

# Some dogs find kennels exciting, not stressful

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New research suggests that dogs who spend a short time in boarding kennels may not find it unduly stressful and could in fact find the change of scenery exciting.

This [hypothesis](#) directly contradicts previous research which suggests that dogs experience [acute stress](#) following admission to kennels, and chronic stress in response to prolonged kennelling.

The study, published in the journal *Physiology & Behavior*, also suggests that dogs may even view kennelling as an exciting change of scene, at least in the short-term.

The team, which included academics from the University of Lincoln, UK, University of Birmingham, Queen's University Belfast and The Royal Veterinary College, measured a range of stress parameters in 29 privately-owned dogs - both at home and in one of three private boarding kennel establishments in Northern Ireland.

This study aimed to test the validity of a range of physiological, physical and behavioural welfare indicators and to establish baseline values reflecting good dog welfare.

Physical measurements included skin dryness, nose temperature, core body temperature and amount of food eaten. Behavioural measurements included spontaneous behaviours such as lip licking, paw lifting, yawning, shaking and restlessness. Physiological measures included stress hormones (corticosteroids) and epinephrine (adrenaline).

The study revealed that dogs have higher levels of arousal, colder noses and were generally more active in kennels than when they were at home.

The welfare of kennelled dogs is of concern, given that many experience minimal social contact, exercise and control over their environment as well as unpredictable and high levels of noise, novelty and disrupted routines.

Based on existing research it was assumed that dogs would show higher levels of stress in the kennel compared to the home environment.

The most widely used physiological indicator of canine welfare is urinary cortisol (hormone secreted following activation of one of the major stress response systems) and creatinine (chemical waste product created by the liver) ratios (C/Cr), which is considered a valid measure of acute and chronic stress in dogs. However, the reliability of this has been questioned.

The study revealed that C/Cr was significantly higher in the kennel compared to the home environment but cortisol levels have also been found to increase after exercise and excitement, and appear to provide an indication of arousal without specifying the emotional reason of that arousal.

Dr Lisa Collins, from the School of Life Sciences, University of Lincoln, UK, said: "Many owners find leaving their dog at a boarding kennels a stressful experience. However, this study suggests that

although dogs appeared to have a higher level of overall arousal or excitement in kennels compared with their state at home, this arousal is not necessarily due to dogs experiencing kennels as negatively stressful. The emotional reasons for the behavioural and physiological responses of the dogs were ambiguous and no definitive evidence was found to suggest that dogs were negatively stressed by kennelling.

"Our findings did strongly suggest that C/Cr, epinephrine and nose temperature are robust measures of psychological arousal in dogs. Nonetheless, these measures can be easily misinterpreted and do not provide unequivocal indicators of psychological [stress](#). Findings appear to suggest that the dogs in this study did not perceive admission to boarding kennels as an aversive stressor and perhaps, instead, perceived kennelling as an exciting change of scene, at least in the short-term."

The team recommends further investigation to determine the validity of measurements tested as indicators of acute and [chronic stress](#) in domestic [dogs](#).

**More information:** C.E. Part, J.L. Kiddie, W.A. Hayes, D.S.Mills, R.F. Neville, D.B.Morton, L.M. Collins "Physiological, physical and behavioural changes in dogs (*Canis familiaris*) when kennelled: Testing the validity of stress parameters"  
*Physiology & Behaviour* [DOI:](#)  
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