

The Impact of a Zoo Visit on Attitudes: A Preliminary Report on Interaction Effects

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Introduction

If we are to understand the impact of museum and zoo visitation, we must study how visitor variables interact with each other and with the visitation experience. Visitor variables include: age, gender, education, group composition, history of visitation, leisure goals, cognitive strategies, pre-knowledge, attitudes, skills, expectations, and personal agendas. Each of these visitor variables has the potential of interacting with the visitation experience. For example, a study by Bitgood and Bishop (1991) suggests that males experience a museum visit differently than females and first-time visitors responded differently than repeat visitors. Hood (1983) has argued that we must understand the leisure goals of visitors in order to determine what kind of visitation experience they will have. To really understand the informal learning environment, we must determine the relative importance of each of the variables and how they interact with the visitation.

The current report focuses on some of the interactions among variables that can occur when we attempt to measure the impact of a visit. Education, gender, leisure reading and knowledge about the subject matter, and current visit were selected for analysis. The data for this report were taken from a study of attitudes toward animals conducted at the Birmingham Zoo.

Method

A total of 128 visitors to the Birmingham Zoo were given surveys either before they entered ($N = 67$) or as they exited ($N = 61$) the Zoo. Number of males was 48 and females, 80. The surveys obtained information about demographics (age, gender, education, etc), leisure activities (e.g., museum and zoo visitation, conservation-related activities), and rating of self-knowledge about zoo animals. In addition, visitors were asked to rate from "1" to "7" several species of animals on three dimensions: "Species worth saving," "Dangerousness," and "Attractiveness." The current report focuses on the role of educational level, gender, and self-rated knowledge about zoo animals. Although 16 difference species of animals were studied, only one species, the antelope will be reported here. However, similar results were obtained for most of the animal species. Only statistically significant results ($p < .05$) are reported in this paper.

Results and Discussion

Education and Gender

Figure 1 shows the average ratings of "Species Worth Saving," "Dangerousness," and "Attractiveness" for males and females divided into two educational groups – high school graduate or less and those with any college experience. The top graph in Figure 1 reveals a clear tendency for less educated females to rate the antelope lower in terms of "Species Worth Saving" than more educated males or females.

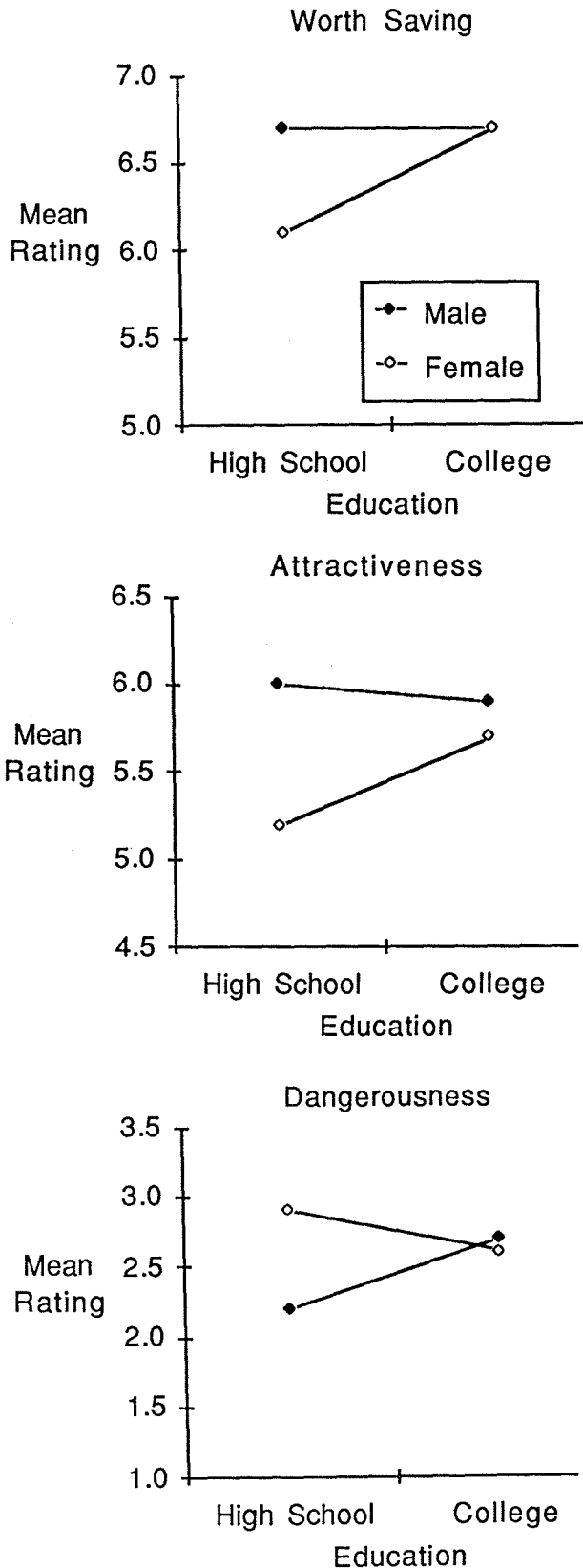
This interaction between education and gender was typical of other species in the study. The gender difference on these ratings was present only for lower levels of education. Male and female visitors with college experience did not respond differentially; some experiential factor(s) correlated with education seems to increase appreciation of animal species. The fact that males with less education also rank animals high on "Worth Saving" is puzzling. Perhaps males are exposed more than females to the importance of conservation of animals. The current finding does suggest the intriguing possibility that education eliminates some of the gender differences often observed.

The middle graph in Figure 1 shows the average ratings of "Attractiveness" for educational levels and gender. As with the other descriptors ("Worth Saving" and "Dangerousness"), a gender difference was found for high school-level visitors but not college-level. The difference in "Attractiveness" ratings found between males and females for high school level visitors was almost nonexistent with college level visitors.

The bottom graph of Figure 1 shows the average ratings of "Dangerousness" for gender and education. Again, a difference between males and females is present with the lower level of education, but the difference is absent with college educated visitors. Lower educated females rated the antelope as more dangerous than lower educated males. This result is consistent with the notion that education eliminates stereotypical gender responding.

Ratings of "Attractiveness," "Dangerousness," and "Worth Saving" were interrelated with gender and education. In each case, the average ratings of high school

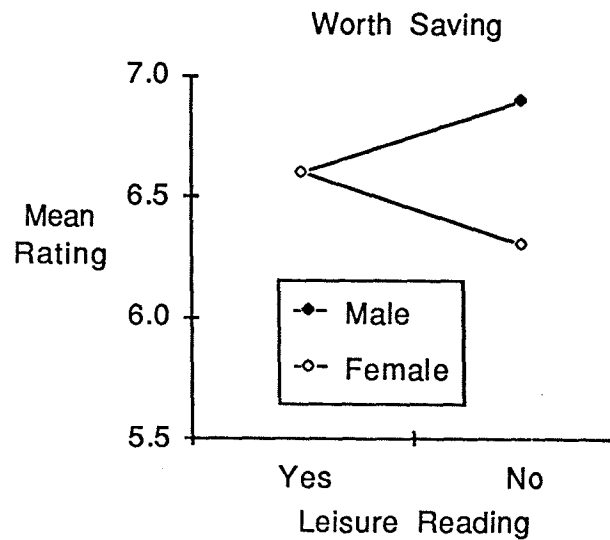
Figure 1
Ratings by Education and Gender



level females were significantly different than high school level males and college level males and females. The simplest explanation seems to be that gender differences in attitudes toward animals are minimized by education. The gender difference arose from females with high school education rating animals lower on "Worth Saving" and "Attractiveness," and higher on "Dangerousness."

Leisure Reading and Gender

Figure 2 graphs the ratings of "Worth Saving" for gender and whether or not visitors stated that they read about animals in magazines and books (leisure readers). Males and females who read about animals in their leisure time showed no difference in ratings; but, for visitors who do not read, males rated the antelope higher than did females.

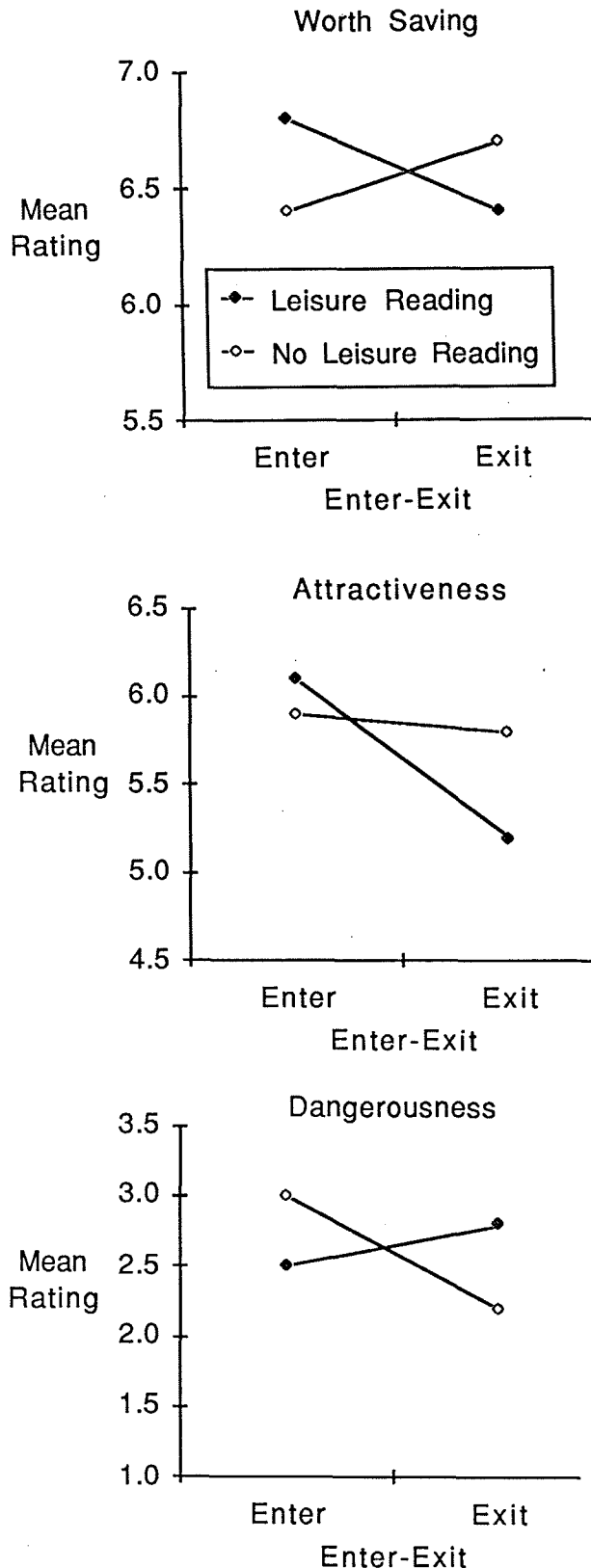


Leisure Reading and Current Visit

The top graph of Figure 3 illustrates the ratings of "Worth Saving" for entering and exiting visitors for those who read as well as those who do not read about animals in their leisure time. Those who engage in leisure reading rate the antelope higher than those who do not read when they enter the museum; but, the ratings are reversed for visitors as they exited – those who do not read rated the animal higher than those who do.

The middle graph of Figure 3 shows the relationship between leisure reading and the impact of the current visit. The mean rating of "Attractiveness" for antelope are graphed for entering and exiting visitors divided by those who engage in leisure reading about animals and those who do not read about animals. Leisure readers

Figure 3
Leisure Reading and Impact of Current Visit



rated the antelope as less attractive when they exited than when they entered, while nonreaders tended to give approximately the same rating where entering or exiting. The visit had a differential impact, with readers decreasing their rating after the visit, while nonreaders showed no such decrement. This finding is consistent with the ratings of "Worth Saving" and "Dangerousness."

The bottom graph of Figure 3 shows the ratings of "Dangerousness" for entering and exiting visitors divided into those who read about animals and those who don't. Ratings were higher for nonreaders on entering the zoo, but lower when exiting.

It is likely that this decrease in favorable responding for readers is a short-term decrement since repeat visitors showed the same pattern of response as leisure readers – more favorable responding when entering than when exiting the zoo.

Self-Rated Knowledge About Animals

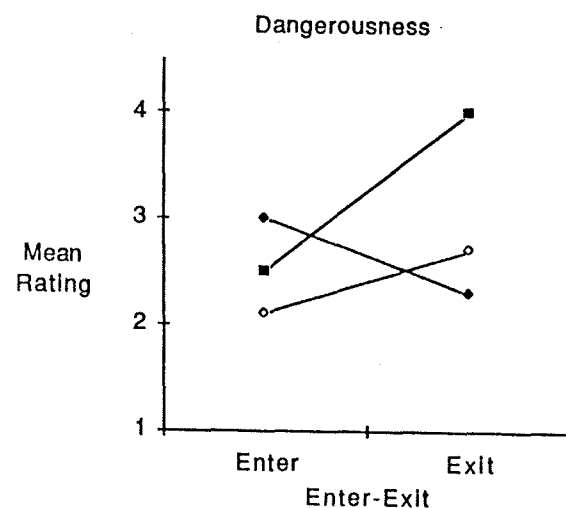
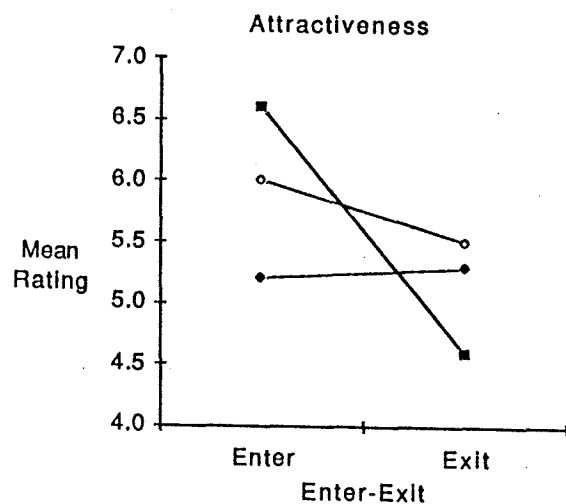
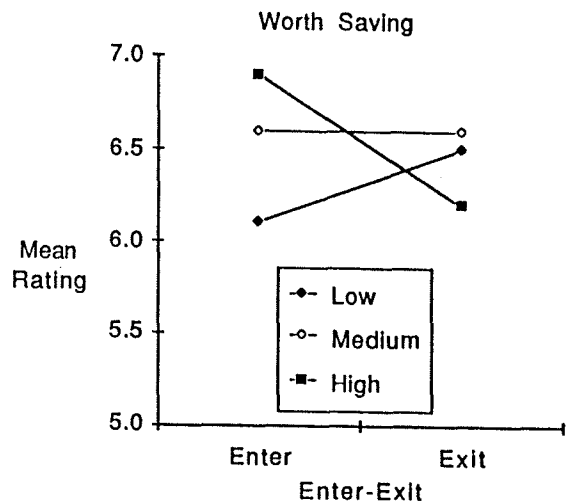
Self-rated knowledge about animals was also related to the impact of the visitation. Figure 4 graphs the relationship between self-rated knowledge about zoo animals and attitudes toward animals for both entering and exiting visitors. Again, although this graph includes data only for the antelope, the results are characteristic of other species. For entering visitors, as ratings of self-knowledge increased, respondents rated animals higher in terms of "Worth Saving" and "Attractiveness." For exiting visitors, the ratings tended to be reversed with lower ratings by high self-knowledge visitors than low self-knowledge visitors. Low knowledge visitors responded more positively as a result of the visit, while high knowledge visitors responded in just the opposite manner. Increased knowledge when entering resulted in the lowest ratings.

General Discussion

This study did not attempt to assess the impact of any specific exhibit. Rather, the attempt was to look at the overall impact of the visit on attitudes toward animals. We were especially interested in how visitor variables (education, gender, leisure reading, self-knowledge) interact with the zoo/museum visit.

Educational level, gender, leisure reading about animals and self-ratings of knowledge about zoo animals were strongly associated with visitors' ratings of the degree to which animals are worth saving. Those who are more highly educated, who engage in leisure reading about animals, and who rate themselves higher

Figure 4
Knowledge and Impact of Current Visit



on knowledge about animals are more likely to possess the appropriate conservation attitudes when they enter the zoo. The less educated and less knowledgeable visitors appeared to benefit more from the visit in terms of positive attitude change since they increased their favorable ratings as a result of the visit. This is an encouraging result since there is always danger of "preaching to the choir," or communicating only with those who already possess the "right" attitudes. *This study suggests that the zoo may have a favorable impact on the audience that needs the most persuasion.*

The most startling finding was that the most knowledgeable visitors showed a sharp decrease in positive ratings as a result of the visit. It is intriguing to speculate about this decrease in favorable ratings for those who engage in leisure reading about animals and who rate themselves high on self-knowledge. This finding definitely requires further study. It is likely that this decrement is a short-term effect, much like object satiation or mental fatigue (Robinson, 1928). People with knowledge of and experience with animals are likely to get less excited from their visit than people who find the experience more novel. We would expect that the next zoo visit for knowledgeable people would show a similar pattern, high ratings upon entering and low ratings when exiting. If this really is a transitory phenomenon, it must be carefully considered when attempting to assess the impact of a museum or zoo visit. Failure to consider this difference between entering and exiting visitors could lead to inaccurate conclusions about the impact of a visit.

In many ways the current results are similar to those of Ford and Bitgood (1992) found at the Anniston Museum of Natural History. Ford and Bitgood found that the impact of a current visit (comparing entering and exiting visitors) was influenced by gender and previous history of visitation. Unfortunately, the Ford and Bitgood study did not obtain background information from visitors, thus making it impossible to compare the two studies in terms of factors such as education, leisure activities, and knowledge about animals.

References

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