The Importance and Reliability of Temperament Testing in Companion Dogs

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Word count: 1002

Introduction

The primary role of dogs today is as companions, and dogs that behave in an undesirable manner face serious welfare repercussions (Marston *et al.*, 2004; Mornement *et al.*, 2010). Evidence suggests that dogs exhibit relatively stable behavioural predispositions that are inherent in the individual, present from a young age and reasonably heritable. This is referred to as their temperament (Taylor & Mills, 2006; King *et al.*, 2012). However, assessing a dog's temperament can be challenging, as many factors contribute to the behavioural responses it exhibits. The current temperament/behavioural tests available lack validity and reliability (King *et al.*, 2012; Bennett *et al.*, 2012; Mornement *et al.*, 2010).

Discussion

Behaviour problems, including aggression, hyperactivity and barking, are among the most common reasons that dogs are relinquished to shelters (Bollen & Horowitz, 2008; Bennett *et al.*, 2012). How a dog behaves reflects a combination of factors relating to its inherent temperament, the environment and past experiences. Together, these influence how each dog reacts in specific, but generally consistent, ways to future stimuli. This is significant as, in theory, it means that it should be possible to infer a dog's underlying temperament by how it behaves in certain situations (King *et al.*, 2012).

Based on this hypothesis, various behavioural assessments, involving a series of subtests, have been developed. These assessment tools evaluate the behavioural responses of each dog to a specific stimulus at one time, in one environment. The information from such an evaluation is used to predict how the same animal may respond in similar situations (Taylor & Mills, 2006; Bennett *et al.*, 2012).

Reliable temperament tests are desirable for several reasons. King *et al.* (2012) highlighted their potential benefit to canine welfare by allowing dogs to be selected for breeding based on desirable temperament characteristics. As these traits have been demonstrated to be at least partly heritable, they could assist in producing offspring with more suitable behavioural tendencies, potentially reducing the number of dogs abandoned. Furthermore, these tests could help breeders and other organisations to better match compatible animals with new owners. In shelters such tools are already commonly used to predict aggressive responses and identify dangerous dogs. The tests also aid in identifying dogs with potentially treatable or manageable behaviour problems (Taylor & Mills, 2006; Van der Borg *et al.*, 2010; Bennett *et al.*, 2012).

Reviews of the literature indicate existing behavioural tests have many limitations due to lack of a systematic scientific approach, standardisation, reliability and validity (Diedrerich & Giffroy, 2006; Taylor *et al.*, 2006; King *et al.*, 2012). Australian shelters use a variety of protocols predominantly developed in-house to assess behaviour and adoptability. None of these has been adequately evaluated in peer-reviewed literature (Mornement *et al.*, 2010).

Two recent studies (Barnard *et al.*, 2012; Bennett *et al.*, 2012) have tested behavioural tests by examining their ability to identify aggression. Bennett *et al.* (2012) used a sample of dogs (n=67) and Barnard *et al.* (2012) a smaller sample (n=34) to examine the correspondence between test responses and an external independent measure of behaviour, the C-BARQ (Canine Behavioral Assessment and Research Questionnaire.) This is a validated questionnaire that gathers information from owners on a dog's typical behaviour in the home environment (Barnard *et al.*, 2012).

Bennett *et al.* (2012) examined the ability of two behavioural assessment instruments commonly used in American shelters to identify aggression. The measures they used were the ASPCA's Safety Assessment for Evaluating Rehoming (SAFER) and a modified version of Assess-A-Pet (mAAP). They found SAFER showed both lower sensitivity and specificity than mAAP. SAFER testing was unable to identify moderately aggressive dogs that could be candidates for behavioural modification,

but both tests had marginal sensitivity and specificity, producing both false positive and false negative assessment results. The results of some subtests might be affected by factors such as the dog reacting to the stimulus of an unfamiliar person or artificial environment, thereby invalidating the intended purpose of the subtest. Consequently, as Bennett *et al.* (2012) have noted, the internal validity of these tests is debatable and should be more closely evaluated.

Two common factors that canine temperament tests try to assess is the likelihood of aggression towards conspecifics or children. Artificial devices such as a child-like doll or plastic dog have been employed to measure this. Barnard *et al.* (2012) attempted to determine the validity of these by comparing the behavioural responses of non-aggressive dogs, child-aggressive dogs and dog-aggressive dogs. The dogs were placed in these groups based on their history and assessors used a modified version of C-BARQ.

Correlations were found between survey scores for child-directed aggression and behavioural reaction to the doll, as well as between scores for dog-directed aggression/fear and aggressive reaction to the fake dog. It can be concluded that the doll device is a useful tool for screening for social fears in unknown dogs and to identify those that may be unsuitable for adoption into families with young children. It is, however, by no means a definitive test of an animal's temperament in this regard. Not all child-aggressive dogs demonstrated aggression toward the doll. The dog device was also found to have limited usefulness in assessing aggression toward conspecifics.

Conclusion

Large numbers of dogs are relinquished because of problem behaviours. Developing measures that accurately assess the behaviour and underlying temperament of dogs would help to improve their welfare. Such measures enable dogs suitable for breeding companion animals to be identified, as well as ensuring that pet dogs are placed in suitable homes. They could also help prevent destruction of dogs based on unvalidated temperament measurement.

Caution should be used when implementing behavioural assessments that have not been thoroughly investigated and assessment results should not be used in isolation. However, they can be useful in conjunction with other types of information, such as behaviour histories and owner, staff or volunteer observations.

Standardised and scientifically validated protocols for assessing canine temperament and behaviour are possible, but remember that animal behaviour is complex and no temperament test can predict a dog's future behavioural reactions with absolute certainty.

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