Aggression: A Common Doggy Problem

By Leah Padman

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Introduction

Dogs are commonly considered to be “completely safe” or “vicious” (Casey *et al.*, 2013), but dog aggression can be demonstrated in various ways –directed either toward humans or other dogs. Aggression, defined as lungeing, growling, or barking (Casey *et al.*, 2013), is the most common unwanted dog behaviour reported (Casey *et al.*, 2013) and is the primary reason dogs are surrendered to shelters and eventually euthanased (Westgarth *et al.*, 2012). This essay focuses on dog/dog aggression (directed at unfamiliar dogs during walks or toward other dogs in the household). The dog’s welfare is at risk unless the correct approach is taken. Recent studies explore some underlying causes that can lead to aggression and suggest ways of preventing such behaviour.

Discussion

In a study conducted by Wells & Hepper (2012), the relationship between the personality of pet owners and the breed of dog owned was explored. A Eysneck Personality Questionnaire-Revised (EPQ-R) survey was conducted, with 147 adults participating. Each owned one of the breeds that are considered “aggressive” (German Shepherd dog and Rottweiler) or “non-aggressive” (Labrador and Golden Retriever). The EPQ-R contains four scales: Extraversion, Neuroticism, Psychoticism and Lie, and required participants to answer with a yes/no scoring system. The relationship between the owners’ “psychoticism scores” was found to be significant – owners with higher scores owned “aggressive” breeds compared with owners of “non-aggressive” breeds, who had lower scores. Psychoticism (demonstrated as hostility, anger, and aggression) in owners showed some link to why they owned an “aggressive” dog breed. There was no significant effect of the dog breed owned with the extraversion, neuroticism, and lie scores. This study may be a starting point to understanding mechanisms underlying canine aggressive behaviour and further shedding light on owner personality and dog breed ownership.

The premise of two recent studies, Casey *et al.* (2013) and McBride (2013), was that aggression is not associated with breed type and may have little influence on behaviour. Other canine studies found traits, such as aggression, nervousness, and fearfulness, to be heritable. A case study conducted by Westgarth *et al*. (2012) tackled this question by asking animal behaviour institutes in the UK to complete 10 case questionnaires. It was found that if the owner had seen only one parent before acquiring the puppy, the puppy was 2.5 times more likely to develop behaviour problems than if the owner had seen both parents, but if the owners had not seen either parent, behaviour problems were 3.8 times more likely. Owners are therefore advised to see both parents of their future puppy to reduce the development of aggression. Data from further repetitions and a larger population may strengthen this finding.

Wright *et al.* (2012) conducted studies to investigate how aggression results from a lack of self-control. This was completed by a Dog Impulsivity Assessment Scale (DIAS) and a delayed-reward test. The DIAS allows a quick assessment of behaviour as it is based on an owner’s report, with definitions of impulsive aggression and guidelines provided, to avoid owner bias. The DIAS consists of “Behaviour Regulation”, “Aggression and Response to Novelty”, and “Responsiveness”. The delay-reward system used a device that allowed for delivery of food pellets in response to the dog’s paw pressing on a panel. There were two operant devices to choose from: one that dispensed one pellet after 1 second, the other with a 3-second delay but dispensing three pellets (i.e., a larger reward). It was demonstrated that dogs with higher DIAS scores had a lower tolerance for the delayed-reward test, which means that dogs with higher DIAS scores showed more impulsive behaviour – confirmed with the less-impulsive dogs with lower DIAS scores as they could maintain a longer delay in the reinforcement test. Further research was also undertaken by comparing urine metabolites, including serotonin and dopamine (associated with impulsive aggression in previous studies). The metabolites indicated that impulsivity is not the only factor contributing to aggression.

The physiological correlates of aggression were also explored in Leon *et al*. (2012), who measured the concentrations of serotonin in dogs (n=28) known to be aggressive. The serotonergic system is believed to play a role in modulating aggression. This assessment of serotonin was compared to concentrations taken from non-aggressive dogs (n=10). The overall result was an inverse relationship between serotonergic system and canine aggression. Thus, canine aggression may well be prevented and managed by altering the concentration of serotonin (e.g., via drug therapy). Further research investigating the mechanisms involving serotonin should be conducted to create new tools for diagnosis and treatment of canine aggression.

So far, it can be seen that dog aggression origins can be affected by owner behaviour, genetics and metabolites (i.e., it is multifactorial). This is further confirmed by Casey *et al.* (2012) in their study based on a large-scale survey. The aim of the study was to investigate potential risk factors associated with inter-dog aggression. The questionnaire contained sections regarding information about owners, dogs and their history, owners' ways of dealing with behavioural problems, and occurrence of undesirable behaviours. After analysing 3897 completed surveys, it was found that 30% of dogs displayed inter-dog aggression. Aggression was not displayed in multiple contexts, which led to suspicion that aggression is not an overall individual characteristic. It was also noted that aggression was likely to be fear-related and that close contact during anxiety-based social activities (e.g., obedience classes) may also increase the risk of aggressive behaviours (McBride, 2013). The mistaken idea of aggression being dominance-related is widespread among owners and pet professionals (Lindell, 2010), but as there are multiple factors involved, aggressive potential should be evaluated at the individual level.

Conclusion

Veterinarians play an important role in providing appropriate advice and education to owners in understanding the underlying cause of aggression in their dogs, especially when it is fear-related. Resolving the issues of inter-dog aggression is multifactorial and complex so careful consideration should be taken to avoid disrupting the human-animal bond when contemplating treatment. Further research would greatly benefit the approach to controlling aggression, thereby reducing distress in owners and improving dog welfare.

References

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