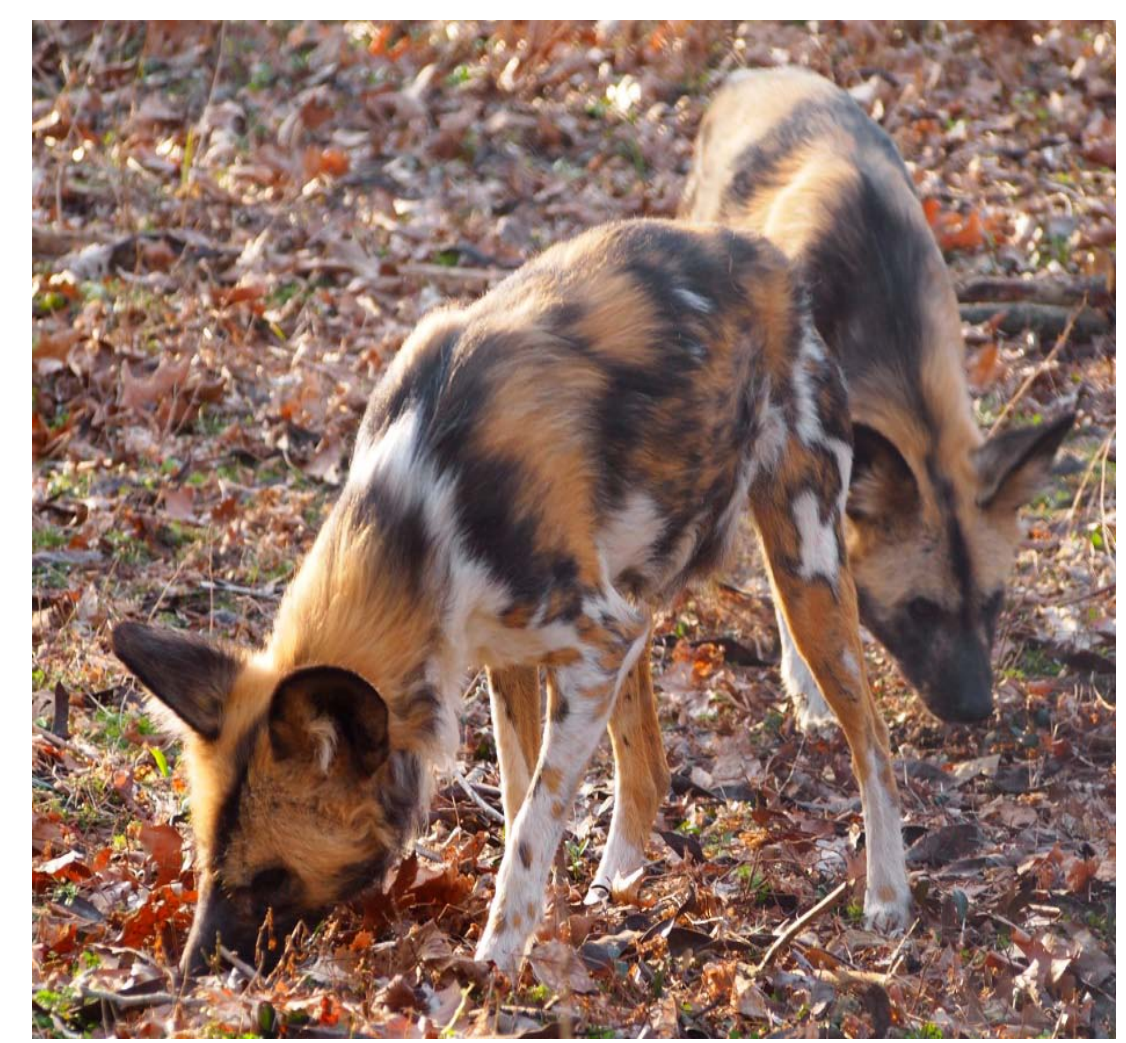
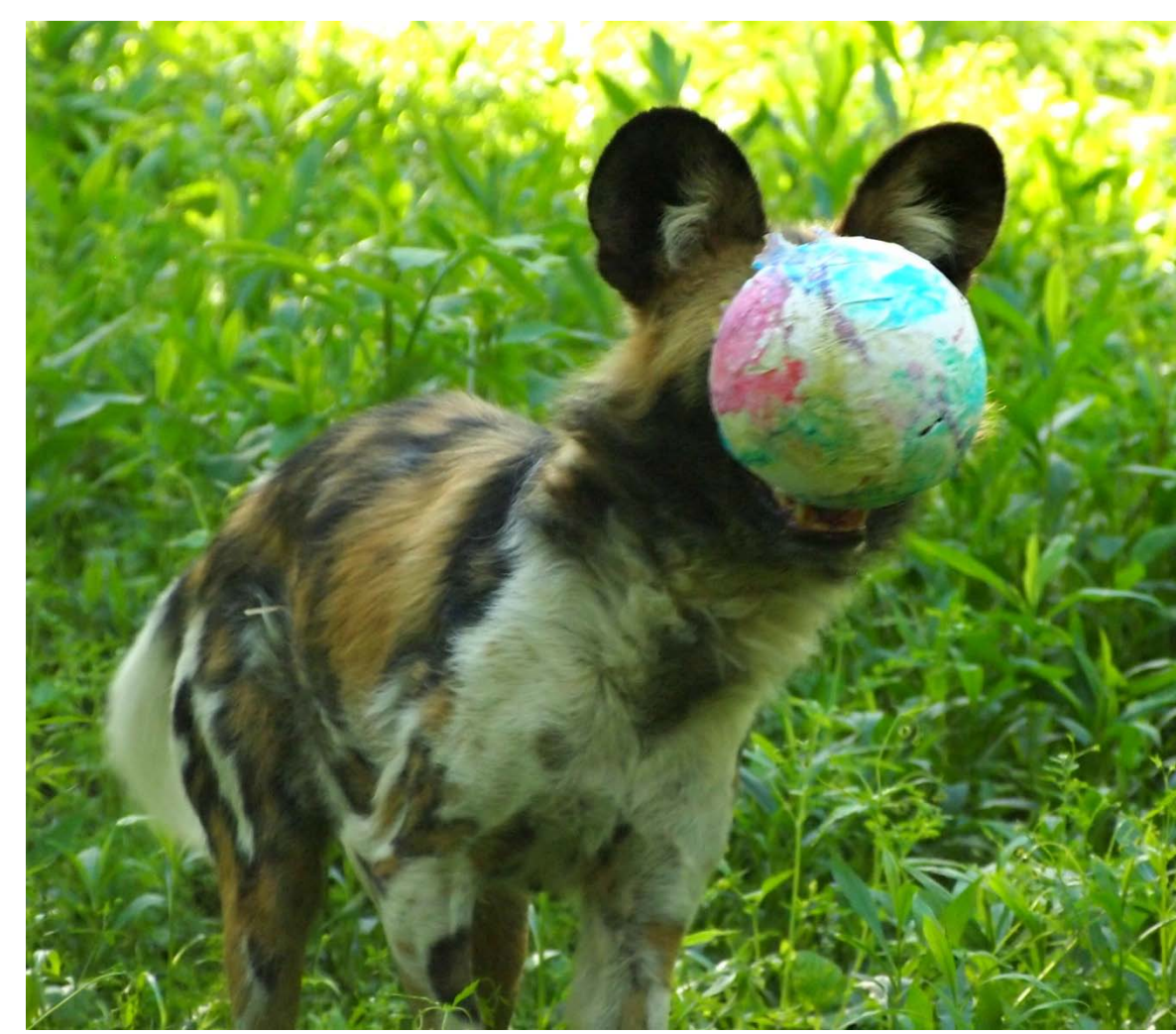


Enrichment Comparison of African Painted Dogs (*Lycaon pictus*) Housed in U.S. AZA-accredited Institutions

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Introduction

- Enrichment offered to: encourage behavioral diversity, increase activity, reduce stereotypic behavior (Shyne 2006; Shyne & Block 2010; Morris et al. 2011; Quirke & O'Riordan 2011)
- Enrichment is an Association of Zoos & Aquariums (AZA) Accreditation Standard and varies in form and function (Watters et al. 2011; Mellen & MacPhee 2001)
- Few studies of wild canid enrichment – need more species-specific information (Vasconcellos et al. 2009)
- Goal of this study: compile a list of environmental, habitat, food, sensory, social and behavioral enrichment items and activities previously or currently in use among the institutions housing Painted Dogs, as well as to obtain best practices

Methods

- Data compiled via questionnaire distributed to African Painted Dog SSP network
- 61% response rate
- Topics addressed: identify and describe social groups and enclosures, frequency each of the 6 categories of enrichment offered, perceived success of each enrichment category, and overall best practices for enrichment
- Group composition: 67% mixed sex groups, 24% all male groups, 9% all female groups (Table 2)
- Enclosure size: 74% of mixed sex groups and 75% of single sex groups housed in enclosures of 15,000 sq. ft. or less (Table 3)
- Enclosure features varied, however, majority included naturalistic and concrete (i.e. walls, pools, and holding pens) features (Table 3)

Table 2. Number of groups reported in each category of social composition.

Group Size and Composition	Number of Adult Males					
	0	1	2	3	4	5
0 Adult Females	^	1	1	6	2	1
1 Adult Female	0	15*	6*^	2	0	0
2 Adult Females	2	3	1*	0	0	0
3 Adult Females	0	1	0	0	0	0
4 Adult Females	1	0	0	0	0	0
5 Adult Females	1	0	0	0	0	0
6 Adult Females	0	0	0	0	0	0
7 Adult Females	0	2^	0	0	0	0

^ some groups had sub-adults

* some groups had pups

Table 3. Enclosure size and features for mixed and single-sex groups.

Comparison of Enclosure Size and Features	Mixed Sex	Single Sex
	Groups (n=28)	Groups (n=17)
Size		
Small (<5000 sq ft)	42%	46%
Medium (5000 - 15000 sq ft)	32%	23%
Large (> 15000 sq ft)	26%	31%
Features		
Naturalistic yard	16	14
Concrete	21	13
Water	5	6
Tunnels	2	1
Trees	3	1
Rocks	7	2
Grass yard	5	1
Different substrates (dirt, gravel, etc)	5	7

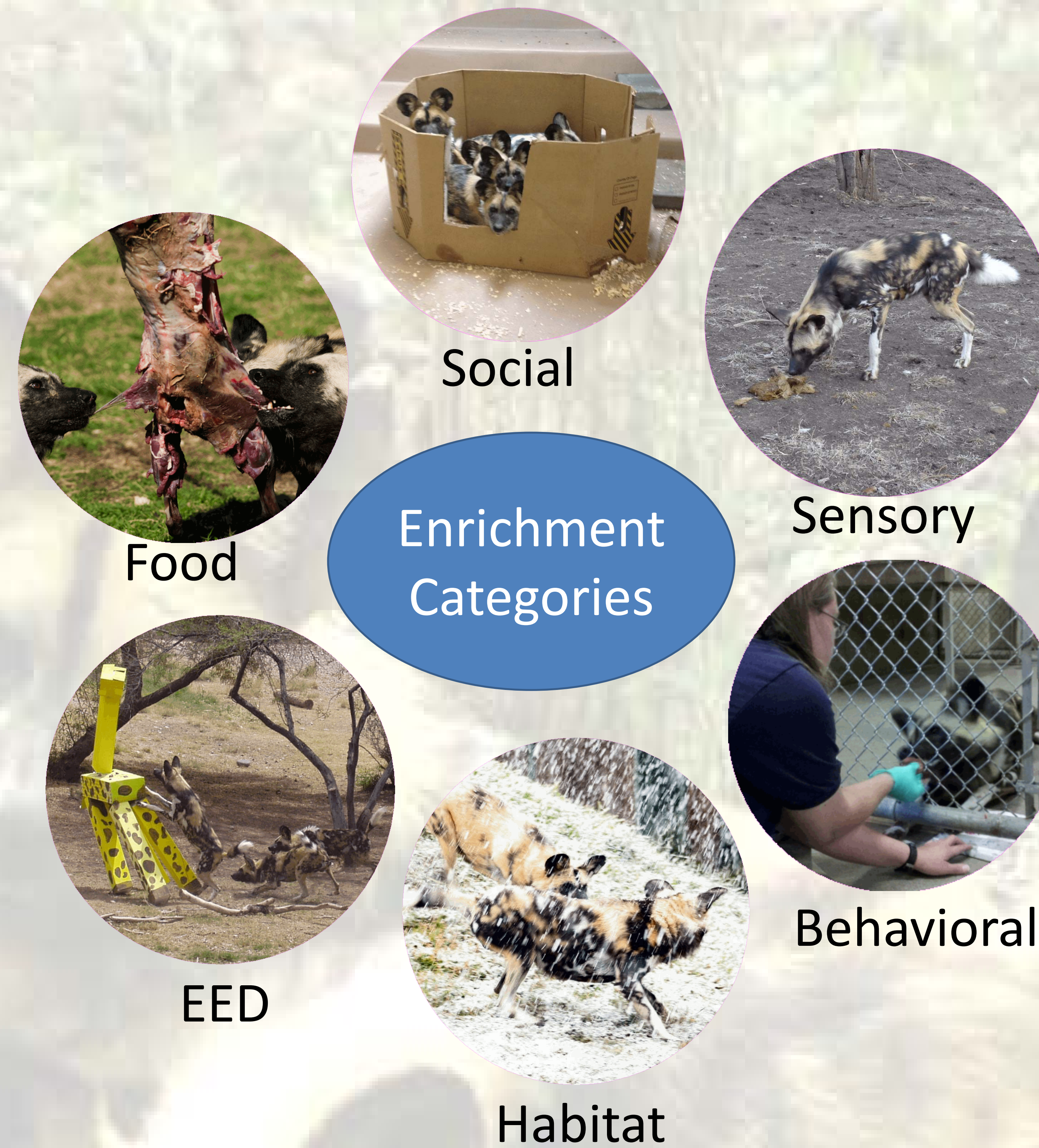


Figure 1. Number of institutions reporting the frequency of use for each enrichment category.

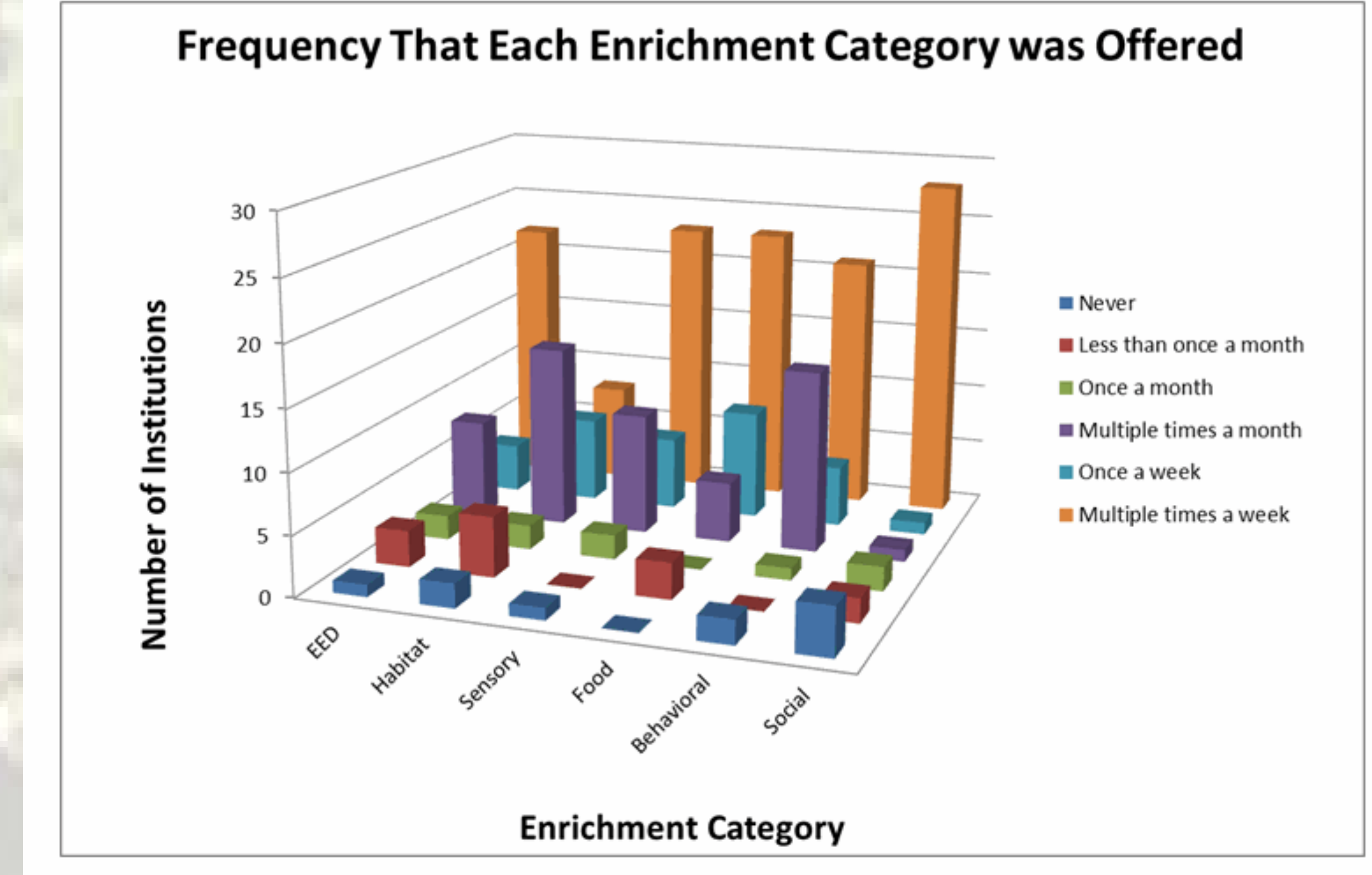
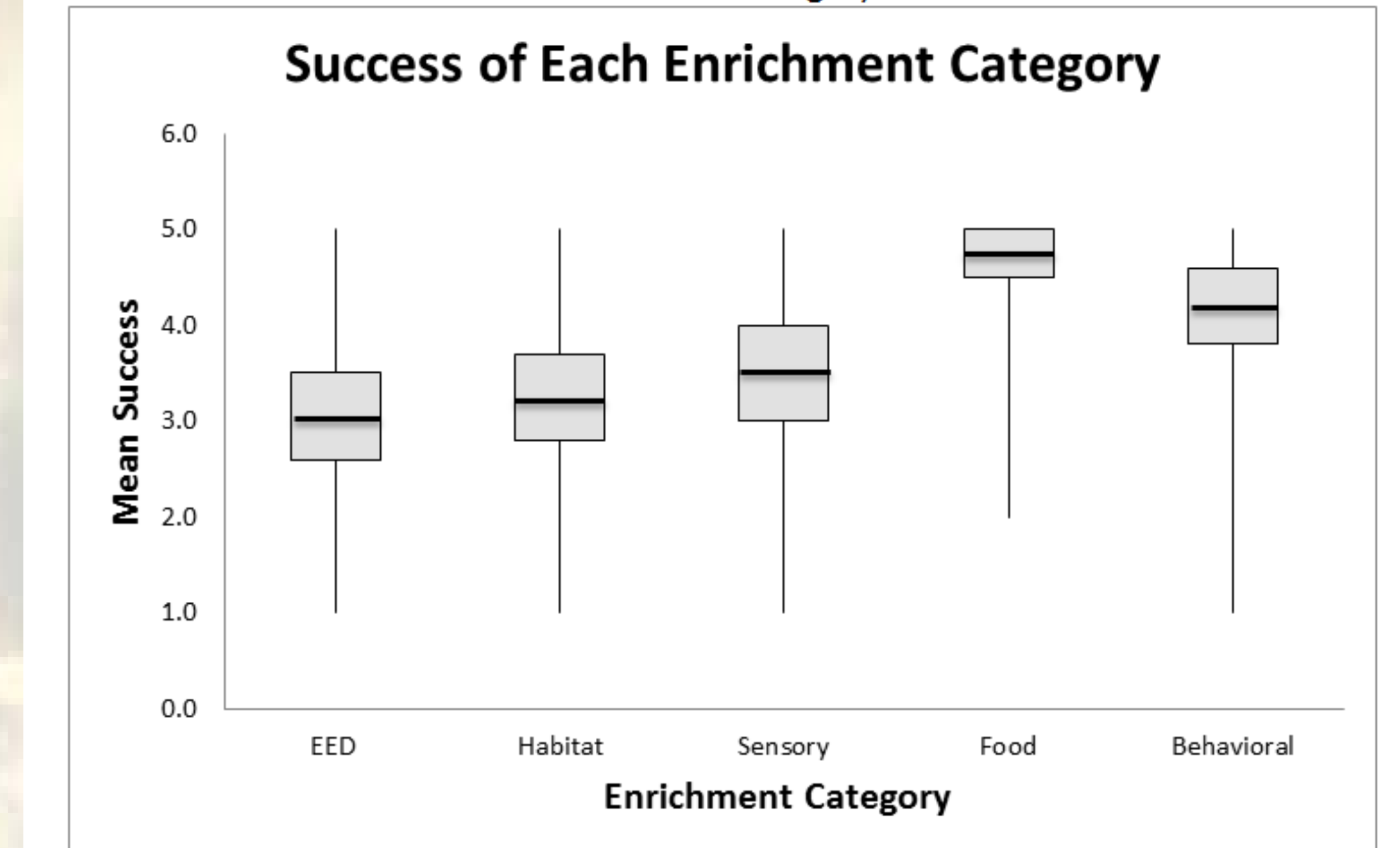


Figure 2. Perceived success of enrichment options (bars are means, boxes are confidence intervals and vertical lines are ranges)



Results

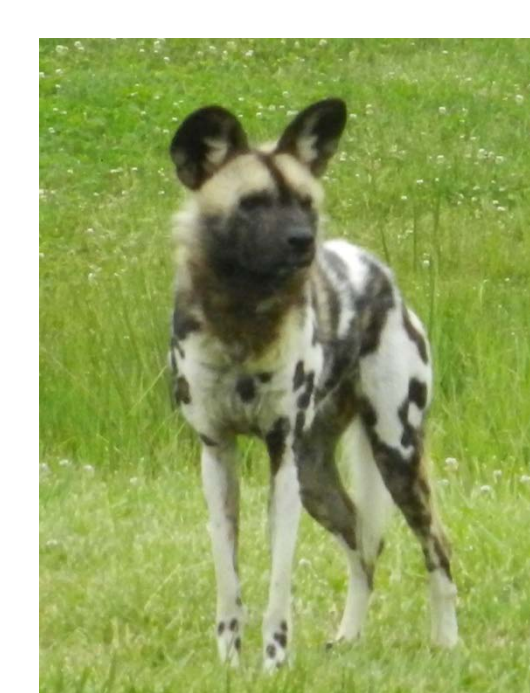
- Some form of enrichment given on a regular basis, with at least one type given multiple times a week (Figure 1)
- All respondents utilized, or at least attempted, a variety of enrichment types
- Food and behavioral enrichment had higher perceived success (Figure 2)
- Social and food enrichment were the most frequent forms of enrichment offered (Figure 1)
- Enclosure type and group size and composition (mixed sex and single-sex groups) varied among institutions, but did not appear to have any bearing on enrichment offered and/or the perceived success
- Duration of interactions varied among institutions and items
- More responses elicited when food hidden in items
- Recommendations for best practices:
 - Scatter/bury food
 - Carcasses to encourage groups to work together
 - Training natural and husbandry behaviors
 - Bones
 - Water features
 - Items that can be torn apart (paper bags, boxes, phonebooks)
 - Areas to dig
 - Offer multiple options to entire pack
 - Enrichment that encourages natural behaviors such as foraging and scent marking

Conclusions

1. Respondents provided examples of enrichment options for each of the 6 enrichment categories.
2. Most institutions offered enrichment multiple times per week.
3. Food and behavioral enrichment perceived as two most successful enrichment categories.
4. High variation in responses to enrichment by individuals, recommend being innovative, flexible, and to experiment with what works for painted dogs at each institution.

Acknowledgments

African Painted Dog SSP
 Photos courtesy of (in alphabetical order): Denver Zoo, Endangered Wolf Center, Houston Zoo, Phoenix Zoo, Topeka Zoo



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