

Animal Welfare Research Internship

Final Report

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Since January I have been interning in the Animal Welfare Department of Brookfield Zoo. From January to April, my focus had been on observations, data analysis, and curator reports for the Carnivore Welfare Project, an ongoing study of over 60 individuals at Brookfield Zoo using a non-species specific ethogram to monitor the health and well-being of our animals. Beginning in May, my focus shifted to my independent research project based on the data collected during the carnivore observations in the spring of 2015 and this winter 2017. My study is considering inter and intra-species personality of carnivores in 6 species which were observed for a minimum of 100 minutes in both spring 2015 and winter 2017, and have at least two individuals to represent the species (Table 1).

Table 1. Focal animals included within the scope of this study.

Family	Common Name	Scientific Name	Gender of Focal
Canidae	African Painted Dog	<i>Lycaon pictus</i>	Male
			Male
	Bat-Eared Fox	<i>Otocyon megalotis</i>	Male
			Female
			Female
	Mexican Grey Wolf	<i>Canis lupus baileyi</i>	Male
Female			
Felidae	African Lion	<i>Panthera leo</i>	Female
			Male
Herpestidae	Dwarf Mongoose	<i>Helogale parvula</i>	Male
			Male
Ursidae	Grizzly Bear	<i>Ursus arctos</i>	Male
			Male

Personality is defined as individual behavioral differences observed constantly over time and situations or context (Freeman & Gosling, 2010). Personality assessments can be used as a tool for zoological institutions and conservation efforts by identifying those individuals who may be more prone to social or environmental stress (Horback, Miller, & Kuczaj, 2013), by identifying those who may be more suited for breeding (Wang, 2017), or by selecting those who may be more likely to survive reintroduction to the wild (Silva & Azevedo, 2013).

Our team has also had the pleasure of performing calf observations for our male okapi calf born May 16th for his first four weeks of life. This was incredible to watch him grow up so quickly over those first four weeks. According to one of the keepers he had more than doubled his weight since we had begun observing him. To conduct calf observations, I had to learn a new observation technique that combined the instantaneous sampling method I had used when observing the carnivores earlier in the internship, and continuous sampling. Observations took place for 60 minute periods, twice in the morning and twice in the afternoon at random times. A stopwatch was used to monitor 1 minute intervals within each period and a data sheet was used to record the behaviors of the calf. The dam and calf were observed continuously for nursing bouts and stereotypic behaviors performed by the dam. These behaviors were recorded on the same data in separate table and the time of each nursing bout was recorded using a second stopwatch. It was refreshing to shift focus away from a carnivore to an herbivore and learn a new ethogram that is species specific. I cannot wait until he has a name.

During the second half of my internship my focus was on my independent project: inter and intra-species personality using data collected during the carnivore study. Using data from the spring of 2015 and the winter of 2017, I looked at species which were represented by at least 2 individuals present for at least 100 minutes of observation during both collection periods. This left me 6 species that included 13 individuals to examine 17 personality traits over time (Appendix, Table 2). The manuscript is a work in progress for publication with my mentor and co-author, Catherine Razal.

My Master Plan is focused on inspiring shark and ray conservation through education and personal connection. Prior to exploring animal personality in my independent work, I had never considered it an avenue of study for my Master's work, however I am beginning to wonder

if the field may be a way to connect the public to sharks. Animal personality is a relatively new field and only in the last five years or so have studies begun to delve into shark personality (Byrnes, & Brown, 2016; Byrnes, Pouca, Chambers, & Brown, 2016; Jacoby, Fear, Sims, & Croft, 2014). If people could see that sharks are not the “mindless killing machines” the media and Hollywood has portrayed them to be for decades, and see that they have a wide array of personalities, perhaps it could break down barriers. This will definitely be a topic that I explore on my blog in the near future.

At Chicago Zoological Society-Brookfield Zoo, we have a small social group of four female leopard sharks (*Triakis semifasciata*). I have talked with Dr. Miller about beginning a personality study with our girls and he is open to the idea. Currently our department is very mammal focused, with the exception of our bird project. Dr. Miller was very enthusiastic about opening up to a shark project to represent the fishes. I will be submitting a proposal later next month for department approval.

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