Glucocorticoid and behavioral responses of shelter dogs to human interaction: Investigating the effects of the dog-human bond on animal welfare

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Introduction

Animal welfare “comprises the state of an animal’s body and mind, and the extent to which its nature is satisfied.”

- Dogs (*Canis lupus familiaris*) are the most common household pet in the U.S., yet millions of dogs are relinquished to animal shelters each year and are introduced to a variety of psychological stressors.
- Positive human contact is known to be pleasurable for dogs and is a simple and cost-effective means that shelters can adopt to optimize the welfare of their dogs.
- The purpose of this study was to determine whether interactions with a consistent volunteer or with rotating volunteers more effectively reduce stress in shelter dogs.
- I hypothesized that working with a consistent volunteer would more effectively reduce physiological and behavioral indicators of stress in shelter dogs relative to working with rotating volunteers.

Methods

- Dogs (n=8), housed at the Humane League of Lancaster County (Lancaster, PA), were randomly assigned to interact with a consistent volunteer (n=4) or with rotating volunteers (n=4).
- Dogs were videotaped for 35 minutes, after which their approach latency upon opening of the kennel door was timed.
- Volunteers walked their dog for 15 minutes and then played with their dog for 15 minutes.
- An ethogram of behaviors associated with welfare was developed and the videotapes were analyzed using 30-second scan sampling.

Results

**Fig. 1.** (A) Approach latency did not significantly differ between the two treatments but did significantly decrease over time for both groups (In-transformed; Repeated-measures ANOVA: F(2,12)=6.068, p=0.015). (B) Frequency of behavior did not significantly differ between the two groups but the proportion of time spent remaining significantly decreased over time for both groups (Friedman’s test: χ²(2)=7.00, p=0.030).

Discussion

- The marked decrease in approach latency for both groups of dogs suggests that dogs are eager to work with humans, regardless of whether or not a bond with the human has been formed (Fig. 1A).
- Although there was no overall significant difference in behavior between the two treatments, behaviors associated with poor welfare, such as inactivity, were significantly decreased whereas behaviors associated with good welfare, such as object manipulation, exhibited an overall increase over time (Fig. 1B).
- As many of the dogs were moved to kennels accessible to the public between interaction day 2 and day 3, this may explain why there was an increase in percentage of time spent in the back half of the kennel over time (Fig. 1B).

Conclusions

- Mere human interaction appears to be effective at reducing behavioral signs of stress in shelter dogs.
- Urinary and fecal hormonal analyses are underway to further investigate whether repeated interactions with a consistent volunteer or interactions with rotating volunteers more effectively reduce stress in shelter dogs.

References