

Which dog? Developments concerning the welfare of *Canis familiaris*

By Jonathan Early

Introduction

The dog-human relationship has been an integral part of society for thousands of years. Many myths and fantasies have abounded as to the behaviour and training of the dog. However, with the advent of psychology, many researchers have attempted to define and contextualise dog behaviour and the methods humans use to train these animals. During the later half of the 20th century, great strides were made in understanding the dog and man's relationship to it. Now, in the 21st century, new research and the culmination and progression of the old is shedding even more light on different breeds of dogs suitable to specific tasks and people. This small but significant step may help clear up the misunderstandings some dog owners and much of the general public have towards dogs.

Discussion

Areas of research in the last twelve months have focussed on predicting behavioural traits through heritability, the effect of play on the dog-human relationship, ability to assess behavioural traits through specific tests and examining a revised training method for its suitability to *Canis familiaris*.

In 2002, Rooney and Bradshaw studied the effects of play upon the dog-human relationship, their aim being to examine the hypothesis that the outcome of competitive games can affect dog-human relationships. They tested fourteen Golden Retrievers, known for owner-directed aggression, over forty sessions of tug-of-war, half of which they were made to lose and half of which they were allowed to win. Their relationship to the experimenter was tested before the tug-of-war. It was also tested after twenty sessions and again at the end. Underlying behavioural factors such as confidence, obedient attentiveness, demandingness and playful attention seeking were also measured. The researchers concluded that the dominance dimensions of the dog-human relationship were unaffected by the tug of war games. What is interesting to note is that play signals were often absent or misinterpreted during tug-of-war or any other play activity may create more serious consequences. This is particularly important in relation to so-called dominant dogs. Only fourteen dogs were tested. This, along with limiting the form of play analysis to tug-of-war, meant that the study could in no way hope to comprehensively assess the dog-human relationship.

McKinley and Young (2003) were more interested in training than play. They compared the learning ability of nine dogs to solve a retrieval-selection task after having been previously trained by their owners using operant conditioning or model-rival techniques (two subjects vying for the same object). In this study the object became the intrinsic reward. The dogs had to correctly select the object chosen verbally by the experimenter from a group of three similar objects, all being red or yellow in colour. Over a series of testing, it was concluded that there was no significant difference in the speeds with which the dogs solved the test (502sec operant versus 468sec model-rival). This offers the possibility of using the model-rival method in training and studies related to dog cognition. This investigation was limited by the small number of dogs tested, the very limited scenario and the lack of a detailed history from the owners as to their previous training methods.

Ruefenacht et al (2002) analysed data from 3497 German Shepherds (52% female, 48% male) to estimate genetic and non-genetic effects on behavioural traits. The test used was the field behaviour test of the Swiss German Shepherd Dog breeding club. Seven traits were analysed for heritability. These were self-confidence, nerve stability, temperament, hardness, sharpness,

defence drive and fighting drive. The researchers discovered that there was a modest genetic improvement, which was blamed on the low selection intensities of the entire test, of which only 8% failed (heritability range 0.09-0.24). Due to the extended period of testing (1978-2000) and the subjective nature of the judging, many of the seven traits were not equally weighted. The testing and scoring procedures needed to be further defined along with the selection of dogs to gain a better understanding over the generations in relation to heritability of behavioural traits.

Svartberg and Forkman (2002) investigated the existence of personality traits in dogs. Their data came from behavioural testing on 15,329 dogs from 164 breeds (average age 599.6 days). The test measured the dog's reaction to strangers, 'fleeing' prey-like objects and fear and aggression-eliciting stimuli in ten sub-tests. These were Social contact, Play 1, Chase, Passive situation, Distance-play, Sudden appearance, Metallic noise, Ghosts, Play 2 and Gunshot. Their analysis revealed five narrow traits: playfulness, curiosity/fearlessness, chase-proneness, sociability and aggressiveness. It was discovered that aggressiveness was the only trait not found to be related to any other. This analysis paves the way for a scientific description and comparison of individual dogs as well as breeds from the five traits mentioned. However, the subjectivity of the scoring and an unstable matrix of correlation in analysis of some results allows for further refinement of such studies.

These research articles have improved and expanded our understanding of the domestic dog. Tug-of-war may appear to be quite a dramatic event for the participant or viewer but Rooney and Bradshaw (2002) have demonstrated that it is not a sole defining factor in the dog-human relationship. The playing dog may be able to sense far more discreet signals than we give it credit for. Further investigation into the role of play in dog-human relationships may help to clarify this area. McKinley and Young (2003) have discovered the possibility that there might be still more methods with which to train a dog. This may, along with different game play investigations, improve some dogs' lives by providing them with methods that suit their personality and aptitude.

Conclusion

Ruefenacht et al (2002) and Svartberg and Forkman (2002) have taken the scientific understanding of dogs even further. They have shown that, by assessing a dog's personality and/or behavioural traits, it may become possible to select dogs suited to specific tasks or environments. More importantly, people may be better matched with a dog or breed of dog, lowering the incidence of behaviour problems arising from incompatible dog-human relationships. However, further research needs to be done to clarify and improve our working and social relationships with dogs.

References

McKinley, S. & Young, R.J. (2003) The efficacy of the model-rival method when compared with operant conditioning for training domestic dogs to perform a retrieval-selection task. *Applied Animal Behaviour Science*. 81, 357-365.

Rooney, N.J. & Bradshaw, J.W.S. (2002) An experimental study of the effects of play upon the dog-human relationship. *Applied Animal Behaviour Science*. 75, 161-176.

Ruefenacht, S., Gebhardt-Henrich, S., Miyake, T. & Gaillard, C. (2002) A behaviour test on German Shepherd dogs: heritability of seven different traits. *Applied Animal Behaviour Science*. 79, 113-132.

Svartberg, K. & Forkman, B. (2002) Personality traits in the domestic dog (*Canis familiaris*). *Applied Animal Behaviour Science*. 79, 133-155.