Behavioral Correlates and Welfare Implications of Informal Interactions With Staff in Zoo-Housed Chimpanzees and Gorillas

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The Empirical Zoo Director—Building a Foundation of Evidence-Based Welfare and Wellness: Keynote

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Achieving an optimal state of welfare and wellness for every nonhuman animal in the zoo or aquarium is the goal of every zoo director. Over 30 years in 3 zoological parks, the zoo leadership team in each institution has implemented policies and programs based on research findings from the field, lab, and zoo and reached out to collaborators in universities to help monitor, study, and evaluate collective decisions. The evolution of the “empirical zoo” required a commitment to recruiting PhD-level talent at all levels of the organization. An organization with a scientific foundation is better prepared to achieve optimal welfare and wellness for each and every animal in the zoo.

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In facilities that house nonhuman animals in captivity, humans not only provide care and management but are also a relevant part of the animals’ social environment. This study investigated the relationship between unstructured, affiliative interactions with caretakers and the behavior of zoo-housed chimpanzees (\textit{Pan troglodytes}) and gorillas (\textit{Gorilla gorilla gorilla}), using behavioral data collected...
over 48 months. The outcome variables were key behaviors relevant to welfare assessment in apes: agonism, sexual behavior, abnormal behavior, intraspecific prosocial behavior, self-directed behavior, and wounding. Chimpanzees showed significantly more agonism ($F = 8.321, p = .018$) and less prosocial behavior ($F = 17.867, p = .002$) in observational sessions that included at least 1 interaction with caretakers. There was also a nonsignificant trend for chimpanzees to exhibit more wounding events in these samples ($\chi^2 = 3.329, p = .068$). These results are generally undesirable from a welfare perspective. Gorillas showed significantly less self-directed behavior ($F = 31.870, p < .001$) and more agonism ($F = 9.0, p < .001$) in samples that included interactions with caretakers, which is challenging to interpret because self-directed behavior is commonly used as a proxy for social anxiety in primates. These findings emphasize the importance of taking all forms of human-animal interaction into consideration when conducting welfare assessments for captive animal facilities.

The Effects of Sex, Climate, and Management on Normal and Repetitive Behaviors in Okapis (Okapi johnstoni)

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Abnormal repetitive behavior (ARB) is a significant welfare concern for nonhuman animals in captivity. In some taxa, wider ranging species pace more than species with smaller home ranges. As sex impacts home range size in some species, sex might predispose some individuals to ARBs. The home ranges of male okapis in the wild are significantly larger than females’, suggesting male okapis may pace more than females. It was also predicted that temperature and management strategies would impact okapis’ propensity for ARBs. These hypotheses were tested in a 3-year, multi-institutional study including 53 (27.26)