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HUMAN-DIRECTED AGRESSION IN SHELTER DOGS: HOW TO TEST FOR BETTER PREDICTION OF OUTCOMES

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In the last few decades many test series were developed and used to measure behavior in shelter dogs to identify individuals with aggressive tendencies who may not suitable for rehoming. However, relatively few studies evaluated the effectiveness of these test procedures. According to a survey based on questionnaire data, 40.9% of the dogs that had passed a temperament test showed aggressive behavior in their new home within 1 year of the adoption. The aim of the present study was to explain this high error-percentage by finding the possible shortcomings of the procedure. According to our hypothesis, dogs' behavior is suppressed in many respects when kept in a shelter, thus tests carried out during the first few days might have less predictive value.

Human-directed aggression was investigated in 25 shelter dogs. We first tested the dogs 20–40 hours after intake and a second time 2 weeks later. The same test series was applied on the 2 occasions and we analyzed the difference between the behavior shown in the 2 tests. Based on our experiences from a previous study on pet dogs, the following subtests were used: friendly greeting, taking away a bone, threatening approach, and dominant approach. The dogs were tethered to 2 trees in a V-shape with two 3-meter long chains, so that they could not do semicircular movements. The test procedure was carried out by 2 women experimenters. We coded the level of aggression in all the 4 subtests.

We found significant differences in the dogs' aggressive behavior between the first and the second test. The number of dogs showing aggression in the taking away a bone test and also the level of aggression observed increased remarkably for the second test date. In contrast to results in pet dogs tested with their owners, the threatening or dominant approach did not evoke aggressive behaviors from shelter dogs.

We suggest that timing is a crucial factor of the testing procedure to gain more predictive results in tests trying to predict human-directed aggression in shelter dogs. Moreover, we propose that threatening approaches from humans in a shelter setting tend to mainly evoke avoidance behavior in shelter dogs (partly because of the owner's absence), whereas the same stimuli might facilitate (fear-related) aggression in pet dogs (in the presence of the owner).

Key words: shelter dog; aggression; behavioral test; timing

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SOCIAL LEARNING IN SHELTER DOGS

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Socialization and training can make shelter dogs more adoptable. However, time constraints make it difficult for shelter staff to complete tasks beyond caring for the animals' physical well-being. To examine the feasibility of training in a shelter environment, we first carried out a series of experiments (Thorn et al., 2006), which showed that (1) dogs could be shaped to sit in as few as 10 trials; (2) a verbal secondary reinforcer ("Good Dog!") was more effective than a clicker when used by untrained personnel; and (3) dogs retained and generalized their new skill to new people and locations. We have now begun a series of experiments examining whether social learning enhances the speed of training in shelter dogs, and if so, how. Fourteen dogs were randomly assigned to No Observe (NO) and Observe (O) treatment groups (n = 7 each). Trials took place with dogs in individual kennels. NO dogs and O dogs were in adjacent kennels, separated by chain-link fencing. A NO trial consisted of a "stranger" walking up to a kennel and standing in front of it; no verbal commands or gestures were made. If the dog sat, the stranger said, "Good Dog!" and gave a small piece of hot dog, recorded time to sit, and left the room. A trial lasted a maximum of 60 seconds, and there was a 30-second intertrial interval. NO dogs received a total of 10 trials, while the O dog looked on. To ensure that O dogs had the opportunity to observe 10 successful, rewarded sits, additional NO dog trials continued until this number had been met. Only the first 10 NO trials were included in the data analysis. Two minutes after NO trials had been completed, a new stranger began O trials. These were identical to NO trials, but there were no extra trials.

A 2-way repeated analysis of variance (ANOVAR) found a significant decline in latency to sit over trials (F = 4.75, df = 9,108, $P < 0.001$); a nonsignificant trial x treatment effect indicated that latency declined at a similar rate for the 2 treatment groups. O dogs sat significantly earlier than NO dogs (F = 3.43, df = 1,12, $P < 0.05$). The difference in performance between the 2 treatment groups was most noticeable in the first trial; a 2-sample t test (1-tailed) showed that O dogs sat significantly more quickly in their first trial than NO dogs (t = -1.98, df = 12, $P < 0.05$).

O dogs learned to sit in response to a discriminative stimulus (arrival of a stranger) faster than NO dogs. This preliminary finding suggests that training of shelter dogs may proceed even more rapidly than expected, thus saving shelter staff time and effort. Next, we plan to compare physiological responses of O and NO dogs during observation and training trials, as well as the potential for multiple dogs to learn from the same dog at the same time.

Key words: shelter dogs; training; social learning