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Introduction

Zoos around the world have been implementing enrichment into their exhibits. Enrichment can be described as changing an animal's environment to provide physical and psychological stimulation to increase natural and healthy behavior¹. Based on past research, I hypothesize that the gibbons will favor an enrichment activity with an object that they can easily manipulate and that is destructible². I also hypothesize that both gibbons will prefer the food enrichment item to the non-food item.

Objectives

My overarching goal for this project was to evaluate the effectiveness of enrichment activities that could be implemented into the gibbons' daily routine. My objectives included finding a food or non-food item and a pliable or non-pliable item that physically and mentally stimulated the gibbons for the purpose of maintaining their well-being.

Methods

The two enrichment categories studied were: 1. food (cereal) vs. non-food (mop head) and 2. a pliable (phone books) item vs. a non-pliable item (hanging barrel). Each gibbon interacted with both enrichment categories for 15 minutes a day twice every week.



Figure 2. Set up for a food and mop head observation.



Figure 1. Set up for a barrel and phone book observation.

I used a focal animal approach, where I observed the male and female separately for 15 minutes. I recorded the duration of time each gibbon interacted with the enrichment activities. I started recording once the keeper opened the gate for the gibbons to enter the area. Microsoft Excel was used for the data analysis.

Results: Enrichment

The results showed very distinct differences in preferences for the enrichment activities. Both the male and the female preferred the food item to the non-food item and the pliable item to the non-pliable item. These differences were obvious before the data was analyzed, reinforcing the results and supporting the proposed hypotheses.



Figure 3. Siam & Chaz with the food and mop enrichment.

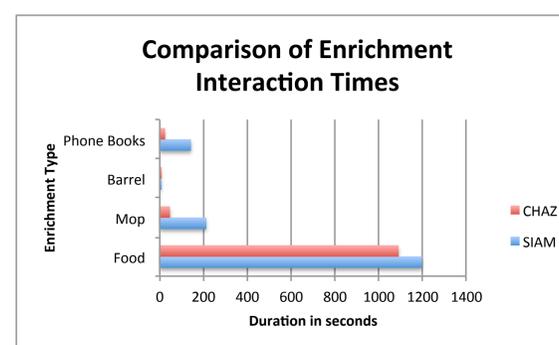


Figure 4. Comparison of the four enrichment activities including phone books, barrel, mop, and food between the male and female. The durations were measured in seconds.

Results: Other Behaviors

Behavioral observations revealed several differences between the male and female. Both gibbons interacted almost equally with the other enrichment activities, however, the male preferred food puzzles while the female preferred the mirror.

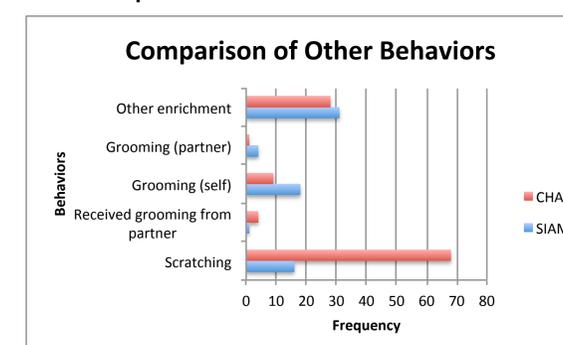


Figure 5. Comparison of the frequency of other behaviors including scratching, grooming, and interacting with other enrichment, between the male and female.

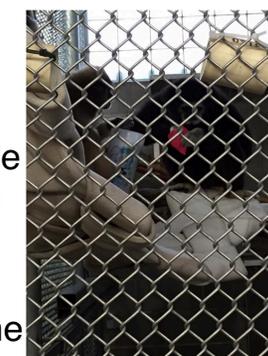


Figure 6. Dinner time for the gibbons.



Figure 7. Chaz looking at herself in the mirror.

Conclusions

Since gibbons are an intelligent species, the goal was to find enrichment activities that both physically and mentally stimulated the male and female gibbon at the Blank Park Zoo. The results showed a preference for a food item and a pliable item. In addition to these results, I have found that it is important to accommodate the enrichment activities to the individual's personalities. Each animal is unique and may interact with the enrichment differently. This idea has implications for zoo management as zookeepers can use these results to find out what their animals prefer and change up the animal's daily routine.

References:

- ¹Swaigood, R., and Shepherdson, D. (2005). "Scientific Approaches to Enrichment and Stereotypies in Zoo Animals: What's Been Done and Where Should We Go Next?" *Zoo Biology*, 24(6), 499-518.
²Pruetz, J., and Bloomsmith, M. (1992). "Comparing two manipulable objects as enrichment for captive chimpanzees. *Animal Welfare*, 1(2), 127-137.