

Aggression in Dogs: A Complete Review

Gaille Perry

ABSTRACT

Aggression is defined and the different situations in which aggressive behaviour can occur are discussed. Breed and sex tendencies for particular types of aggressive behaviour are included, as is their inherited or learned origin. Thompson's 1990 paper on the incidence of dog attacks drawn from the National Injury Data Base, and, in particular, his conclusions, require discussion. Thompson found that six breeds were responsible for a disproportionately large number of dog attacks and suggested their ownership be discouraged, especially by parents of young children. This paper shows that such action is unnecessary if the public is educated in correct dog management and if councils adopt and enforce sensible dog management by-laws.

INTRODUCTION

Aggression is defined in the Universal English Dictionary as "an unprovoked attack upon, an invasion of rights".

If this paper were to deal with the above definition of aggression it would be extremely short! Very few dog attacks are unprovoked, so, to reduce their incidence, we need to understand the factors leading to them.

The best way to study normal dog behaviour (without the effect of association with people) is to turn to the dog's ancestor and close relative, the wolf. Wolves are sociable animals - they live in a close-knit family group which can number close to forty members but more usually less than ten. The wolf pack hunts and raises its young cooperatively - every wolf has its place in the order of dominance and minor disputes are settled by threats rather than physical attack. If a fight does develop, the aggression of the winning wolf is switched off when the losing wolf submits.

These restraints are still present in most dogs; lack of understanding and therefore of correct management is probably the major factor influencing the incidence of dog attacks in Australia today.

EXPRESSION OF AGGRESSION

How does a dog show aggression?

Just as with people the way a dog expresses its aggression depends on its confidence in its ability to handle the situation. This confidence is partly inherited but largely due to the way the dog has been raised; a dog which has experienced a variety of stimuli as a pup is less likely to be fearful than one raised in isolation.

Socialisation

Unfortunately many people isolate their pups to protect them from disease or in the misguided notion that lack of people socialisation will produce a better watchdog. These fear biters simultaneously show signs of fear and aggression. Whether they attack depends upon which of the two conflicting emotions predominates. However when these dogs are placed in a position from which they cannot escape they will attack eg when being treated by the vet or when an animal control officer (ACO) attempts to capture them.

Confidence

Expression of aggression ranges from very confident, with erect stance and a high, deliberately wagging tail (Figure 1), to very fearful, with a lowered body and tail (Figure 2). Most aggressive dogs, whether confident or fearful, have raised hackles and may growl or snarl.

Many factors influence behaviour and the same dog may show very confident aggression in some situations (usually at home) while being much less confident and more fearful at other times (eg when cornered on the street by a dog warden).

Arousal threshold

The threshold above which the dog becomes aroused is another significant factor. There are a lot of large confident dogs around which do not pose any problem due to their phlegmatic disposition. This threshold appears to be largely inherited. Obviously all dogs exhibit some aggression; they would fail miserably as watchdogs otherwise! It is when this aggression is uncontrolled, and particularly if the tolerance threshold is low, that attacks are most likely to occur.

Reduction of the problem of excessive fearfulness will require much greater emphasis being placed on selection for temperament by breeders and on early socialisation by councils, vets and obedience instructors.

TRIGGERS OF AGGRESSION

Dominance

When we take a puppy into our families we are really becoming the members of its pack and the pup assigns each family member a place in its peck order. All is well when the pup adopts a subordinate role, but misguided kindness on the part of a family member may allow the dog to adopt a position dominant to them. This person is then less able to control the dog, and it may attack them if they try.

Dominant behaviour is partly inherited (having been selected for in some breeds) but is also partly learned (when the owner misinterprets dominant behaviour in a pup as play and encourages or is unable to stop it). Therefore, dominant behaviour can be modified by training. Although prevalent in many smaller breeds, such behaviour constitutes a much greater risk in large breeds.

Although most cases of dominance aggression are encountered in males, the effect of castration may be minimal, unless accompanied by behaviour modification.

Murray (1992) suggested that dominance aggression may be encouraged by breeding for show success on the premise that a dominant dog shows itself better so is more likely to win. This is not proven. Such a suggestion would be hotly contested by most breeders and by the registering bodies, which have a very strict ruling on any form of aggression towards people in the show ring. Any dog which bites or attempts to bite is unable to compete again until it has been proven to be handleable. Most breeds do not in fact adopt a dominant stance in the ring but are stacked by their handlers (Figure 3).

Dominance aggression becomes a problem when people do not understand their dog's need to establish a clear dominance hierarchy. Those who do not wish to adopt a strong pack leader position should own a female and choose from breeds, like hounds, which are less likely to attempt dominance of their owner.

Competition

Sometimes two dogs in the same household do not have a well defined peck order. This may occur because their owners refuse to let them decide who's boss or when the dominant animal is challenged by another wishing to be top dog. Occasionally two dogs are so evenly matched that it is difficult to decide which is the stronger.

Again owners must understand their dogs' social requirements. There always has to be a top dog and an underdog despite the owner's desire for everyone to be equal. To alleviate the problem they may even have to have the less dominant dog castrated to reinforce the order of dominance.

Protection

There are three main triggers to aggression related to dogs' protective instincts.

First, protection of property is evident to varying degrees in all dogs. Early man admired the way wolves guarded their territory against intruders and selected for this trait when developing the guarding breeds. All dogs possess the instinct to protect their own territory, however, and unfortunately are unable to distinguish between a burglar and the meter reader!

It is difficult enough for a dog to define its territory when the property is securely fenced (they usually think they own the footpath as well!) but almost impossible when the owner considers fencing unnecessary. Very few dogs are trained to never cross their boundaries.

Dogs which are kept chained or locked up become much more territorial than dogs given more freedom, especially if constantly provoked. Therefore chaining as a means of control should be viewed with caution because chaining may increase aggression. Chaining must also be questioned on humanitarian grounds.

There has been an increasing tendency recently to own guard dogs such as Dobermanns and Rottweilers which obviously constitute a great deterrent to would-be burglars, but with such ownership goes the responsibility to properly restrain the dog so its guarding does not become overzealous. These guarding breeds are usually highly trainable, so their protective aggression can be controlled by strong pack leadership and obedience training. Ownership of these dogs, particularly males, should not be considered by those unwilling to provide this.

Second, protection of themselves and other members of their pack is also inherent in all dogs. What they perceive as a threat and the way they go about protecting themselves and their owner depends on their previous experiences or lack of them. Dogs are often brought up by females and therefore not socialised to men. Such a dog may then see a man as a threat and react with aggression (usually fear aggression) if he attempts to handle it. If this encounter takes place in the presence of the dog's owner the dog will probably show more aggression (safety in numbers is even more relevant to dogs than people), particularly if the owner is agitated eg at the veterinary clinic. In such a situation, the departure of the owner often achieves a remarkable transformation in the dog's demeanour.

Third, protection of puppies is usually shown by females with a litter. Although normally submissive, a lactating female may become much more assertive and it is wise to restrict access to the litter to the few people involved in their care. This maternal aggression usually reduces in intensity as the pups approach weaning.

Intermale interaction

It is normal in all species for males to compete with each other to determine the animal most fit to father the next generation. The male hormone, testosterone, is responsible for this aggressive behaviour, as it is for wandering in search of females.

Most intermale aggression, if the protagonists are left to sort it out without intervention, will be confined to threats, but if owners intervene to "break it up," one or both dogs may decide to attack. Owners may then be bitten (usually accidentally, but it still hurts!).

Confinement of entire males on their owners' properties and leash exercise would almost eliminate the problem of intermale aggression.

Desexing male dogs was, until recently, considered unacceptable by most dog owners, particularly men. The reduction in registration fees for desexed animals has provided an effective stimulus for castration of male dogs not required for breeding, but a change in attitude will be necessary to make it universally acceptable.

Predation

Today's dog is still a wolf at heart and as such has a strongly developed drive to chase and kill prey. Even the sheepdog, whose breeding has reduced the urge to kill while accentuating the circling and stalking behaviour of the wolf, will chase anything perceived as prey. The cattle herding dogs, bred to chase and "heel" are renowned car and bike chasers and their ability to nip the heels of the unwary is legendary. Terriers and some sight hounds are also inclined to chase and kill instinctively and therefore not ideal pets for guinea pig and poultry enthusiasts!

The dog's predatory instinct has been blamed for attacks on cyclists, joggers and running children. It is certain that this prey chasing is exacerbated when the dog joins a pack and thrill killing of livestock is an inevitable result when dogs are allowed to roam in areas where such animals are kept.

The hunting of feral pigs has resulted in the development of the pig dog from the Bull Terrier and larger sight hounds like the deerhound. These dogs are big and powerful with a very strong prey drive, which makes them unsuitable for unsupervised contact with children.

This instinct to chase and attack may also account for apparently unprovoked attacks on babies. It is difficult for dogs to perceive them as people! As this behaviour is instinctive it is virtually impossible to eliminate so provides yet another reason for confining dogs to their own property.

Predatory aggression is a very real problem. Most other forms of aggression are designed to intimidate; predatory aggression causes a dog to seriously maim or kill.

Cause unknown

When there is no known cause for an act of aggression by a dog, it is known as "ideopathic". Little is known about this form of aggressive behaviour except that it is possibly inherited as it appears more in some breeds, or even strains within breeds.

Learned aggression

While the propensity for aggressive behaviour is often inherited, there is no doubt that aggression can also be learned. If the dog shows aggression for one of the above reasons and obtains the desired result, it will do it again.

A more positive example of learned aggression is the police or security dog. In unscrupulous hands these dogs learn to be aggressive due to pain, but correct training of a well socialised, friendly dog produces a dog whose aggression is turned on or off at a word from its handler. These dogs are taught this behaviour as a form of play and should remain normal friendly dogs, when off duty. Obviously, due to their specialised training, wardenship of such animals is a special responsibility and they would normally remain kennelled or in the company of their handlers at all times.

Fear

Owners often think that a timid dog is harmless - nothing could be further from the truth! Dogs can react to any of the above triggers by aggression based on confidence or fear. However most dogs will respond to some particular situation fearfully. Sometimes this fear is generalised (eg towards all men) as a result of improper socialisation but at other times it appears quite random (eg a particular person). In fact there is always a reason for this but often it is not apparent to the owner.

HANDLING AGGRESSIVE DOGS

One of the least popular duties of an ACO is dealing with an aggressive dog. It probably even ranks higher in this regard than handling aggressive owners!

This can be potentially a dangerous situation, so it is important that any council employees who may come into contact with dogs are well equipped, particularly when required to enter the dog's property where it will be much more likely to attack. Officers should wear clothing which affords maximum protection and always carry something which can be used as a shield should a dog attack. Strong gloves, capture poles with noose attached and rope leads, also with a noose at one end, are essential equipment which should be supplied to anyone expected to catch dogs.

As impending impoundment is very stressful to a dog, it is important that the impounding officer attempts to minimise this stress for their own safety and the well-being of the dog. The officer should appear as unthreatening as possible. A sideways, slightly stooped approach avoiding any sudden movements and accompanied by a pleasant monologue, delivered in a higher than usual pitched voice, should facilitate the closest approach the dog will allow. The capture pole, which does not necessitate actually handling the dog, can then be used.

DISCUSSION

Aggression is not a simple subject; dogs exhibit it in many different forms and for a variety of reasons. Thus the solution is far from simple.

Thompson (1990) conducted one of the only objective analytical studies of dog attacks in Australia. He based this on figures from the National Injury Data Base compiled from hospital records throughout Australia. He found that the breeds more likely to be involved in dog attacks than their representation in the dog population suggested, were:

- Bull Terriers
- Cattle dogs
- German Shepherds
- Dobermanns
- Rottweilers
- Collies

While such research should be encouraged to assist in the understanding of the problem, the results are not as clear cut as Thompson's reasoning indicates:

- No distinction is made as to whether the dogs are pure or crossbred; they are all lumped together as one breed. Some breeds, particularly German Shepherds, Cattle Dogs and Bull Terriers, are prepotent ie crossbreds which carry some of those breeds, usually resemble them. This is not taken into account in the study.
- The breed description is supposed accurate because it is cited by the owner or neighbour. It has been my observation that owners are frequently unaware of their dogs true breed! This has been confirmed by the Research Officer for the Australian National Kennel Council who has investigated a number of dog attacks reported in the press. He found that on only one occasion was the dog a pedigreed specimen of the breed reported. Others investigated were usually crossbreds and only occasionally had any resemblance to the breed reported. Perhaps data suggesting that purebred animals are more aggressive than crossbreds should be re-examined.
- To obtain figures of each breed's representation in the dog population, Thompson has used a local councils' dog registration figures. These may (or may not!) be accurate for that area but not necessarily for the whole of Australia, from which the statistics are gathered.
- Figures quoted are from hospital records only. Many dog bite cases are treated at home or in a doctor's surgery and this may produce an over-representative effect for those breeds most likely to cause more serious injuries. Small breeds for example would be physically less able to mount a serious attack than medium to large breeds.

- No consideration is given to owner factors. All the above breeds, except for Collies, have a certain machismo image. It is then a chicken and egg question. Do these breeds figure prominently because of inbuilt aggressive tendencies, or is it because they are more likely to be owned by someone who directly encourages such behaviour? Further research is essential which takes this factor into account.

Thompson states that 25% of attacks were by free-roaming dogs - surely enough reason for councils to enforce the regulation that owners confine their dogs to their own property. The only reliable method of confining dogs is with appropriate fencing and leash exercise.

He also draws attention to the relatively high proportion of attacks on young children and that these attacks are usually to the head and face. This is clearly a matter of great concern. Dogs usually discipline a subordinate by grabbing the neck and shoulder scruff region, which is fairly insensitive and thickly coated. The attacks, far from being malicious, were simply the dogs attempt to discipline what they saw as subordinate pack members. Thus lack of understanding on the part of the parents was probably a major contributing factor to the attacks. I would suggest that parents should avoid anthropomorphising and treat the dog as a dog, not a person in a fur coat!

When the family contains preschoolers, it is natural that the dog will regard them as inferior and may discipline them accordingly if they attempt to dominate it eg by taking its food or toys. Thus parents should supervise children's access to any dog. Older children can participate in the dog's training to reinforce their dominance over it.

Dogs of any breed may resent a new baby - especially if they notice that when the baby is around they receive less attention. If their owners pay them lots of attention when the baby is also present, they will soon happily accept the newcomer. However physical contact between dog and child should be minimal and carefully supervised.

Thompson also suggests that owners of the above breeds should pay a special registration fee. But penalising their ownership will not make the problem go away. Rather than discriminating against particular breeds it would be more appropriate to educate prospective owners in the proper care and training of that breed, and of alternative breeds which may meet their needs better.

Thompson is to be commended for attempting to gather and collate statistics relating to dog attacks. There is an astounding lack of such quantitative data in Australia, and, without it, it is impossible to address this major problem confronting councils and dog owners.

I would suggest that councils enforce their existing rules on registration, confinement and leash exercise of all dogs. This would almost totally eliminate attacks caused by protective, intermale and predatory aggression. It would also protect councils from possible legal repercussions in the event of an attack. Another significant advantage would be reduction of the number of unplanned litters and the subsequent flood of pups entering often unsuitable homes.

Some councils have a differential registration system which provides a discount for owners who participate in a course of obedience classes. While it is recognised that training assists in minimising dominance aggression, the outcomes of such a scheme are variable. Most obedience clubs are staffed entirely by volunteers, who lack formal qualifications in dog training and behaviour. The size of each class varies, and often beginners' classes are larger than ideal. Thus people whose dogs exhibit problem behaviour may not receive individual counselling, either because the trainer has too little time, feels unqualified to deal with it, or may not even realise it exists if the behaviour is not exhibited in class.

The Queensland Obedience Subcommittee of the Canine Control Council has attempted to address this problem by the development of a course in basic dog behaviour and instructional skills for class instructors. These classes have proved very popular and will hopefully assist in the identification and training of aggressive dogs and the prevention of problem behaviour by owner education.

The aggressive dog and its owner could be helped by a private instructor qualified and experienced in handling behavioural problems. Unfortunately, due to lack of formal training and registration for these trainers, there is a great variation in their ability and training methods. Standardisation of this profession would greatly assist the training of problem dogs as participation in a training program could then be made mandatory if an owner wishes to keep a dog declared dangerous.

To further reduce the effects of aggression, breeders of purebred dogs and their controlling bodies need to bite the bullet. Although owners of overaggressive dogs have to "show cause" if the dogs exhibit aggression in the ring, there is nothing to stop dogs which are genetically unsound being used for breeding.

Perhaps breed clubs could follow the example of the German Shepherd Club, which conducts regular breed surveys, involving assessment for correct structure and temperament. Their breed shows also include temperament testing in adult classes and this has no doubt contributed to the noticeable improvement in temperament in this breed. The club also conducts classes for German Shepherd owners in which they are taught basic training and control. They may then progress to further training for obedience trialing if they wish. This is a great example of a breed club which has faced the twin problems of genetic and environmental control of poor temperament.

Most dog owners rightly value their canine friends for their companionship and their devotion to the protection of family and property. Rather than proscribing particular breeds for their aggressive tendencies, councils could achieve a much better end result by enforcing by-laws which require owners to control their dogs and by educating owners in how best to train them.

REFERENCES

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ABOUT THE AUTHOR

Gaille Perry BVSc DipEd BEdStud
Animal & Veterinary Services Section
Ithaca College of TAFE
Fulcher Rd
RED HILL AUSTRALIA 4059
Phone (07)369 9011
Fax (07)368 1315

In my high school and undergraduate days I bred, showed and trained dogs, and became interested in dog behaviour. After gaining my veterinary degree I worked in my own mixed practice for 10 years. Then in 1983 I qualified as a teacher and began teaching veterinary nursing at Ithaca TAFE College. Ithaca College has conducted an in-service course for animal control officers for several years, and my teaching contact with these students (supplemented by contact with advocates of responsible pet ownership like Dick Murray and Jenny Brennan) introduced me to the problems of urban animal management.

In 1990 our section ran a short intensive course for RSPCA refuge workers and a close working relationship with that organisation ensued. This has enabled me to view at first hand the results of lack of planning and responsibility in pet ownership. Early in 1992 I developed and taught a course for dog obedience instructors on dog behaviour and training. Also in 1992 I joined a steering committee to introduce a course in responsible pet ownership into Queensland primary schools. I fervently believe that animal control will be just that, control, unless we work at changing people's attitudes towards pet ownership. Only then will the subject become animal management.