The Motivation and Social Orientation of Visitors Attending a Contemporary Zoological Park

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ABSTRACT: Zoological parks are considered to be the most important source of contact between people and animals in modern society. Charged with the dual responsibility of caring for animals and people, zoos need information regarding both aspects of their mission statement. This article describes zoo visitors in relation to their primary motivation (educational vs. recreational) and social orientation (intrinsic vs. altruistic). These components were isolated and compared using t tests for dependent measures. Educational, recreational, intrinsic, and altruistic reasons were found to be statistically significant, thus yielding multiple satisfactions associated with a zoological park. Contemporary zoos may not recognize the value of conducting social research or the importance of meeting visitors’ needs. However, in order to broaden their base of political and financial support, zoos should attempt to increase public benefits.

Social science research is conducted on a limited basis at most zoological parks, yet two purposes identified by the American Zoo and Aquarium Association (AZA) directly relate to visitors (recreation and education). Information obtained from visitor studies can be very useful for managers to increase
the enjoyment and support of the zoo by patrons. The focus of this article is to
describe zoo visitors in relation to their primary motivation and social
orientation.

Although visitor satisfaction at zoological parks is multifaceted, modern
zoos usually emphasize education more than enjoyment. Perhaps this reac-
tion is from criticism directed at the traditional goals of zoos: aesthetic and
recreational entertainment (Kellert, 1979). Nevertheless, zoos want visitors
to learn something about the taxonomy, life histories, behaviors, or habitats
of animals. In contrast, the public may be more concerned about the quality
of social interaction and simply regard zoos as good places to recreate in a
group setting. For many zoo visitors, education occurs within the context of
recreation but may not serve as a primary reason for visitation. Therefore, the
aims of zoos and the motivations of visitors may be incompatible (White &
Marcellini, 1986).

As a recreational resource, zoos are unsurpassed (Conway, 1969). In fact,
Kellert (1979) regarded zoos as the most important source of contact between
humans and animals in society. Over 100 million people in North America
and almost 600 million recreationists worldwide visit zoos annually (Sun-
quist, 1995). Despite keeping good attendance records, most zoos do not con-
duct studies on participant motives. As a result, zoo managers often make
assumptions about their guests. Many resource management agencies lack
information on expectations and participant motivations of nonconsumptive
wildlife users (Lyons, 1987). Accurate inferences on the motivations that
underlie visitor participation cannot be made by simply observing their
behavior (Shaw, 1987). Although motivation is not the only variable explain-
ing human behavior, it is very important (Crompton, 1979).

Cherfas (1984) surmised that zoos were good locations for taking children,
being close to animals, satisfying our dislike for certain species, and experi-
encing some gentle fright. Kellert (1979) conducted a study on Americans’
attitudes and beliefs toward animals and found that people used zoos to edu-
cate children (36%), recreate with family and friends (26%), satisfy personal
fascinations with animals (25%), and fulfill aesthetic needs over wildlife
(11%). Consistent with Kellert’s findings, Wolf and Tymitz (1981) found that
many zoo visitors “loved” animals, and used these occasions for teaching
their children about nature. In addition, recreational use was important for
some visitors. Based on participant motives, Andereck and Caldwell (1994)
identified four types of visitors at the North Carolina Zoological Park including
an education/recreation group (56.3%), a recreation/oriented group (11.2%),
an educational group (21.0%), and a recreation/photography group (11.5%).

Collectively, these findings indicate that recreational (for pleasure), edu-
cational (for learning), intrinsic (for oneself), and altruistic (for others)
reasons are interrelated for most zoo visitors. Due to the inherent nature of motivation, zoo visitors may experience some difficulty isolating these factors unless asked to do so. This problem is compounded by the way some questions are worded. For example, having visitors respond to the statement, “Today’s trip to the zoo was worthwhile” will result in numerous interpretations. Furthermore, the use of multivariate data analysis procedures can create hybrid factors based on correlations of dissimilar variables. For example, educational, recreational, intrinsic, and altruistic reasons were intermingled in a study of zoo visitors using cluster analysis (Andereck & Caldwell, 1994). Although useful in segmenting the zoo visitor population for marketing purposes, these results do not clearly identify the specific reasons for visitation.

The purpose of this study was to establish an a priori typology of zoo visitor responses rather than rely on a post hoc method of determination. Based on intuition and previous research, zoo visitors were classified according to their primary motivation (educational vs. recreational) and social orientation (intrinsic vs. altruistic). Using this approach, visitors were segmented into four quadrants (see Figure 1).

METHODS

STUDY SITE

Sunset Zoological Park (SZP), located in Manhattan, Kansas, displays a collection of nearly 300 animals (ca. 100 species) on 150 acres. It is one of
several “small market” zoos in the Midwest because it serves a resident population base of approximately 40,000 people. However, the presence of a major university and a nearby military installation affects zoo visitation, not only in terms of quantity, but also diversity of guests. Despite some limitations, SZP has an impressive list of accomplishments, including AZA accreditation, participation in the Species Survival Plan, and formation of a Fauna Interest Group in conjunction with a zoo in Paraguay. The zoo education staff consists of a director, an assistant curator, and docents. Methods of public education include signs and labels, wayside exhibits, an amphitheater for live-animal talks, “touch” tables containing objects/artifacts, guided tours, and off-site programs.

SURVEY DESIGN AND SUBJECTS

Nearly 100,000 people visit SZP on an annual basis. During the summer of 1996, 620 visitors (aged 18 and older) were selected on a systematic random basis for participation in the study. Based on previous visitation records, 30 days were chosen to distribute questionnaires. These interview periods ensured a proportionate number of weekend versus weekday users and alternated between morning and afternoon sessions. On selected days, a research assistant asked every 10th visitor exiting the zoo if they would like to participate in the study. Each visitor received a postage-paid envelope containing a cover letter, questionnaire, pen, and a free zoo pass. The questionnaire featured a clip art design of 3 Snow Leopards (a species on display at SZP). A modified version of the total design method was used throughout the survey research process (Dillman, 1978).

QUESTIONNAIRE DESIGN

Sunset Zoological Park visitors were asked to complete a questionnaire that included a series of motive-based items. The purpose was to determine if their primary reason for visitation was based more on educational interests or recreational pleasure. Additionally, respondents were asked if their social orientation was more inwardly focused (intrinsic) or for the welfare of others (altruistic). A total of 26 motives were asked including intrinsic education (four items), intrinsic recreation (nine items), altruistic education (four items), and altruistic recreation (nine items). To reduce possible confusion, delineations were made between recreation and education. Furthermore, respondents were prompted by phrases such as “for myself” or “to benefit others in my group” to help clarify the intrinsic/altruistic dimension. However, usage of these terms does not imply absolute meaning but instead relies
on relative judgment. Visitors evaluated each item independently on a Likert-type scale, anchored by contrasting adverbs *strongly disagree* to *strongly agree* (coded 1 through 5, respectively). The four subscales were averaged and tested using parametric statistics.

RESULTS

Of the 620 questionnaires distributed to zoo visitors, 447 were returned for a response rate of 72.1%. Assuming a limited response bias, random sampling error, and a reasonable degree of homogeneity in the sample, this response rate was considered adequate because it exceeded the 65% level set by Dolsen and Machlis (1991).

Summer visitors to SZP were characterized in the following manner (see Table 1 for a complete profile). Overall, attendees were familiar with the zoo (approximately two thirds had visited previously, averaging more than 7 visits). Most of the visitors were Kansas residents (83.2%), although 26 states were represented in the study. Nearly half (45.1%) of the respondents made a spontaneous decision to visit the zoo, with the choice being made largely by themselves (42.5%) or their spouses (16.8%). Only 13.6% of the zoo visits were initiated by children. More than three fourths of the visitors were part of a family group: a couple with children (35.1%), a multi-generational family (23.7%), or a single adult with children (18.3%). The average group size was about four people (\( \bar{x} = 4.1 \)), with males slightly underrepresented in the travel parties (\( \bar{x} = 1.8 \)). Typically, visitors spent about 2 hours at the zoo (\( \bar{x} = 113.7 \) minutes). As a source of information on SZP, communication by word-of-mouth (53.9%) was more important to visitors than a brochure/pamphlet (12.3%) or a highway sign/billboard (11.6%). These findings can provide a basis on which to develop an effective marketing and public relations campaign for SZP.

Data analysis consisted of measuring scale reliability and statistically comparing all possible combinations of cells in the typology. The motivation scales were checked for reliability using Cronbach’s alpha, an indicator of internal consistency. In this study, the motivation subscales ranged from 0.73 to 0.86, thereby indicating a high degree of reliability. \( t \) tests for dependent measures were used to test cell means in the typology. See Table 2 for the summary statistics and scale coefficients.

In this sample, the primary motivation of SZP visitors (as measured by educational vs. recreational interests) were significantly different (\( t = 12.42, 1 \text{ df}, p < 0.0001 \)). The social orientation of zoo visitors (intrinsic vs. altruistic)
### TABLE 1
A Visitor Profile of Sunset Zoological Park

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place of origin (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>372</td>
<td>83.2%</td>
</tr>
<tr>
<td>Other (26 states listed)</td>
<td>61</td>
<td>13.6%</td>
</tr>
<tr>
<td>Missing data</td>
<td>14</td>
<td>3.1%</td>
</tr>
<tr>
<td>Repeat visitor (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>134</td>
<td>30.0%</td>
</tr>
<tr>
<td>Yes (n = 416, x = 7.2, SD = 12.8 visits)</td>
<td>308</td>
<td>68.9%</td>
</tr>
<tr>
<td>Missing data</td>
<td>5</td>
<td>1.1%</td>
</tr>
<tr>
<td>Decision to visit (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous</td>
<td>202</td>
<td>45.2%</td>
</tr>
<tr>
<td>Planned</td>
<td>234</td>
<td>52.4%</td>
</tr>
<tr>
<td>Missing data</td>
<td>11</td>
<td>2.5%</td>
</tr>
<tr>
<td>Initiate visit (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myself</td>
<td>190</td>
<td>42.5%</td>
</tr>
<tr>
<td>Spouse</td>
<td>75</td>
<td>16.8%</td>
</tr>
<tr>
<td>Children</td>
<td>61</td>
<td>13.7%</td>
</tr>
<tr>
<td>Other relatives</td>
<td>49</td>
<td>11.0%</td>
</tr>
<tr>
<td>Friends</td>
<td>23</td>
<td>5.2%</td>
</tr>
<tr>
<td>Missing data</td>
<td>49</td>
<td>11.0%</td>
</tr>
<tr>
<td>Travel party description (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couple with children</td>
<td>157</td>
<td>35.1%</td>
</tr>
<tr>
<td>Multi-generational family</td>
<td>106</td>
<td>23.7%</td>
</tr>
<tr>
<td>Single adult with children</td>
<td>82</td>
<td>18.3%</td>
</tr>
<tr>
<td>Couple without children</td>
<td>52</td>
<td>11.6%</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>3.4%</td>
</tr>
<tr>
<td>Two or more unrelated families</td>
<td>13</td>
<td>2.9%</td>
</tr>
<tr>
<td>Group of friends</td>
<td>12</td>
<td>2.7%</td>
</tr>
<tr>
<td>Alone</td>
<td>3</td>
<td>0.7%</td>
</tr>
<tr>
<td>Missing data</td>
<td>7</td>
<td>1.6%</td>
</tr>
<tr>
<td>Travel party size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 441, x = 4.1 overall, SD = 3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 436, x = 1.8 males, SD = 1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 437, x = 2.3 females, SD = 1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time spent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 441, x = 113.7 minutes, SD = 36.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information source (N = 447)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word of mouth</td>
<td>241</td>
<td>53.9%</td>
</tr>
<tr>
<td>Brochure/pamphlet</td>
<td>55</td>
<td>12.3%</td>
</tr>
<tr>
<td>Highway sign/billboard</td>
<td>52</td>
<td>11.6%</td>
</tr>
<tr>
<td>Newspaper ad/article</td>
<td>22</td>
<td>4.9%</td>
</tr>
<tr>
<td>Radio ad/program</td>
<td>21</td>
<td>4.7%</td>
</tr>
<tr>
<td>Magazine ad/story</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>Missing data</td>
<td>55</td>
<td>12.3%</td>
</tr>
</tbody>
</table>
**TABLE 2**

Scale Items and Summary Statistics for Visitors at Sunset Zoological Park

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
</table>

### Intrinsic education (Cell 1)
- To learn about animals in general by myself 420 2.70 1.33
- To learn about a specific animal(s) 426 2.40 1.34
- To learn about endangered species 432 2.78 1.38
- To benefit myself, educationally speaking 428 3.16 1.02
  
  **Scale statistics: Cronbach's alpha = 0.76**

### Altruistic education (Cell 3)
- To allow others to learn about animals in general 432 3.73 1.28
- To allow others to learn about a specific animal(s) 427 3.00 1.48
- To allow others to learn about endangered species 426 3.03 1.45
- To benefit others, educationally speaking 428 3.69 1.28
  
  **Scale statistics: Cronbach's alpha = 0.76**

### Composite education score (E)
  
  **Scale statistics: Cronbach's alpha = 0.86**

### Intrinsic recreation (Cell 2)
- To photograph nature 428 1.59 1.10
- To spend some quality time by myself 399 1.56 1.15
- To get away from my regular routine 430 3.91 1.26
- To be outdoors in nature 432 4.09 1.13
- To have fun, recreate 431 4.69 0.66
- To relax and unwind 432 4.38 0.97
- To do something different in my free time 434 4.18 1.13
- To walk around because it would be good for me 434 3.35 1.37
- To get out and explore a new area by myself 420 2.35 1.46
  
  **Scale statistics: Cronbach's alpha = 0.73**

### Altruistic recreation (Cell 4)
- To allow others in my group to photograph nature 424 1.57 1.10
- To spend some quality time with others in my group 440 4.66 0.79
- To help others break away from their regular routine 429 4.01 1.21
- To allow others in my group to be outdoors in nature 430 4.20 1.07
- To allow others in my group to have fun, recreate 433 4.77 0.56
- To allow others in my group to relax and unwind 432 4.42 0.94
- To show others something different to do in their free time 430 4.20 1.13
- To show others that walking around would be good for them 425 3.13 1.40
- To get others out and help them explore a new area 436 3.36 1.51
  
  **Scale statistics: Cronbach's alpha = 0.73**

### Composite recreation score (R)
  
  **Scale statistics: Cronbach's alpha = 0.84**

### Composite intrinsic score (I)
  
  **Scale statistics: Cronbach's alpha = 0.80**

### Composite altruistic score (A)
  
  **Scale statistics: Cronbach's alpha = 0.80**
was statistically significant as well ($t = 22.38, 1\text{df}, p < 0.0001$). To summarize, the recreational benefits ($x = 3.56$) exceeded the value of education ($x = 3.04$), and promoting the welfare of others ($x = 3.66$) was considered to be more important than a having a self-directed zoo experience ($x = 3.14$).

Further testing of the typology yielded four mutually exclusive visitor segments: Cell 1 (intrinsic education, $x = 2.75$), Cell 2 (intrinsic recreation, $x = 3.33$), Cell 3 (altruistic education, $x = 3.35$), and Cell 4 (altruistic recreation, $x = 3.79$). By statistically comparing these cells, SZP visitors indicated that altruistic recreation was more important than intrinsic recreation (Cell 4 > Cell 2), altruistic recreation was higher than altruistic education (Cell 4 > Cell 3), intrinsic education was lower than intrinsic recreation (Cell 1 < Cell 2), and intrinsic education was not as important as altruistic education (Cell 1 < Cell 3). Of the eight $t$ tests performed, only one failed to show significance. The mean of intrinsic recreation ($x = 3.33$) was statistically equal to that of altruistic education ($x = 3.35$). See Table 3 for more information.

Pearson’s correlations were calculated to confirm the integrity of each cell. Stronger correlations would be expected between cells sharing a common element (e.g., intrinsic education vs. altruistic education) as opposed to those that are totally dissimilar (e.g., intrinsic education vs. altruistic recreation). In other words, Cells 1 versus 3, 2 versus 4, 1 versus 2, and 3 versus 4 should yield higher correlations than Cells 1 versus 4 and 2 versus 3. The correlation coefficients and amount of variance explained were as follows: $r = 0.72$ (51.8%), $r = 0.77$ (59.3%), $r = 0.51$ (26%), $r = 0.50$ (25%), $r = 0.46$ (21.2%), and $r = 0.35$ (12.3%), respectively.

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>Difference Means</th>
<th>t Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>E versus R</td>
<td>372</td>
<td>0.5283</td>
<td>12.4156</td>
<td>0.0001*</td>
</tr>
<tr>
<td>I versus A</td>
<td>372</td>
<td>0.5292</td>
<td>22.3763</td>
<td>0.0001*</td>
</tr>
<tr>
<td>1 versus 2</td>
<td>389</td>
<td>0.6031</td>
<td>13.6230</td>
<td>0.0001*</td>
</tr>
<tr>
<td>1 versus 3</td>
<td>400</td>
<td>0.6025</td>
<td>15.9609</td>
<td>0.0001*</td>
</tr>
<tr>
<td>1 versus 4</td>
<td>393</td>
<td>1.0492</td>
<td>22.2564</td>
<td>0.0001*</td>
</tr>
<tr>
<td>2 versus 3</td>
<td>383</td>
<td>–0.0174</td>
<td>–0.0174</td>
<td>0.3689 ns</td>
</tr>
<tr>
<td>2 versus 4</td>
<td>378</td>
<td>0.4650</td>
<td>19.3135</td>
<td>0.0001*</td>
</tr>
<tr>
<td>3 versus 4</td>
<td>398</td>
<td>0.4448</td>
<td>9.6814</td>
<td>0.0001*</td>
</tr>
</tbody>
</table>

NOTE: ns = Nonsignificant relationship.

*p < .001.
DISCUSSION OF RESULTS

Zoological parks can be grouped according to their physical size and extent of animal collections, larger zoos having more of these attributes and smaller zoos having less. This distinction does not reflect importance, but instead probably serves as an indicator of visitor motives (e.g., larger zoos attract a wider range of visitors). Therefore, attempting to profile the “average” zoo visitor (across all sites) is probably futile. Even if such data were available, the information would be practically useless for marketing individual zoos. Not surprisingly, only one national study of zoo visitors has been reported in the literature (Kellert, 1979). Consequently, there is a need for conducting site-specific research, despite the apparent lack of generalizability.

In addition to this limitation, there is little uniformity among researchers in the type or number of questions asked to zoo visitors. For comparison purposes, many scale items in this study were similar to those asked by Andereck and Caldwell (1994). However, the items were not balanced with respect to education, recreation, intrinsic, and altruistic dimensions. As a result, it was possible for visitors to develop an internal response bias due to the sequencing pattern. These shortcomings should be kept in mind.

Empirical support was found for the typical reasons listed by zoo visitors for attendance: have fun, learn about wildlife, socialize with friends, teach children about animals, and so forth. However, SZP visitors were aligned more with recreation than education. Recreational use of SZP was fairly consistent with the findings of visitor studies at other zoos. Some visitors to the National Zoo in Washington, DC (especially local residents) showed stronger recreational preferences instead of using the zoo mainly for educational purposes (Wolf & Tymitz, 1981). The average score of SZP visitors for recreation was 3.56, similar to a “recreation and novelty” score of 3.98 reported by Andereck and Caldwell (1994). Because zoos are major attractions, normally the largest proportion of visitors are part of family groups (White & Marcellini, 1986). At SZP, 35.1% of the visitors were in a traditional travel party (i.e., couple with children), whereas 38% were in this category at the North Carolina Zoological Park (Andereck & Caldwell, 1994). As a general rule, family outings tend to be more recreationally-oriented, hence the higher rating of altruistic recreation ($x = 3.79$) by SZP visitors.

Despite the higher recreation score, many SZP visitors valued education as an important motive (the mean rating was 3.04). This compares favorably to the education score of 3.38 reported by Andereck and Caldwell (1994). However, SZP visitors were sharply divided over their educational intent.
Most visitors thought learning was important but primarily to benefit others, namely their children. The average score for altruistic education was 3.35 as compared with a mean of 2.75 for intrinsic education (the lowest cell score). Although most visitors probably received some educational benefit at SZP, they may have acquired it through teaching their children and not as a self-directed activity. Altruistic education has been mentioned in other studies of zoo visitors (Andereck & Caldwell, 1994; Kellert, 1979; Wolf & Tymitz, 1981) and should be regarded as an important teaching strategy in informal settings.

**IMPLICATIONS FOR ZOO MANAGEMENT**

The concept of learning at outdoor locations is poorly understood, although it is an important determinant for people when making decisions regarding participation in leisure activities (Roggenbuck, Loomis, & Dagastino, 1990). Education should be considered as one of many leisure benefits but not necessarily the most salient for zoo visitors. Much of the factual information presented at zoos is interesting but not highly relevant. Yet, many visitors believe it is worthwhile, especially for others. This can make evaluation frustrating because most zoo visitors possess limited knowledge about wildlife and therefore show a great potential for improvement (Birney, 1986; Kellert, 1979). Perhaps zoological parks are better suited for fostering generic educational benefits such as environmental awareness and stewardship, rather than learning specific information (Roggenbuck et al., 1990).

As Blakely (1981) stated, zoos cannot coerce people to learn information. Perhaps a market-based approach to zoo education was endorsed, as evidenced by comments like, “tell our visitors what they want to know” and “the information we want to give may not be what they want to receive.” However, meeting the needs of visitors is contingent upon knowing what they are. Resource managers in parks and other outdoor locations need to develop a better understanding of social behavior in order to effectively communicate with their clientele (Field & Wagar, 1973). According to Gunter (1987), recreationists often describe leisure experiences as a multi-dimensional, including (a) a sense of separation, (b) intense pleasure and enjoyment, (c) freedom of choice, (d) spontaneity, (e) timeless, (f) fantasy and creative imagination, (g) adventure and exploration, and (h) self-realization.

Despite any motivational differences between visitors at large or small-market zoos, these principles have widespread application across many informal learning settings. Perhaps the most common (and frequently
abused) method of educating visitors is through the use of signs. Zoo labels should address the most frequently asked animal-related questions in a stimulating format, yet simple enough to understand. This can be accomplished by pictures, a color-coding scheme, and a clearly-worded, concise message about the animal(s) on display. Using this approach should lessen the temptation to include more information than necessary, especially if it contains much scientific nomenclature. Moreover, it equips parents to interpret animal-related information to their children.

Zoological parks should design exhibits that blend recreation with education in order to meet visitors’ needs (Brody, 1981). Participatory zoo exhibits are becoming more common because they often yield multiple benefits including higher usage, increased attention span, interdisciplinary learning, recreational enjoyment, and family togetherness (Brody, 1981; White & Marcellini, 1986). For example, Birney (1988) evaluated a participatory exhibit on bird wing movement and found that 45% of the zoo visitors using the display were able to replicate the pattern as compared with only 4% who did not. The exhibit had great attractive power and was used appropriately by visitors.

Whenever possible, cages should be replaced with natural habitat enclosures to allow for multi-sensory experiences sought by park visitors. For example, Harris (1995) found that visitors remained at a hummingbird aviary an average of 4 minutes. This lengthy stay was attributed to the aesthetic conditions of the display (live plants and animals), educational opportunities (signage and docents), the feeling of enclosure with hummingbirds (encouraging mystery and discovery), and providing for the physical needs of visitors (ample seating in a cool, shaded area). The ideal zoo exhibit, as described by Bitgood, Patterson, and Benefield (1988), contains large, active animals on display in a natural setting (preferably with an infant), which are highly visible to the public. Although it is not possible to replicate these conditions for every exhibit, zoos should be aware of some factors that increase viewing time.

In general, natural habitat enclosures benefit animals and also enhance the public’s appreciation for wildlife conservation (Rhoades & Goldsworthy, 1979). However, maximizing naturalistic conditions of zoos may be detrimental if visitors are unable to see the animals on display (Bitgood et al., 1988; Serrell, 1981). Ironically, elderly persons disliked some of the newly designed animal habitat enclosures at the Audubon Zoological Park in New Orleans, Louisiana (Verderber, Gardner, Islam, & Nakanishi, 1988). The barrier-free construction actually promoted fear and anxiety in the elderly visitors instead of fostering a sense of leisure satisfaction.
Ultimately zoos will be judged by their ability to provide a mutually beneficial relationship between people and animals (Bendiner, 1981). This challenge is problematic because the needs of animals and people differ, yet, both must be addressed in order to successfully manage zoological parks. Despite some harsh criticism, zoos can control their destiny. This is possible through a broad-based effort to understand and increase public benefits of zoological parks including, but not limited to, education.

REFERENCES


