for Adults

As the goal of interpretation is to communicate a message to participants, adult participants hopefully become free-choice learners. According to a contextual model of learning suggested by Falk and Dierking (2000), personal, sociocultural, and physical contexts influence individuals' free-choice learning. Adult learning theories illustrate some similar contexts that facilitate adult learning.

It is assumed that free-choice learning is facilitated when people are personally motivated to learn and when they feel in control of their learning (Dierking & Falk, 2003). Motivation can emerge when people informally pursue their intrinsic interests (Hein & Alexander, 1998), and intrinsic motivation plays a central role in informal learning (Loomis, 1996). From adult learning theories' perspectives, adult learners are intrinsically motivated to learn and ready to learn what will need to be known in order to cope with their real-life situations (Knowles, 1989). They are generally self-directed, independent, want to control their learning, and ideally take the primary initiative for their learning (Brockett & Hiemstra, 1991).

Free-choice learning is also facilitated by within-group sociocultural mediation. Through social interaction, people interpret information, reinforce shared beliefs, and gain meanings. Social interaction enables adult learners to see things from different

perspectives and construct and acquire knowledge (Brookfield, 1986; Tweedell, 2000). Mezirow (1997) argued that discourse is necessary for adult learners to transform their frames of reference so that they will be able to understand the experience more fully. He further suggested that a facilitator or provocateur of learning can play a critically reflective role because adult learners are willing to listen to and share common or different viewpoints and make judgments to guide actions. Other individuals who are perceived to be knowledgeable by learners, such as an interpreter or curator, can mediate social learning (Falk & Dierking, 2000).

Physical context, such as advanced organizers and orientation, design, and reinforcing events, influences the decision-making process on how and where to engage in learning. Being oriented to a place can enhance the learning of individuals because they may feel secure and comfortable, which will allow them to focus on what they see and experience. Appropriate media also allow the participants to seek the level of engagement and understanding appropriate for them. Assisting the individual in being oriented can help to establish a sense of control (Loomis, 1996), which is a vital component of adult learning. Adult learners need to know why they need to learn before learning (Knowles, 1989) and typically desire an environment that is driven by learner-directed planning (Robinson, 1994).

Interpreters should consider these traits of adult free-choice learners in designing programs to encourage adults' involvement. Adult free-choice learners are generally self-directed in their desires for or interests in a learning activity. Moscardo (1996) and Rounds (2004) highlighted the importance of visitors' interests for free-choice learning experiences. Falk and Adelman (2003) demonstrated the influence of visitors' interests on their knowledge gain at a U.S. museum, and Pearce and Moscardo (2007) reported visitors' diverse interests in an Australian national park. Scant research, however, has investigated interpretive audiences' interests in Japan. In addition, studies have highlighted the importance of social interaction for free-choice learning experiences (Patterson, 2007; Sanford, Knutson, & Crowley, 2007). Packer and Ballantyne (2005) further argued that both solitary experience and social interaction are valuable for museum learning experiences and suggested that having access to a social context that matches the learners' preferred approach facilitates visitor learning. There is little doubt that visitors' preferred approach regarding social interaction is a vital aspect of their free-choice learning experiences. However, little research has reported Japanese visitors' preferred approach to social interaction. A lack of this information hinders taking a market-driven approach, particularly in Japan. Research is needed to explore these topics.

The present study was guided by three primary questions: (a) What preferences do adult participants have regarding interpretive programs? (b) How do adult participants prefer to interact with people during an interpretive program? and (c) How do these preferences vary in association with participants' demographic characteristics?

METHOD

Research Site

This study was conducted in Okutama-Kohan Park in Japan. The park is one of the Tokyo Metropolitan Natural Park Facilities and is located in Chichibu-Tama-Kai

National Park. Because the Tokyo government owns the land inside the national park and has set aside a metropolitan natural park facility there, these two types of parks exist on the same land. The park is surrounded by mountains and is next to the Okutama Lake, which is an important water source for people living in Tokyo. Unlike typical Japanese national parks that have no entrance gates, a gate to the Okutama-Kohan Park is open daily from 9:00 a.m. to 5:00 p.m. during which time the visitor center is also open. Visitors can stay overnight at a camp site in the park after the gate is closed. Approximately 20,000 people visit the park per year. Although there are no official visitor statistics, it is considered that most visitors are from Japan.

The park is typical among Japanese natural parks in terms of interpretation. Interpreter-led programs, such as guided walks, talks, slideshows, and craft programs, are generally offered during the time the visitor center is open. On weekdays because of the low visitation, the programs are offered upon request by park visitors rather than at fixed times. On weekends and during the high season (i.e., July and August) guided walks are offered four times a day, and other interpreter-led programs are regularly available. The guided walks are conducted in two different lengths; one hour in the morning and half an hour in the afternoon. The talks last half an hour. The 15-minute slideshows present photographs of the park and are usually personally interpreted. The craft programs give participants an opportunity to create a small artifact within half an hour, such as a stone painting or paper craft. The visitor center offers information about the park with a variety of brochures as well as hands-on exhibits. Personal interpretation of the exhibits by an interpreter is one of the services offered. Interpretive signages are installed in the visitor center, and a few outdoor panels are placed in the park.

Procedures

A case study design (Yin, 2003) was used to investigate visitors' range of interests and preferred types of social interaction. The data sources and methods used in the research included semi-structured visitor interviews, structured observations of programs, secondary data (brochures and websites), and self-completed visitor questionnaires, all of which were triangulated to overcome possible biases caused by the sole data collection and sole researcher.

Interviews were conducted with 30 adults who participated in an interpreter-led program in order to identify a range of interests and desires regarding interpretation and preferred types of interaction during a program. The interview participants were selected based on pre-determined criteria to ensure equal distribution of both genders and age ranges. Age ranges were divided into four groups: 18 to 25, 26 to 39, 40 to 59, and 60 or older. Each interview lasted from 20 to 40 minutes, and interviews were discontinued when no new information emerged from the participants. The interview findings revealed a range of interests and desires regarding interpretation and various types of interaction. They also helped in creating a list of behaviors that indicate social interaction. With the list, 10 different programs, including guided walks, talks, slideshows, craft projects, and visitor center exhibits, were observed by an undisclosed researcher to check if and what social interaction occurred. The observations mainly confirmed that the interviews covered the range of types of social interaction that happened during a program. The interviews and observations resulted

in the initial development of a questionnaire. The questionnaire was then reviewed by two researchers to verify the content and construct validity and by six park interpreters to determine the appropriate vocabulary for the typical visitor. It was also pre-tested with program participants on five separate occasions to identify any ambiguity in the instructions or wording. Changes were made according to their feedback.

The instrument comprised six rating scale items, eight multiple-response questions, and a section of demographic data about the respondents. The rating scale items were included to examine visitors' perceptions of the importance of program components, such as topic, type, time, and length. The multiple-response questions were designed to discover visitors' general preferences for interpretive programs and allowed the respondents to select multiple answers. The demographic data included gender, age categories, group compositions, and past park visit history.

The self-reported questionnaire was hand-delivered to adult participants in all of the interpreter-led programs (i.e., slideshows, talks, and guided walks) between September and November in 2006. The sampling took place over 10 consecutive weekends and holidays, 23 days total, on which the park had high visitation and therefore could offer the programs. Individuals who were at least 18 years of age and participated in any of the interpreter-led programs were involved in the survey. Every single adult participant in all interpreter-led programs was approached ($n = 559$). Individuals who had already completed the questionnaire were not included again in subsequent visits. Overall, 535 individuals agreed (a 96% acceptance rate), and 492 completed questionnaires were personally collected by a researcher (a 92% return rate).

Descriptive statistical analysis was used to summarize visitors' demographic profiles and a range of their preferences. Chi-square tests were performed to detect associations between their demographic characteristics and preferences.

RESULTS

Visitor Profiles

Participants varied in age, group compositions, and gender (see Table 1). The largest number of participants fell between 26 to 39 years old (46%), followed by those between 40 and 59 (39%). Fewer participants were under 25 or over 60 years old. Over 70% of the participants visited the park with children under age 18, and 20% of them visited the park in a group of adult friends. Only 7% of the participants came to the park in a family group without children. The genders of the participants were split evenly. In addition, the majority of the participants in the 26–39 (82%) and

Table 1. *Demographic profile of respondents*

Age	(%)	Group composition	(%)	Gender	%
18–25	5.7	Family with children ≤ 18	60.1	Male	50.2
26–39	46.1	Adult friends	20.2	Female	43.7
40–59	39.1	Group with children ≤ 18	11.4	No mention	6.0
60≤	9.1	Family without children	7.4		
No mention	4.5	Alone	0.8		
		No mention	1.7		

40–59 age group (75%) visited the park with children, whereas less than 27% of those under 25 or over 60 years old did so. More men (75%) visited the park with children than women (67%).

Preferences for Interpretive Programs

Participants were asked to identify specific preferred characteristics of an interpretive program in which they would like to participate. Specifically, they were asked what types of programs they would like to experience, what topics they would like to explore, and when and how long they would like to participate in a guided walk (see Table 2). Associations between these preferences and the participants' demographic characteristics are shown in Tables 3, 4, and 5.

The largest number of respondents indicated that they liked interpretation of visitor center exhibits by an interpreter (80%). This was followed by craft programs by an interpreter (43%), talks (27%), slideshows by an interpreter (25%), guided walks

Table 2. *Preferences for interpretive programs by demographic characteristics*

	%	Age $\chi^2(df = 3, N = 472)$	Group composition $\chi^2(df = 3, N = 481)$	Gender $\chi^2(df = 1, N = 462)$
Program type	(*n* = 487)			
Interpretation of exhibits by an interpreter	80.3%	2.472	5.088	3.144
Craft programs by an interpreter	43.1%	24.534***	64.120***	16.280***
Talks by an interpreter	27.1%	2.164	6.257	2.558
Slideshows by an interpreter	25.1%	15.932***	4.817	1.977
Guided walks by an interpreter	23.4%	1.599	6.740	.002
Exhibits without an interpreter	22.6%	1.265	3.658	.814
Self-guided trails	5.7%	3.468	1.889	1.040
Slideshows without an interpreter	3.1%	7.183	1.425	.266
Program topic	(*n* = 491)			
Plants, animals, birds, and insects	90.2%	2.134	13.537**	4.930*
Stars	65.0%	25.431***	9.486*	14.674***
Culture and history	38.5%	5.595	6.227	.001
Lake and dam	32.6%	1.411	5.212	.904
Other	1.0%	3.075	1.271	.363
Time (*n* = 491)				
Morning (8:00 a.m. to 12:00 p.m.)	55.0%	1.816	4.447	1.381
Afternoon (12:00 p.m. to 6:00 p.m.)	46.8%	6.337	3.504	2.146
Night (6:00 p.m. to 9:00 p.m.)	46.4%	15.588***	7.007	10.170***
Early morning (6:00 a.m. to 8:00 a.m.)	31.6%	3.107	2.588	8.326**
Midnight (9:00 p.m. to 6:00 a.m.)	14.7%	16.500***	14.781**	.29
Length of time	(*n* = 492)			
One hour	71.5%	1.557	3.068	1.012
30 minutes	42.7%	13.033**	10.773*	2.097
Two hours	16.7%	6.005	2.938	1.074
Half of a day	6.3%	4.854	7.039	.000
15 minutes	6.1%	2.442	3.213	.387
Three hours	5.9%	3.121	.734	.002

Note. Percents do not total to 100 since participants could give multiple responses.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 3. *Preferences for interpretive program by audiences' age*

	18–25	26–39	40–59	60+	χ^2 (*p*)
Program types					
Craft programs by an interpreter	25.9%	52.5%	37.5%	18.2%	<.001
Slideshows by an interpreter	48.1%	18.4%	26.0%	36.4%	<.001
Program topic					
Stars	77.7%	69.1%	67.3%	31.8%	<.001
Time					
Night	44.4%	47.9%	50.5%	18.2%	<.001
Midnight	40.7%	12.4%	15.2%	9.1%	<.001
Length					
30 minutes	48.1%	48.8%	40.2%	20.5%	<.01
Interaction type during a guided walk					
Talking with an interpreter	63.0%	76.5%	78.8%	61.4%	<.05

Table 4. *Preferences for interpretive program by audiences' group composition*

	Family with children	Family without children	Group with children	Adult friends	χ^2 (*p*)
Program type					
Craft programs by an interpreter	52.6%	13.9%	63.6%	15.2%	<.001
Program topic					
Plants, animals, birds, and insects	88.9%	91.2%	90.2%	84.1%	<.01
Stars	77.7%	69.1%	67.3%	31.8%	<.05
Time					
Midnight	88.7%	83.3%	90.9%	73.7%	<.01
Length					
30 minutes	47.1%	27.8%	43.6%	31.3%	<.05
Interaction type during a guided walk					
Working with group members	65.6%	55.6%	72.7%	49.5%	<.05
Experience alone	17.2%	27.8%	3.6%	17.2%	<.05

Table 5. *Preferences for interpretive program by audiences' gender*

	Male	Female	χ^2 (*p*)
Program type			
Craft programs by an interpreter	52.6%	34.0%	<.001
Program topic			
Plants, animals, birds, and insects	93.1%	87.0%	<.05
Stars	73.3%	56.3%	<.001
Time			
Night	53.4%	38.6%	<.001
Early morning	37.7%	25.1%	<.01
Interaction type during a guided walk			
Working with group members	68.4%	55.8%	<.01
Talking with inter-group members	22.3%	14.4%	<.05

(23%), and exhibits without an interpreter (22%). The preferences for program types varied according to demographic characteristics. Although 53% of families with children and 63% of other groups with children liked the craft programs, only 15% of adult friends and 14% of families without children said they liked this program type. Although more than half of the participants in the 26–39 age category showed interest in craft programs, less than 38% of those in other age categories did so. More men (53%) showed interests in craft programs than women (34%).

The participants were asked about topics they would like to explore in the programs. "Plants, animals, birds, and insects" were most frequently indicated (90%), followed by "stars" (65%), "culture and history" (39%), and "lake and dam" (33%). Stars were of particular interest to younger participants and to men.

With regard to the timing of guided walks, the most popular time slot was the morning, followed by afternoon and night. Early morning and late night were least popular. Preferences regarding the timing of guided walks varied significantly by age group, for the night (unpopular for over 60s) and midnight (unpopular for over 25s) time slots. More men (53%) showed an interest in night walks than women (38%). The most frequently reported length of a guided walk that the participants liked to attend was one hour (72%), followed by half an hour (43%).

Preference for Social Interactions

Participants were asked how they wanted to be involved when they were participating in a guided walk or while experiencing the visitor center exhibits (see Table 6). The greatest percentage of participants reported that they liked talking with an interpreter during a guided walk (75%) and while experiencing the exhibits (60%). The second greatest percent preferred working on an activity with their group members

Table 6. *Preferred types of interactions by demographic characteristics*

	%	Age $\chi^2(df = 3,$ $N = 472)$	Group composition $\chi^2(df = 3,$ $N = 481)$	Gender $\chi^2(df = 1,$ $N = 462)$
Guided walk	(n = 487)			
Talking with an interpreter	75.4%	8.165*	6.898	.696
Working with group members	62.8%	4.025	11.541**	7.799**
Talking with group members	20.3%	2.825	6.892	.89
Talking with inter-group members	18.9%	4.002	6.489	4.674*
Being questioned by an interpreter	18.7%	6.484	3.220	.55
Talking with an interpreter after a program	17.2%	3.459	1.051	.863
Experience alone	16.8%	1.508	10.095*	2.784
Visitor center exhibits	(n = 487)			
Talking with an interpreter	60.2%	.613	.363	1.885
Working with group members	47.8%	2.274	5.579	3.282
Viewing alone	47.2%	4.234	2.330	.575
Talking with group members	27.7%	6.205	3.511	.233
Being questioned by an interpreter	11.1%	1.401	2.300	.059
Talking with inter-group members	10.7%	3.479	2.213	.142

Note. Percents do not total to 100 since participants could give multiple responses.

*$p \leq .05$. **$p \leq .01$.

during a guided walk (63%) and at the exhibits (48%). Although close to 50% of the participants showed their preference for viewing the exhibits alone, only 17% liked experiencing a guided walk alone. Fewer participants liked being questioned by an interpreter or talking with inter-group members during a guided walk or at the exhibits.

The results also revealed differences in the participants' preferences for social interaction in terms of their different group compositions and genders (see Tables 4 and 5). A large portion of the individuals in families with children (66%) and other groups with children (73%) showed a desire to work on an activity with group members during a guided walk, as compared to the desires of families without children (56%) and adult friends (50%). Also, more men (68%) showed their preference for working with their group members than women (56%). Age group was also significantly associated with preference for talking with an interpreter during a guided walk (preferred by those in the 40–59 and 26–39 age groups). On the other hand, no association was observed between demographic characteristics and participants' preferences regarding interaction at the visitor center exhibits.

DISCUSSION

The findings revealed participants' preferences for a variety of program types, topics, and timing as well as specific types of interaction. The participants showed an overall preference for interpreter-led programs over non-interpreter led programs. In particular, interpretation of the exhibits by an interpreter received the greatest number of responses, which was more than three times as many responses as viewing the exhibits without an interpreter. This was also observed in the interview. This result may challenge an assertion by Vaughn (2004) that less emphasis should be placed on personal services because most visitors do not experience personal interpretive services when visiting parks. The usage ratios of personal interpretive services were reported as low in some parks (Morgan, 2005; National Park Service, 2003). Also, this result contradicts a study in the National Palace Museum in Taiwan by Cheng (2005), which observed that visitors to the museum showed a greater preference for services without an interpreter than for interpreter-led tours. Furthermore, in a two-day survey at a natural park in Japan, Yamamoto and Hongo (2006) also found that more than 80% of visitors sought maps, information boards, and self-guided sheets whereas only 17% of them sought personal guides. It should be noted that in the present study, only individuals who had attended personal programs were chosen to participate. It can be assumed that visitors who experienced personal interpretation were inclined toward interpreter-led programs. Those who have not experienced personal programs may indicate a different preference.

Similarly, when asked about desirable types of interaction, respondents indicated that they liked talking with an interpreter during a guided walk or while viewing the exhibits. Falk and Dierking (2002) argued that a mentor or facilitator can play an important role in a free-choice learning setting because people have a strong desire to learn from other individuals who have more expertise. Making use of expertise is one of the elements in free-choice learning (Martin, 2001).

The importance of interacting with an interpreter has been a subject of some debate in the literature. In a study at multiple national parks in the United States,

Knapp and Benton (2004) found that an interactive approach that involves visitors and produces two-way communication between an interpreter and the visitors was successful. Higham and Carr (2003) examined the experience of visitors to 12 wildlife tourism sites in New Zealand and reported that informally conversing with interpreters was a highlight for the participants. They concluded that interpreters play a critical role in the quality of the visitor experience. Moreover, these conversations may contribute to visitor learning (Mony & Heimlich, 2008). In a study at a zoo in Switzerland, Lindemann-Matthies and Kamera (2006) assessed the influence of an interactive approach on visitors' learning and viewed the opportunity for discourse between interpreters and visitors as the strongest success factor. Other studies have also found a positive influence of interpreters on visitor experiences (Ham & Weiler, 2007; Knapp, 2006; Knapp & Benton, 2005; Morgan, Absher, & Whipple, 2003). Interaction with interpreters can add value to visitors' experience and ought to be emphasized.

While the participants were interested in talking with interpreters, they did not appreciate being questioned by an interpreter. It is conceivable that a didactic approach was inappropriate for recreational settings because interpretive audiences characteristically differ from learners in formal educational settings (Ham, 1992; Loomis, 1996). Another view may be that the participants in this study showed their accustomed classroom learning style, which in Japan conventionally uses a one-way, passive style that leaves few opportunities for learners to express their opinions (Hayashi & Cherry, 2004). This suggestion was confirmed by an observation during one of the night walks in the park. A few participants appeared embarrassed and hesitated to speak when an interpreter asked each participant to respond to her question. They may have felt uncomfortable about speaking in public. Informal question-and-answer style is frequently practiced in the United States and Australia; however, it may need to be used carefully with Japanese audiences. Furthermore, this behavior may lead us to suspect that the respondents' preference for interpreter-led programs over non-interpreter-led programs is because Japanese audiences are more likely to enjoy a passive situation. Behavioral patterns can differ among people with different cultural backgrounds. In a study at two national forests in California, Thapa, Graefe, and Absher (2002) examined visitors' information search behavior and observed that visitors of different ethnicities approached rangers or employees, maps, and guidebooks to different degrees. Particularly, although Whites tended to use all the available information sources, Hispanics were least likely to approach rangers or employees, and other minorities were least inclined to use bulletin boards. It is possible that Japanese visitors share a specific behavioral preference and that they are more likely to prefer personal programs.

Many visitors liked within-group interaction during a guided walk or at the exhibits. Adults accompanied by children especially showed more interest in within-group interaction. Studies by Sanford et al. (2007) and Patterson (2007) also showed that adult members sought interaction with children who accompanied them while visiting a museum. The interaction, however, should occur only within one's group and not occur across groups because few respondents preferred talking with inter-group members particularly at the exhibits. In contrast to a past study (Brockmeyer, Bowman, & Mullins, 1983), respondents in this study did not show a desire for social interaction outside of their groups. This discrepancy may be also explained by

a cross-cultural perspective, people from different cultures having different prefer-ences for social interaction (Pizam & Jeong, 1996; Wallance & Smith, 1997). In a study about British tour-guides' perceptions of tourists of four nationalities, Pizam and Sussmann (1995) observed the greatest differences by nationality in interaction, socialization, and congregation with other tourists. Japanese tourists were perceived to keep to themselves, avoid socializing with other tourists, and stay with their own kind. Japanese people may not be accustomed to interacting with people who are not familiar with them. Attempts to facilitate inter-group interaction are probably not useful for Japanese audiences.

For reasons not entirely clear, the participants' demographic characteristics turned out to be poor indicators of the preferred interaction types particularly at the visitor center exhibits. Other studies have reported that aspects such as participants' group size, past interpretive experiences, and purposes of visits may impact their preferred types of interaction (Iwaya et al., 2008; Yamamoto & Hongo, 2006). Because the findings of this study showed that the majority of the participants liked personal inter-pretation of the exhibits, regardless of their demographic backgrounds, interpretation of the exhibits to various visitors should be emphasized.

The preferences for program types depended on the participants' group compo-sition, similar to other studies that reported the influence of group composition on visitors' media usage (Light, 1995; McManus, 1987; National Park Service, 2003). Participants with children under 18 years old, and participants between 26 and 39 years old, showed a preference for craft programs led by an interpreter. The first result is not surprising because the craft programs primarily targeted groups with children and may have attracted more attention from those who visited the park with children. The second result is probably due to the fact that the majority of the respondents in this age range group was visiting the park with children and, therefore, favored the craft programs. In addition, the reason why more men showed interest in craft programs may be because more men visited the park with children than women. This may indi-cate that group composition impacts decision-making on program participation, and attending a program that targets visitors with children may not be determined solely by adults but by children as well. Future investigations may be needed regarding the decision making process.

A wide variety of topic preferences were shown, as was observed in other studies (Pearce & Moscardo, 2007; Srisomyong, 2000). As most participants indicated that they liked plants, animals, birds, or insects, the majority of the programs and services in the park talked about those topics. On the other hand, very few programs dealt with other topics, despite the respondents' interests in stars, culture/history, and lake/dam information. There was one visitor center exhibit that explained the history and culture of the park area. No exhibit illustrated stars or the lake/dam, and no brochure was available concerning the lake/dam. Particularly, the lake and dam are major features of the park and give the park its name ("Okutama-Kohan" means "Okutama Lakeside"), and therefore, addressing these topics is critically important to enhance visitors' understanding of the value of the park's unique resources and issues relating to them (Ham, 2003).

Because programs that match the participants' desires and needs enhance their engagement, interpreters should design programs that capture a variety of visitors'

interests. For example, in Okutama-Kohan Park, more guided walks at night can talk about stars; interpreters may insert folk tales of the area in their talks; the exhibit about culture and history can be expanded; new brochures should illustrate more diverse topics; and more programs should present stories about the lake and dam. In addition, the variation of these preferences in association with visitors' demographic background may help interpreters to focus on a specific visitor group. For example, a program about stars may specifically target younger visitors, male participants, or visitors with children. When adults over 60 years old desire interpretive experiences on weekdays when programs are offered upon request, one-hour-long guided walks can be arranged in the day time.

This study has some limitations in relation to sampling and measurement issues which need to be considered in interpreting the results. Visitors in the park may not be representative of those at other natural parks in Japan. Visitors who did not participate in interpretive programs were not included in the study and may have had different perspectives. The interview and questionnaire data reflect visitor responses during the study period (July 2005 and September to November 2006, respectively) and may not represent visitors in the park during other times. As there were few individuals who visited the park alone ($n = 4$), this variable was not able to be included in the chi-square analyses. Age category representatives were not evenly distributed, and it may not be appropriate to compare the responses among different categories.

CONCLUSION

The findings of this study revealed adult participants' preferences for a variety of program types, topics, and timing as well as interaction types. Among the diverse preferences, the participants showed particular interests in personal interpretation of the visitor center exhibits, nature-related topics, talking with an interpreter, and within-group interaction. Preferences varied according to the participants' age, group composition, and gender. Because the diversity of the visitors' preferences is greater than interpreters can usually accommodate, resources can be allocated to categories that meaningfully differentiate subgroups of the visitors (Miles & Clarke, 1993; Pekarik, 2007). In addition, the findings indicate that participants were more interested in interpreter-led programs than the programs without an interpreter. The availability of individuals who have expertise is an essential element of free-choice learning (Falk & Dierking, 2002; Martin, 2001). In contrast, facilitating inter-group interaction or asking questions of participants by interpreters may not be a suitable approach for Japanese audiences.

As marketing has increased its role in the ongoing growth of interpretive services, more effort should be placed on acquiring empirically derived information (Atkinson & Mullins, 1998; Falk, Moussouri, & Coulson, 1998). To respond to visitors' voices completely, knowing visitors' characteristics will be of paramount importance. Many aspects still remain unclear regarding visitors' preferences, especially in Japanese natural parks. Further investigations are encouraged.

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