Evaluation of the predictive validity of the Behavioural Assessment for Re-homing K9's (B.A.R.K.) protocol and owner satisfaction with adopted dogs

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A B S T R A C T

It is common practice for animal shelters and rescue organisations to conduct behaviour assessments on the dogs in their care. The information obtained is used to identify dogs suitable for re-homing and also assist with matching dogs to appropriate homes. Although the aim of these assessments is to provide a snapshot of the behavioural characteristics of individual dogs, research to determine whether such tools are effective and accurate in predicting the behaviour of dogs post adoption is currently lacking. In the present study, we investigated the predictive validity of a standardised protocol called the Behavioural Assessment for Re-homing K9's (B.A.R.K.). We used the B.A.R.K. protocol to assess 74 dogs housed in an animal shelter, prior to their adoption. All dogs were at least 1 year of age (mean = 2.86 years, SD = 2.02). New owners of these dogs took part in a post adoption survey 2–8 months (mean = 4) after they adopted their dog. The survey aimed to establish the degree to which the behavioural tendencies identified by the B.A.R.K. protocol carried through to the adoptive home. The predictive validity of the B.A.R.K. protocol was relatively poor. Multiple regression analyses revealed that fear, measured by the B.A.R.K. protocol, significantly predicted 'fearful/inappropriate toileting' behaviours post adoption (β = 0.36, P < 0.05), as did anxiety (β = −0.31, P < 0.05). However problem behaviours more generally and aggression post adoption were not predicted by the B.A.R.K. protocol. Almost 25% of adopters reported that their new dog had 'growled, snapped at, or attempted to bite a person' and nearly 75% indicated that their dog exhibited behaviour they would change if they could. Despite this, just over half (56.8%) of the new owners said they were very satisfied with the behaviour of their newly adopted dog and 71.2% said their adopted dog had met their expectations. Our results suggest that additional research is urgently needed to evaluate the predictive validity of in-field behaviour assessments and whether a more holistic, or alternative, approach to assessing shelter dog behaviour, such as longer-term foster care programmes, is required to safeguard the welfare of dogs in the shelter system and the community at large.

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1. Introduction

Animal welfare shelters, the world over, take in millions of unwanted and stray dogs every year (Bollen and Horowitz, 2008). It is common practice for shelters to assess the behaviour of the dogs in their care, prior to re-homing them, to determine whether or not they are suitable for adoption. These assessments are thought to provide a profile of the behavioural characteristics of dogs (van der Borg et al., 1991) and are used to assist in matching adopters with appropriate dogs (Bollen and Horowitz, 2008). Information collected during the assessment, in which dogs are exposed to a series of stimuli intended to replicate real world situations, is used to identify stable behavioural tendencies in order to predict future behaviour that may be expressed in similar circumstances (Dowling-Guyer et al., 2011). The purpose of the assessment is to determine whether a dog will make a suitable companion for potential adopters (Christensen et al., 2007) and to optimise the match between adopter and dog (Bollen and Horowitz, 2008).

The quality of a behavioural test, whether a test is a good measure, the right measure and a useful measure, is determined by three characteristics: reliability, validity, and feasibility (Martin and Bateson, 1993). While these characteristics can only be assessed empirically, these tests are seldom validated (Taylor and Mills, 2006). This is an important oversight because it is widely recognised that deficiencies in assessment have the potential to be a significant welfare concern if dogs are wrongly euthanased or placed in homes for which they are unsuited, and they may also place adoptive families at risk if potentially dangerous dogs are sold as adoptable pets (Mornement et al., 2010). Available national statistics for Australia show that 21.5% of all dogs admitted to shelters are euthanased (Royal Society for the Prevention of Cruelty to Animals Australia National Statistics, 2012–2013). The most common reasons cited for euthanasia are 'behavioural' (66%) followed by 'medical' (23%). Although, encouragingly, fewer dogs are being euthanised for behavioural reasons than was the case a decade ago, this still represents many thousands of dogs. It is therefore imperative that shelter dog behavioural assessments are valid.

Validity in this context cannot be assumed because accurate assessment of the behaviour of dogs while in a shelter environment, even when utilising standardised protocols, remains problematic. Shelter admission is highly stressful and traumatic for most dogs (Mornement et al., 2014). Contributing factors include capture and confinement during transport, loss of familiar social companions, extremely novel surroundings, contagious and aggressive barking and loss of control over environmental contingencies (Shiverdecker et al., 2013). Other evidence demonstrates that chronic stress can affect cognitive functioning (Marina et al., 2011) and behaviour (Beerda et al., 1997, 1999; Grønli et al., 2005). Behaviour displayed by dogs during a behaviour assessment, which typically occurs in the first few days following admission, may therefore not be indicative of dogs' usual behaviour under more normal circumstances, such as in the home environment. This could render any assessment of behaviour conducted

within a shelter, particularly within close proximity of time of admission, inadequate. Although few studies have examined this possibility, recent research has found that, of 77 dogs that did not display food-related aggression during a shelter behaviour assessment, 22% did display the behaviour post adoption. Conversely, 45% of the 20 dogs that did display food-related aggression during the behaviour evaluation did not display the behaviour in their new homes (Marder et al., 2013). Another study by Kis et al. (2014) found that food related aggression changed over time with dogs showing more aggression having spent two weeks in the shelter compared to one to two days after admission. In addition, pet dogs showed more food aggression in the presence of their owner (Kis et al., 2014). This suggests that behaviour assessment protocols for shelter dogs may not be efficient in identifying and predicting all behavioural tendencies, including aggression.

The Behavioural Assessment for Re-homing K9's (B.A.R.K.) protocol, a standardised shelter dog behaviour assessment, was developed following a review of shelter dog assessment protocols used in Australia (Mornement et al., 2010). The review revealed that, although shelters are to be commended for attempting to ensure that only appropriate dogs are adopted, standardisation in content and methodology, and empirical evidence to support the reliability, validity and feasibility of such assessment protocols, was lacking. Preliminary evaluation of aspects of the reliability of the B.A.R.K. protocol revealed a good degree of inter-rater reliability, when two experienced raters simultaneously scored dog behaviour, but limited test–retest reliability, when dogs were retested 24 h later (Mornement et al., 2014). It may be inevitable that individual dogs' responses will vary over time, as the shelter environment is dynamic and cannot be completely standardised. If so, however, this would significantly limit the validity and utility of shelter-based behavioural tests.

In a previous study we also followed up dogs, assessed in-shelter using the B.A.R.K. protocol, that were subsequently adopted using a post adoption questionnaire. We reported one general measure of the predictive validity of the B.A.R.K. which showed that two behavioural traits, measured by the instrument in the shelter, were observed by new owners. Mean fear and friendliness scores obtained during the B.A.R.K. assessment were significantly correlated with new owner ratings of their dogs, overall, for the same behavioural traits (Mornement et al., 2014). In this paper we report the predictive validity of the B.A.R.K. protocol in greater detail by investigating the tools ability to predict a range of specific post adoption behaviours, in a variety of contexts. The questionnaire probs various aspects of the behaviour of adopted dogs in their new homes, adopter satisfaction with their dog and the adoption process, and the process adopters used to select their new dog.

2. Method

2.1. Subjects

2.1.1. B.A.R.K. assessments

A sample of 102 dogs was assessed using the B.A.R.K. protocol while temporarily housed in five Australian