

Meaningful temperament assessment for aggression in dogs — can it be done?

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INTRODUCTION

Aggression is the most common problem encountered in behavioural practice (Blackshaw, 1988). In dogs it may be directed towards people, other dogs or some other species. Worldwide, dog attacks are a serious problem which can lead to infection, permanent scarring and even death. Court cases involving claims for compensation can be traumatic for the victims and the dog owners.

It would be useful if there were a reliable way to temperament test puppies or older dogs to predict the likelihood of the dog biting a child or adult. Unfortunately it is impossible to devise a testing procedure that will predict if a certain dog will bite. It is important to consider the factors that contribute to answering the question ‘why do dogs bite?’ (Podberscek and Blackshaw, 1990).

WHY DOGS BITE

Genetic predisposition

Although it is often disputed, there is evidence that some breeds of dogs are recorded as biting more often than other breeds. In a survey (Podberscek and Blackshaw, 1990) of 406 respondents 263 had been bitten by a dog in 324 individual bite cases (44 victims gave information on more than one incident). The breeds and crossbreeds of the dogs which had bitten are shown in the Table 1 (*shown below*).

Incidence of biting recorded in breeds and crossbreeds of dogs	
Breed	No. (%)
Australian Cattle Dog	55 (19.0)
German Shepherd and crosses	52 (18.0)
Mixed breed dogs	40 (13.8)
Bull Terrier and crosses	24 (8.3)
Labrador and crosses	15 (5.2)
Australian Kelpie and crosses	12 (4.1)
Dobermann	9 (3.1)
Fox Terrier and crosses	9 (3.1)
Terrier types	8 (2.8)
Welsh Corgi and crosses	7 (2.4)
Cocker Spaniel	6 (2.1)
Dachshund	5 (7.1)
Others (fewer than 5 cases per breed)	47 (15.7)

Blackshaw (1991) listed 26 breeds of dogs for aggression problems. The most common breeds were the Bull Terrier (16%), German Shepherd and crosses (15%), Cattle dog breeds (9.2%), Terrier breeds (9%), Labrador (8%), Poodle and Cocker Spaniel (both 5.7%) and Rottweiler (4.6%). The first 5 breeds of dogs mentioned (50 dogs) accounted for 57.5% of aggression problems.

It is important to look at the frequency of occurrence of breeds which cause aggression, in the context of the number of those breeds in the population. The only way to do this is to look at the purebred registrations. Both Podberscek and Blackshaw (1993) and Blackshaw (1991) found that certain breeds were greatly over-represented in their contribution to aggressive behaviour. The breeds common to both studies are in Table 2 (*shown below*).

Breeds of dogs over-represented
German Shepherd
Bull Terrier
Australian Cattle Dog
Labrador
Cocker Spaniel

Other breeds that were over-represented from both studies were Doberman, Kelpie, Welsh Corgi, Dachshund and Poodle.

Some dogs are intentionally selected and bred to be aggressive although the genetics of canine aggression are not fully understood. However if an owner knows they have a breed of dog that has been shown to be aggressive, no amount of temperament testing is going to ensure that the dog will never bite. It would be much better if the owner were aware of their responsibility to make sure the dog was not in a situation where it could bite.

Training

Some dogs are specifically trained to be aggressive in certain situations. A very well trained guard dog should only respond in specific circumstances. However I have been involved in several court cases where a guard dog has shown inappropriate aggression.

Socialisation

This is the special learning period from 3 weeks to approximately 12 weeks of age when a dog learns to accept close proximity to various species or conspecifics of its own group. It can be argued that this is the most important time in a dog's life (Scott and Fuller, 1965). If dogs are not socialised with humans it hinders the dog's ability to relate to people and it will become fearful, which may lead to fear-biting.

Owner control

All breeds of dogs should be obedience trained. If they are not they are harder to control and this can lead to problems with dominance and territorial aggression. Dogs that are not properly confined or restrained when taken for walks can be dangerous.

Victim behaviour

This factor is unpredictable — there is no way to construct a temperament test that can predict all the situations which stimulate a dog to bite. Predatory aggression can be the result of the victim running away from the dog. However other types of dog attacks can be caused by teasing, rough playing and interfering with feeding, by invading a dog's space and by many other victim behaviours.

The fact that there are many causal factors which can all contribute to how a dog might react makes it almost impossible to predict how a dog will behave in every behaviour setting. Nevertheless there are some characteristics that can be taken into account when a dog is chosen for a specific environment.

CHOOSING THE RIGHT TEMPERAMENT

There are two common methods of choosing the right dog by temperament testing that I will consider. These are:

1. Obtaining a young puppy (6-8 weeks);
2. Adopting a dog from an animal shelter.

Temperament testing a young puppy

There are very few validated temperament tests for dogs. Houpt (1991) commented that puppies that are exploratory at 6 weeks might not be at 12 weeks and vice versa.

She believes that tests of puppies at 7 weeks, popular as a means of predicting adult behaviour, are unlikely to be valid. Fox (1977) pointed out that although the general temperament can be assessed at 6 weeks it is not fully mature in the dog until one or one and a half years.

Assessment from 4 to 6 or 8 weeks can evaluate:

- locomotor ability;
- sensory reactions to odour, sounds and visual stimuli;
- reaction to separation from the mother;
- reaction to strange people or unfamiliar environment;
- sociability tests for aggressiveness — Fox (1977) described several tests, which involved food competition and possession of food bowl accompanied by growling and threatening behaviour.

However Fox (1977) pointed out that all traits are modified by interacting genetic and environmental factors. The important thing that temperament testing can do at this stage is to facilitate selection of traits which make training easier for specific tasks and to select the most suitable breed and individuals within the breed.

Hart and Hart (1985) commented that there is a good chance that the behaviour of the puppy may resemble that of the mother, so observations of the dam and her social interactions could be useful. Similarly, it can be helpful to learn about the behaviour of the sire.

Temperament testing of dogs from shelters

Hart and Hart (1985) are not in favour of adopting an adult dog and recommend dissuading people from doing so unless they know the animal well. In their experience a great many problems arise from adult dogs that do not fit into the established households.

Van der Borg *et al.* (1991) found, on examining the statistics from the Dutch Society for the Prevention of Cruelty to animals, that 90% of the 40,000 dogs living in shelters were rehomed but 50% of them were returned for behavioural problems. These were various forms of aggression, fear, separation anxiety and disobedience.

A set of tests was developed to assess these problem-related behavioural characteristics (Van der Borg *et al.*, 1991) in shelter dogs. A range of stimuli were used, including humans, animals and visual and acoustic stimuli from objects. To validate results of 81 dogs tested and the opinions of staff they were compared with the experiences of the new owners (1 to 2 months later). The tests predicted 74.7% of the potential problem behaviours correctly, whereas only 33% were predicted correctly by staff.

Aggression towards children was tested using a life-size doll. It was found that 5 of 7 dogs that had shown aggression towards the doll were also aggressive towards children. Wright and Lockwood (1987) described a case of in which 3 pet bull terriers that were involved in a fatal attack on a young child were also aggressive to a life size doll. Thus a doll may be a useful tool for detecting aggression towards children.

Another assessment of dog temperaments from a rescue shelter showed that temperament testing can give a characterisation of the type of behaviour dogs will display in their new home (Leger and Baxter, 1997). However, Leger and Baxter (1997) and Van der Borg *et al.* (1991) commented that temperament tests at animal shelters are unlikely to be 100% effective as the dog-owner relationship is absent and the demographics of the household is unknown.

BREED PROFILES

Hart and Hart (1985) and Campbell (1975) classified dog breeds into categories of behaviour, including aggression. The categories of Hart and Hart (1985) are grouped by cluster analysis using the factors of reactivity, aggressiveness and trainability.

As with temperament testing a general pattern emerges but predicts nothing about the dog's behaviour in a specific behaviour setting. What temperament testing and breed profiles alert the owner to are areas where special restraint could be necessary to prevent a dangerous situation.

One prediction that is agreed upon in the literature (Podberscek and Blackshaw, 1993) is that male dogs are reported as attacking more often than females. In our study, 73.2% of cases were male dogs which attacked.

Another important comment was made by Reisner (1998) who commented that dogs with a history of biting would always have the tendency to bite. If owners want to keep the dog they must be willing to accept the risk.

CONCLUSIONS

This brings us back to the original question — meaningful temperament assessment in dogs for aggression — can it be done? The examination of a dog in a clinic and its response to various procedures is really not a good test of temperament except in the clinic situation. This is the problem with all temperament tests. The dog-owner interaction is not being tested nor are the dog's reactions to numerous situations in which the dog could bite.

Behaviour is influenced by the behaviour setting

The risk of a dog biting will never be completely eliminated, but the owner can do a lot to prevent situations occurring in which dogs can be dangerous. These include:

- avoid circumstances in which aggression is elicited;
- actively supervise interactions with young children — a leash or muzzle might be necessary;
- make sure the dog was socialised with people and other dogs during the early critical period;
- discourage games which involve pulling or hanging onto the owner's clothes;
- avoid teasing or interfering with a dog while it is eating.

The only way to have a safe dog is for the owner to be responsible.

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[UAM 99 Index Page](#)