

Cross sectional study comparing behavioural, cognitive and physiological indicators of welfare between short and long term kennelled domestic dogs

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Abstract

Affective states are an integral part of animal welfare but are difficult to assess using traditional welfare measurements. It has previously been shown that kennelled dogs commonly show indications of poor welfare. The aim of this study was to compare welfare of short-term (ST) and long-term (LT) kennel housed rehoming centre dogs using a range of indicators. Affective states were measured with a judgement bias test, assessing whether dogs had a relatively optimistic or pessimistic interpretation of ambiguous stimuli. Direct assessment of behaviour in three situations (undisturbed, stranger passing, stranger approaching) was conducted, and urinary cortisol:creatinine (C:C) levels measured for each dog. Finally, each dog's main caretaker completed two short questionnaires: an objective indication of dogs' behavioural responses to familiar people, unfamiliar people and other dogs, and a more subjective staff evaluation of behavioural characteristics and overall welfare. ST and LT dogs did not differ in the judgement bias or urinary cortisol levels, although cortisol:creatinine ratios were relatively high in both groups and very variable between individual animals (mean = 22.2×10^{-6} ; S.D. = 13.0×10^{-6}). Directly observed behaviours in kennels were also similar between groups, apart from LT dogs showing more resting behaviour when undisturbed, likely due to familiarisation with kennel routines. Staff perceived the welfare of both groups to be similar, but LT dogs were perceived to play less with people, bark and growl more at strange dogs and play more with objects when with another dog. These may be reasons for failure of dogs to be homed, rather than consequences of long term kennelling. Overall, this study suggested large individual variation in measures of welfare and behaviour, but few differences between dogs housed for more than 6 months as compared to those housed for shorter periods. This may suggest that the welfare of dogs is influenced more by specific aspects of their individual kennel experience rather than the overall time spent in a kennel environment.

Keywords

Judgement bias; Shelter dogs; Affective state; Behaviour; Cortisol; Staff assessment