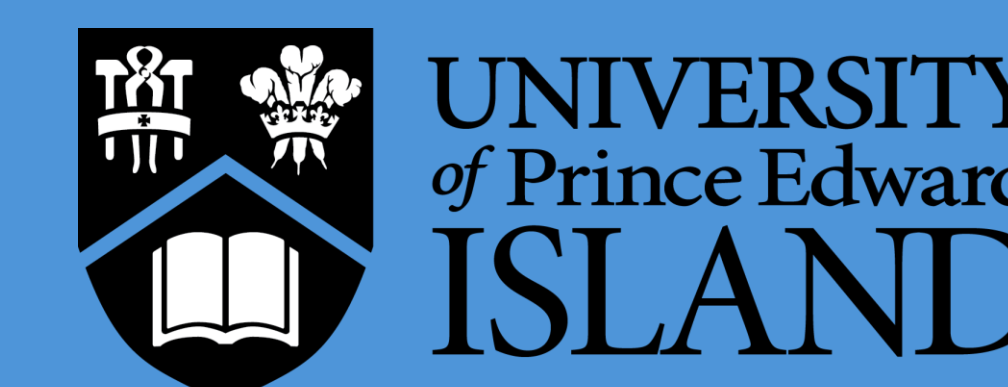




Using an Approach Test and Questionnaire to Predict Outcomes In the First Year of a Dog's Life

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Introduction

Behavioral issues are the foremost reason given for surrendering dogs to rescue shelters¹⁻³, and 60% of dogs relinquished in the United States are euthanized.¹ Behavioral issues are the leading cause for loss of life for young dogs.³⁻⁵

Identification of potentially problematic or abnormal behaviors early in life can prevent their further development, allow for much needed client education and redress, and decrease relinquishment rates and potential sequelae due to behavioral issues.

The development of readily accessible tools, such as the approach test and Working Dog Questionnaire- Pet Version (WDQ-Pet) would give everyone the ability to identify potentially problematic or abnormal behaviors.

Materials and Methods

Thirty-nine dogs that were in good health, approximately 3-months of age, and with clients willing to travel to AVC every 3 months for a year were recruited for a study on behavioral development as dogs age.

Each dog participated in a series of behavioral tests at 3-, 6-, 9-, and 12-months. Owners completed the WDQ-Pet at each visit. This questionnaire provided detailed information of the dog's responses to social and environmental stimuli, health, training, home environment, and demographics.

Here we discuss one of the behavioral tests, the approach test. In the approach test, the dog was tasked with running down a quiet and narrow 4 m hallway towards a novel human (the experimenter). The start and end of the 4 m segment are marked. The owner and dog stood together with all paws behind the start line. The experimenter stood behind the finish line and called the dog's name, signaling the owner to release them. The dog had sixty seconds to cross the finish line with all 4 paws and greet the experimenter. If not completed by thirty seconds, the experimenter calls their name and used treats to lure the dog.

The measures assessed via video recording are latency to cross the start and finish line, the intensity of the greeting, the number of lures used, and the number of times the dog retreated.

Results

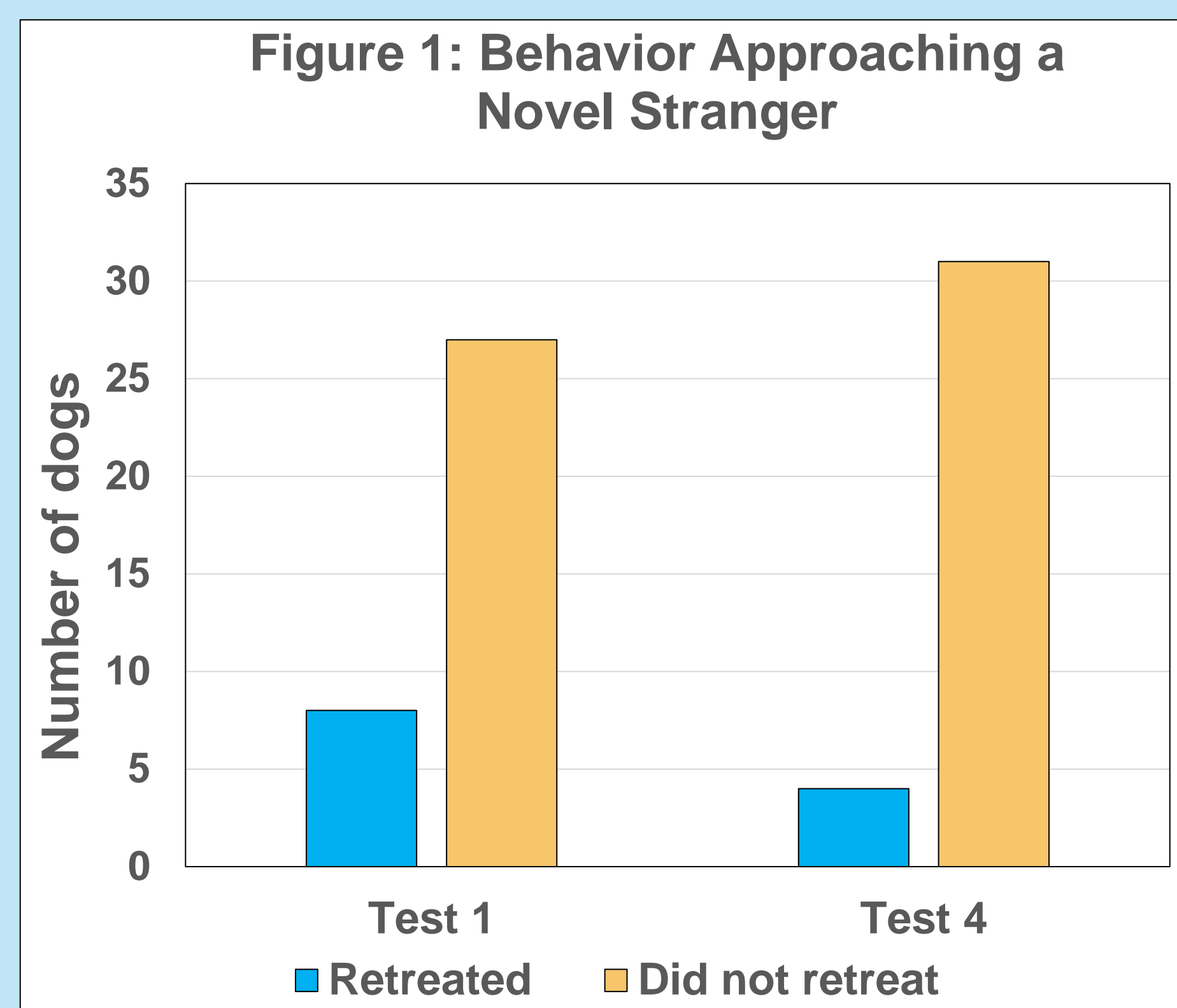


Figure 1. Comparison of dogs who retreated and those who did not at Visit 1 (3-months) and Visit 4 (12-months)

Most dogs that retreated at 3-months did so at 12-months, and dogs who did not turn back at 3-months, did not turn back at 12-months (Chi-square test - Chi square = 1.6092, $p = 1.6092$).

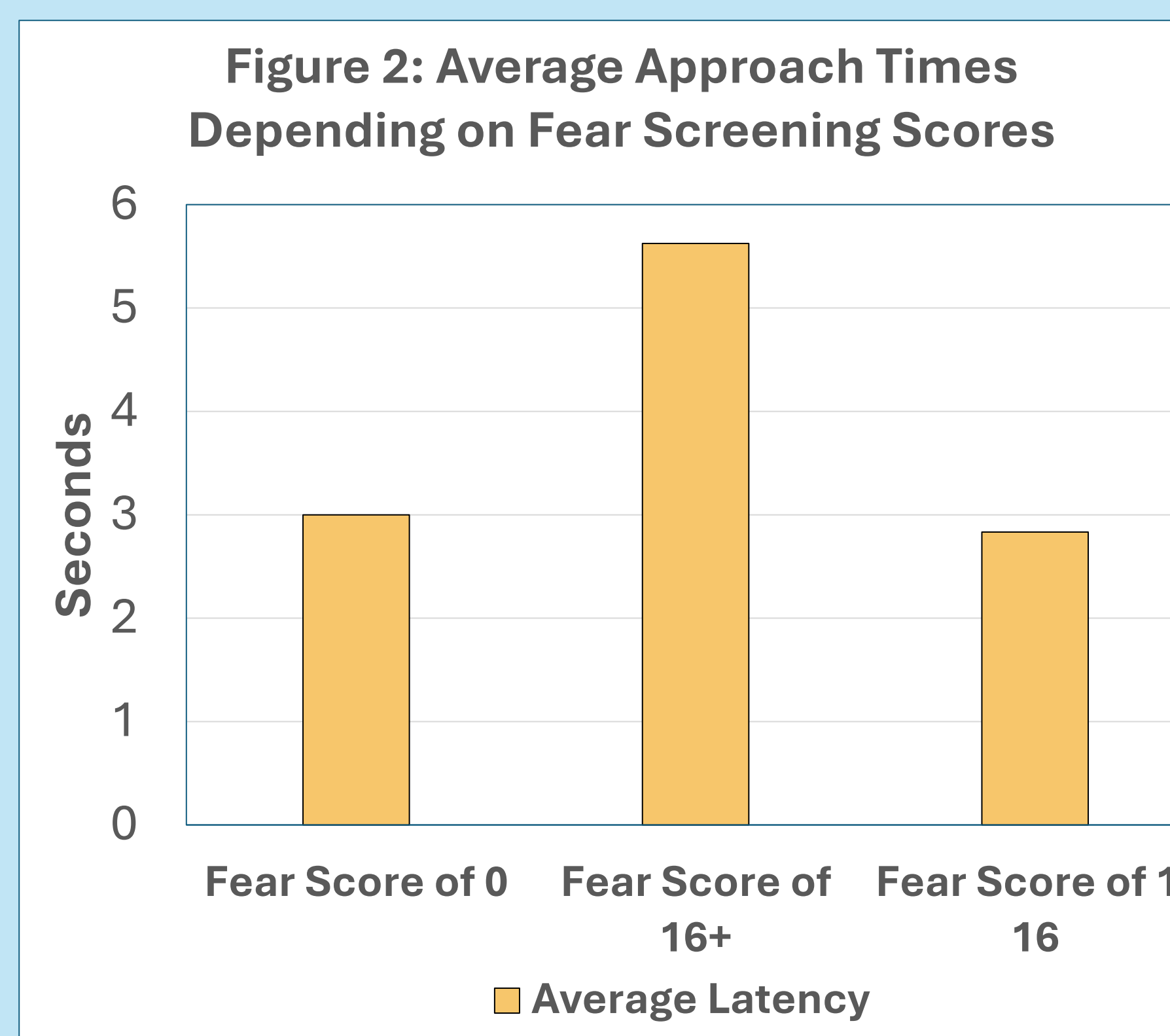


Figure 2. Comparison of dogs' fear screening scores and latency at Visit 4 (12-months)

Fear and aggression screens from the WDQ-Pet showed that when comparing dogs with fear scores of 0 to those with fear scores ≥ 16 , the dogs with higher scores took longer to approach the experimenter at 12-months (Mann Whitney U = 28.5; 1-tailed test score; z-score = 1.65653, $p = 0.04846$).

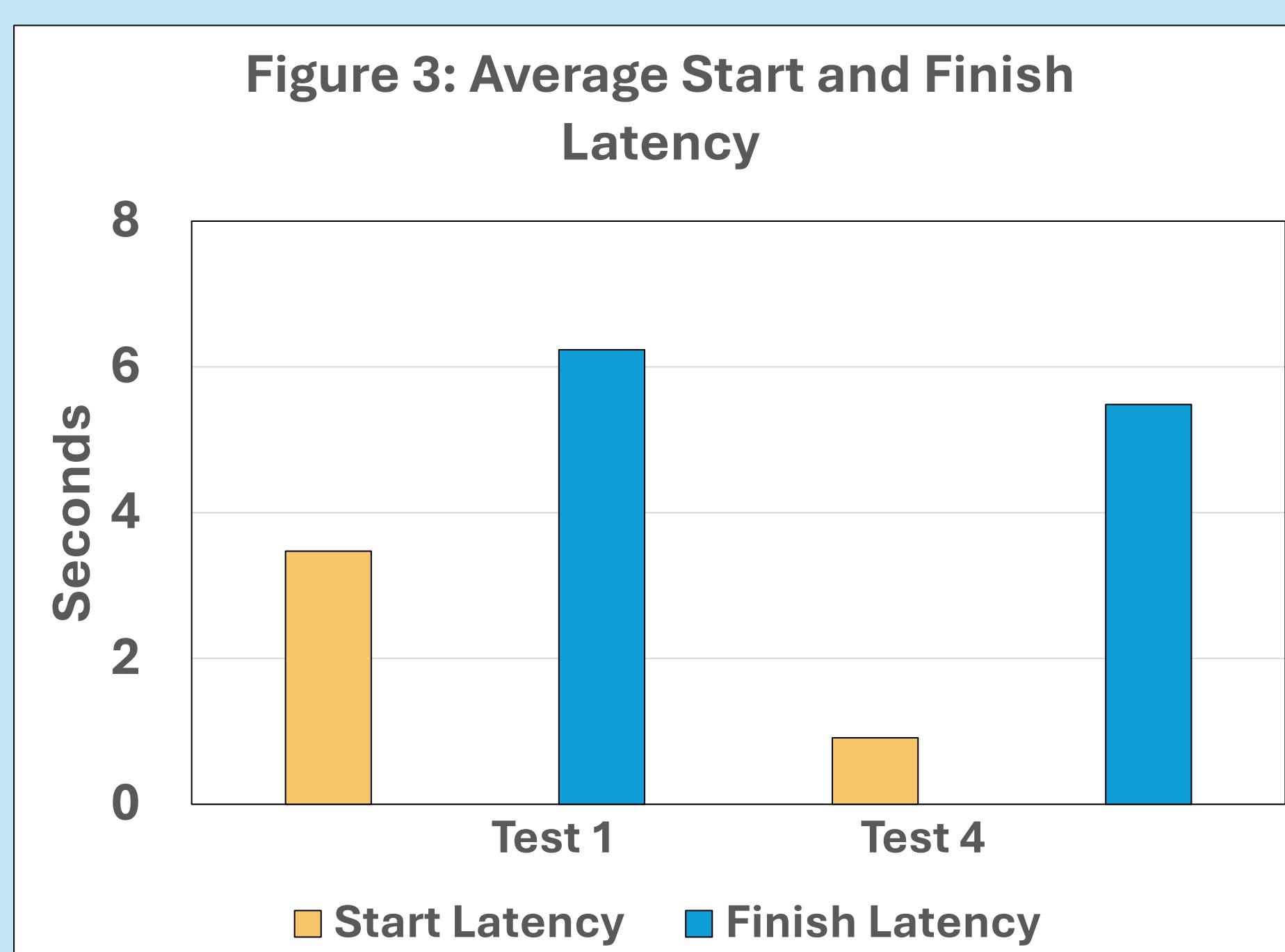


Figure 3. Comparison of Average Latency of Visit 1 (3-months) and Visit 4 (12-months) time to cross start and finish line

The time taken to cross the start line at visit 4 was faster than visit 1, as was the time to cross the finish line. These results were statistically significant (Kruskal Wallis H statistic = 10.9359 (1, N = 70); $p = 0.0009$), (Kruskal Wallis H statistic = 5.982 (1, N = 67) $p = 0.01$, respectively), although speed at 3-months was not correlated with speed at 12-months (Spearman's rho: $r_s = 0.34805$, p (2-tailed) = 0.06). These results suggest that regardless of how well any dog did, the dogs, as a group, improved in response to the signal with age, but that there was variation in who improved and how much.

Assessing the number of lures used against latency to completion showed that the longer a dog took to approach the experimenter and complete the test, the more likely they were to require lures (Pearson correlation coefficient; $R = 0.8671$; $p = 0.0001$).

Evaluation of total latency to complete the approach test from test 4 (12-months) to WDQ-Pet questions pertaining to approaches from unfamiliar people, dogs, and familiar dogs yielded a sole significant finding for familiar dogs. Dogs with longer latency times had responses indicating more worried reactions to the approach of a familiar dog at 12-months, while dogs with shorter latency times responded as less worried (Spearman's rho: Spearman's rho - $r_s = 0.43634$, p (2-tailed) = 0.03738). Regardless – in each case (approaches from unfamiliar people and dogs and familiar dogs), the most fearful dogs had scores that were among the slowest third.

Discussion

Our results show that dogs who performed the approach test slowly did so at both visits and dogs that performed it quickly did the same. The presence of lures was found to be associated with approach test completion speed: the longer a test took, the more likely a lure would be required. Furthermore, the longer a dog took to complete the test, the more likely they were to retreat to their owner. These data suggest that a slower approach is a reinforcing behavior for concerned dogs which return to or turn to visualize their owners during the approach test. These behaviors were found not to improve from 3-months to 1-year of age. It can be proposed that if a dog that does not readily approach a novel stranger under similar context, then they may be flagged for other hesitant behaviors, and treated as if they will become fearful in some social situations.

Dogs with higher fear scores on the WDQ-Pet took longer to approach the experimenter at 12-months, when dogs are becoming socially mature. This is a small pilot study, but this finding may indicate that the results of the approach test may indicate the presence of fear behaviors as dogs are becoming socially mature at 12-months. These preliminary data suggest that counseling people with dogs that are reluctant to approach a stranger at 3-months is necessary as such reluctance will not simply improve with time and may be correlated later with problems that put the dog at risk for quality of life and welfare concerns, and behavioral risk. Such clients should seek help from their veterinarian and/or a specialist early.

Acknowledgements and References

This poster was made possible by funding from the AVC VetSRLP, the expertise of Dr. Karen Overall, and Dr. Jennifer Vernick, and the help of Erika Marcelo and Alissa Flight.

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