



Effects separation have on the behavior of captive African Wild Dogs (*Lycaon pictus*) at the Dallas Zoo, Dallas, Texas

Introduction

Due to the species' reclusive nature in the wild and their endangered status, little data has been collected to understand African Wild Dog pack dynamics and behavior. This study focuses on how the absence of a male member of the Dallas Zoos' small African Wild Dog (*Lycaon pictus*) pack, named Mzingo, affects the amount of time his brother and littermate, Jata, spent alone with the newly introduced female, Cholula. Tensions were high over how the brothers might react to the presence of the new female due to a previous attempt in 2019 to introduce an older female, Olah, which ended in a fatal incident. After the initial introduction of Cholula to the brothers, small scuffles and chases with the new female as the target led to zoologists making the decision to separate Mzingo from the pack for three weeks.

Hypothesis

The null hypothesis, "Mzingos absence had no effect on the time Jata spent with Cholula and the time Cholula spent with Jata," was created to better understand the influence Mzingo's presence had on Cholula and Jata's relationship.

Methods

Activity budget entailing continuous observations of the three African Wild dogs, Cholula, Jata, and Mzingo.

- Behaviors expressed
- Duration of behavior
- Neighboring animals of the expressed behaviors

From the advantage of the carnivore building roof, interns had the opportunity to oversee the entire African Wild dog habitat, with the exception of two blind spots, and document auditory behaviors that would otherwise be missed on security cameras. Two, one-hour long observation periods were taken every day for 5 weeks during the internship. One hour in the morning and one hour in the late afternoon. The observation times were alternated throughout the day to ensure outside variables such as weather, feeding time, visitor surplus, enrichment, etc. had no effect on the documented behaviors.

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Figure 1



Figure 2



Figure 3

Results

Data was grouped into three categories, Before Separation, During Separation, and After Separation. Three tables were created for each of the three dogs entailing the amount of time each dog spent alone with another dog, with both dogs, and by itself. Due to the differing total times in each table, percentages were calculated. These percentages were used in a t-test to understand the statistical significance of how Mzingos separation affected Jata and Cholulas relationship. The results indicate Mzingos absence had no effect on the time Cholula and Jata spent alone together ($p = 0.22 > 0.5$) and led researchers to accept the null hypothesis.

Discussion

Although there is no statistically significant difference in the time the dogs spent together, this does not mean their relationship was not different. After Mzingos return, Jata seemed to take on the role of the dominant male. Guarding food and Cholula from Mzingo led zoologists to believe the separation had some effect on the mindset of Jata. Whenever Jata corrected Mzingo, Cholula stepped up and acted as a wild dominant female would and joined Jata in the correction. As stated above, behavior is a difficult thing to measure, especially in elusive animals such as the African Wild dog. Expressed behavior that can be seen as aggressive to humans could actually be the way these animals communicate. This study can be used as reference for other facilities facing the same struggles. Zoologists at these facilities can determine for themselves if separation is a possible solution. Updates from the Dallas Zoo say the dogs are doing very well, and Jata is completely enamored with Cholula.

Acknowledgements

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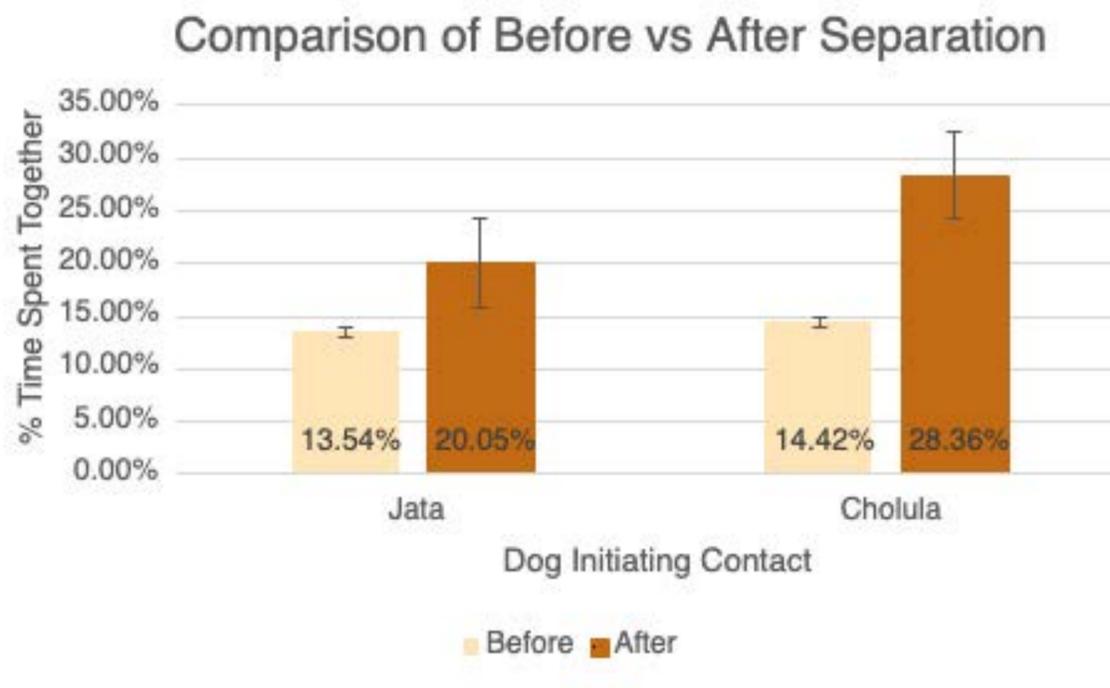


Figure 4
The graph explains the difference in the percentage of time individual dogs initiated contact. The left column shows the percentage of time Jata initiated contact with Cholula before Mzingos separation and after his return. The right column shows the percentage of time Cholula spent initiating contact with Jata before Mzingos separation and after his return. There is some overlap in the error bars, suggesting the lack of statistical significance.