

PREVALENCE OF BEHAVIOUR PROBLEMS IN DOGS KEPT AS COMPANION ANIMALS

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Summary

The present study was aimed at estimating the prevalence of various behaviour problems in dogs kept as companion animals in Romanian cities. Owners were asked to fill in behaviour evaluation forms with specific questions related to various types of aggression, inappropriate elimination and phobias. Questions regarding aggression included aggression towards family members, towards visitors, towards strangers on the street and towards other dogs. The prevalence of aggression, phobias and inappropriate elimination were generally higher than the ones reported by various authors. Very few differences were detected between males and females in what concerns the occurrence of problem behaviours. Most of the dogs from the study group displayed aggressive behaviour and a high percent of dogs displayed inappropriate elimination and suffered from various fears and phobias. These results indicate that behavioural advice for dog owners is needed in our country and this domain should be granted particular attention.

Key words: behaviour, dog, behaviour problem, behavioural advice

Behaviour problems in dogs are granted increasing attention in veterinary practices all over the world because such problems can lead to the relinquishment, abandonment or euthanasia of healthy dogs. In fact, more dogs are euthanized for behavioural issues than for all medical problems combined /7/. The prevalence¹ of behaviour problems has been evaluated in various populations of dogs, but there is a great variation among the estimated percentages of dogs with behaviour problems. This is probably due to the lack of consensus among authors in what concerns the type of problems that are taken into consideration. For example, an American study /4/ reported that 87% of the dogs presented a type of behaviour that was unpleasant for the owner, while other American authors /12/ reported percents that were situated between 25 and 42%. In the same time, a British study reported that 80% of the subjects presented problem behaviour /12/. However, more detailed analysis of problem behaviour in various dog populations revealed similar results: aggression was the most common complaint, followed by inappropriate elimination and separation anxiety /4, 6, 12/.

Statistical data reveal that *aggression* in dogs is the main behavioural problem that may lead to relinquishment or euthanasia /11/. *Aggression* includes a wide variety of behaviours, from simple threats (subtle body postures, facial

¹ *Prevalence* is the total number of animals with a certain pathological state, in a determined population, within a certain period or at a certain moment in time /16/.

expressions, vocalizations) to overt attacks /14/. Aggressive behaviour is classified from a functional perspective /1, 15/ as follows: dominance aggression, fear aggression, territorial aggression, protective aggression, possessive aggression, pain aggression, maternal aggression, predatory aggression, play aggression and redirected aggression.

Dominance aggression occurs when a dog perceives a threat to his hierarchical status from another dog or from a person that he looks upon as subordinates /8/. This type of aggression is very frequent in males aged between one and three years /12/. Diagnosis is based on the following criteria: the dog displays dominance towards family members in various situations and does not allow dominant gestures from family members; the dog displays aggression in order to control people's access to things that are valuable to him (food, toys, resting places); the dog becomes aggressive when someone stares at him, initiates an interaction with him or tries to push or move him /7/. Behavioural therapy for dominance aggression is aimed at gradually placing the owners on dominant positions against the dog, without provoking any attacks from the dog.

Territorial and protective aggression are aimed at an unfamiliar dog or person that approaches the dog's territory or a person to which the dog is very bonded. This behaviour occurs equally in females and males, usually before the age of three years. Behavioural therapy includes techniques of desensitization and counterconditioning /14/.

Possessive aggression appears in dogs that have a strong motivation to keep a certain object, such as food or toys, or a certain resting place. These dogs are aggressive towards another dog or towards a human, regardless of their hierarchical status. Behavioural therapy is aimed at teaching the dog to yield objects or resting places upon command, by using rewards /7/.

Fear aggression occurs when a dog perceives a threat from another dog or from a person and is unable to withdraw. Aggressive behaviour is accompanied by sympathetic arousal (tachicardia, tahipneea, horipilation and midriasis). This type of aggression is characterized by the absence of threats and the attacks are very severe. Behavioural therapy includes techniques of desensitization and counterconditioning /14/.

Maternal aggression occurs in lactating bitches or in bitches with pseudocyesis and is modulated by progesteron levels /14/.

Pray aggression is mainly displayed by hunting or guarding dog breeds and occurs mainly towards moving targets. The attack is not preceded by threats, because this behaviour is derived from the instinct of hunting /7/.

Apart from aggression, another behaviour problem that can lead to the relinquishment of the dog is housesoiling. *Innapropriate elimination behaviours* include innapropriate urination and defecation and are classified from a *causal* point of view. The main causes for these problem behaviours are: an innapropriate elimination substrate, territorial marking, submission, excitement, fear and anxiety /13/.

While aggression and inappropriate elimination, although unpleasant to the owner, are frequently normal behavioural responses of the dog to various circumstances, other problem behaviours, such as *phobias* and *stereotipies*, that might not disturb the owner, represent extremely unpleasant experiences for the dog.

Phobias represent persistent and exaggerated fear responses to a certain stimulus or situation /2/. Favouring factors are: the dog's temperament, an insufficient socialization and previous traumatic experiences /7/. There are no predispositions of breed, age or sex /15/ and the triggering stimuli are extremely variable: strangers, persons with a certain characteristic, certain places, certain vehicles or strong noises /7/. Dog's reactions are agitation, hypersalivation, body-shaking, trials to escape or hide, inappropriate elimination or destructive behaviour /5, 11/. Behavioural therapy is based on desensitization and counterconditioning, by gradually exposing the dog to the triggering stimulus and associating it with pleasant stimuli /13/.

Stereotipies are repetitive behaviours that have a rigid form and lack function /10/. The most frequent stereotipies in dogs are tail-chasing, licking, pacing and jumping /9/.

Other problem behaviours of dogs include destructive behaviours, roaming and scavenging /7/.

The present study was aimed at estimating the prevalence of various behaviour problems in dogs kept as companion animals in Romanian cities.

Materials and methods

The subjects of this study were dogs from the cities of Timișoara, Arad, Oradea and Bucharest. Dogs were selected randomly in terms of breed and neuter status, but they were purposely selected to be at least 18 months of age, because this is considered the social maturity age for dogs /7, 11/. Owners were asked to fill in behaviour evaluation forms with specific questions related to various types of aggression, inappropriate elimination and phobias. Questions regarding aggression included aggression towards family members, towards visitors, towards strangers on the street and towards other dogs. Owners were also asked to indicate if dogs displayed other behaviours that they found inappropriate.

The study group was made up of 100 dogs, 55 females and 45 males, aged between 18 months and 14 years. 16 of the females were spayed and 15 of the males were neutered.

Statistical analysis was made with MINITAB 13 for Windows.

Results and discussions

Among the 100 examined dogs, 94 displayed at least one type of *aggression*, either towards family members, visitors, strangers or other dogs, or a

combination of these (table 1). The prevalence of aggression was higher than the one reported by *Mihăiță* (72%) /11/, *Borchelt* (66%) /3/ and *Landsberg* (59%) /6/. Four females and two males did not display any type of aggression at all.

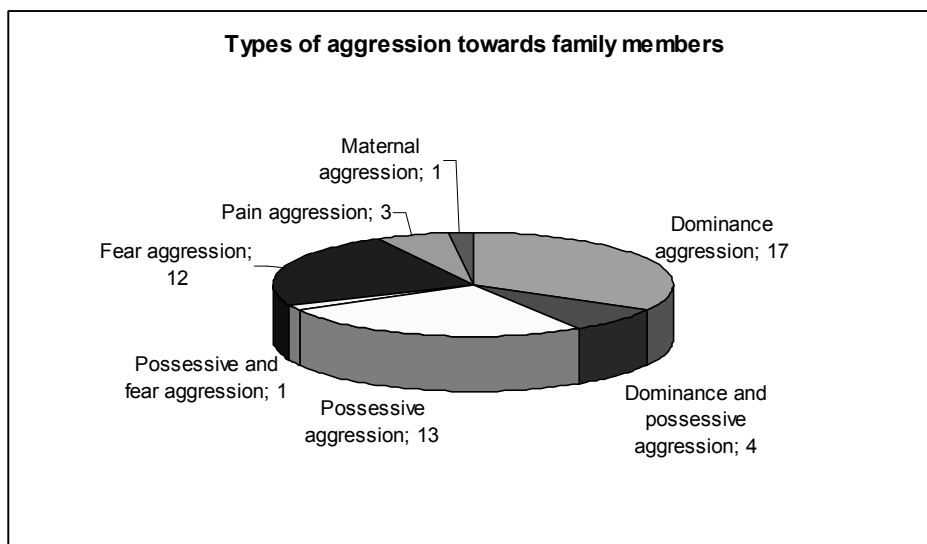
Table 1.

Prevalences of various types of aggression

Type of aggression	Number of dogs
<i>Aggression towards family members</i>	51
<i>Aggression towards visitors</i>	65
<i>Aggression towards strangers</i>	40
<i>Aggression towards other dogs</i>	76

In what concerns the types of *aggression towards family members*, most dogs displayed *dominance aggression*, followed by *possessive aggression*, *fear aggression*, *pain aggression* and *maternal aggression* (figure 1).

Figure 1.



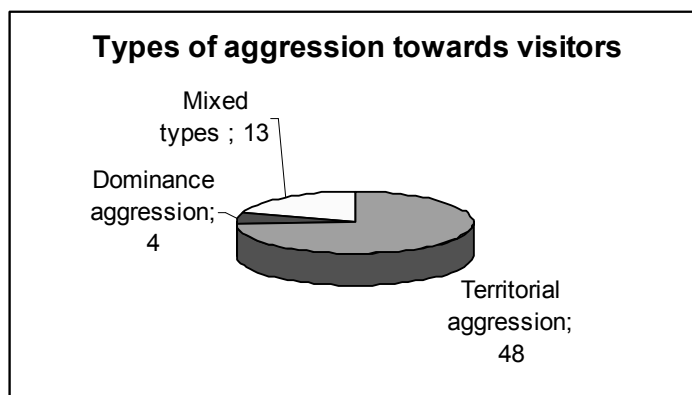
Displays of aggression were considered to be dominance-related if they occurred when someone approached the dog while sleeping or eating, when someone stared at the dog, when someone tried to pet, push or lift the dog or when someone ignored the dog while petting another dog. Dogs were considered

to display possessive aggression if they threatened someone who tried to take away their food or toys.

Chi-square tests showed that females were as likely as males to be aggressive towards family members ($p=0.70$). In what concerns various categories of aggression, the same test indicated that females were as likely as males to show dominance aggression ($p=0.44$), although other authors indicate that this behaviour occurs mainly in males aged under three years /6/. Females were also as likely as males to display possessive aggression ($p=0.37$) or fear aggression ($p=0.08$) towards family members.

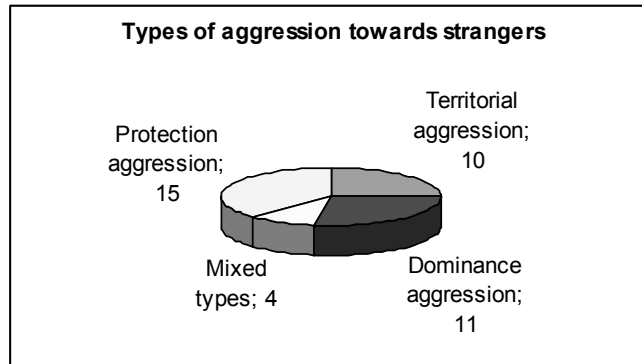
Aggression towards visitors was mainly *territorial*, being displayed when visitors entered the house. A Chi-square test showed that females were generally more likely than males to be aggressive towards visitors ($p=0.019$), but they were as likely as males to show territorial aggression. This second finding was in accordance with previous results /14/. Some of the dogs showed *dominance aggression* when visitors approached them or tried to pet them or when visitors were about to leave the house. Some dogs displayed *protective aggression* when visitors approached their owners. Mixed types of aggression included all three categories in 4 dogs, territorial and dominance aggression in 7 dogs, territorial and protective aggression in one dog and dominance and protective aggression in one dog (figure 2).

Figure 2.



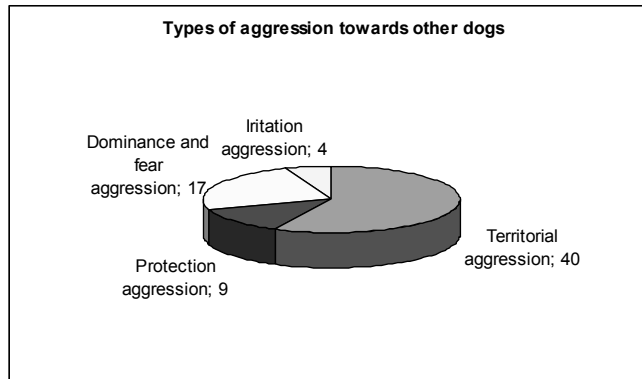
Aggression towards strangers on the street included *territorial aggression*, when the dog first noticed the stranger, *dominance aggression*, when the stranger approached the dog or tried to pet him and *protective aggression*, when the stranger approached the owners. Mixed types of aggression included all three categories in 1 dog and dominance and protective aggression in 3 dogs (figure 3).

Figure 3.



In what concerns the types of *aggression towards other dogs*, most dogs displayed *territorial aggression*, followed by *dominance or fear aggression*, when a dog approached them, *protection aggression*, when a dog approached the owner and *irritation aggression* following playing with another dog (figure 4).

Figure 4.



A Chi-square test showed that females were as likely as males to be aggressive towards other dogs ($p=0.89$). The owners of 6 dogs did not indicate the exact situations when their dogs displayed aggression.

From the total of 100 dogs, 25 dogs eliminated indoors due to various reasons. Ten dogs (4 males and 6 females) housesoiled due to insufficient walking, while 4 dogs (1 male and 3 females) eliminated indoors due to medical reasons. Only 11 dogs (3 males and 8 females) displayed *inappropriate elimination due to behavioural causes*, in the absence of any medical problems. Thus, the prevalence of this problem behaviour was 11%, much higher than the one reported by Mihăiță

(2%) /11/, but lower than the values reported by *Landsberg* (18%) /6/ and *Pageat* (18%) /14/. Various types of inappropriate elimination according to the cause are presented in table 2.

Table 2.
Types of inappropriate elimination due to behavioural causes

Cause	Type of elimination	Male dogs	Female dogs
Innapropriate elimination substrate	Urination	1	2
	Defecation	0	1
	Urination and defecation	0	1
Anxiety	Urination	1	0
	Urination and defecation	1	1
Excitement	Urination	0	2
Submission	Urination	0	1

A high number of dogs, namely 69, were reported to be very fearful of certain things or persons (table 3). Most of them, namely 59, had noise-phobias triggered by thunders, vacuum cleaners, hair-driers, church bells or police alarms. This prevalence of phobias of 69% is much higher than the value of 7% reported by both *Landsberg* /11/ and *Mihăiță* /6/, but this is probably due to differences in defining phobias in these studies. An interesting finding was that males were more likely to have phobias than females ($p=0.02$), although there are no known predisposition of sex for developing phobias /14/.

Table 3.
Types of phobias in dogs

Cause of phobia	No. of dogs
Loud noises	59
Traveling by car	2
Veterinarians	2
High-pressure water	2
People with a specific smell	1
People in uniforms	1
Long-haired cats	1
Other dogs	1
Being left alone outside	1

Four owners reported that their dogs displayed *stereotypical behaviours*: two of them were tail-chasing, one was pacing and another one was chasing shadows. Other complaints included scavenging in two dogs, roaming in one dog, destructive behaviour in four dogs and stealing of food in six dogs.

Conclusions

The prevalences of aggression, phobias and inappropriate elimination were generally higher than the ones reported by various authors. Very few differences were detected between males and females in what concerns the occurrence of problem behaviours. Most of the dogs from the study group displayed aggressive behaviour. As this represents a potential threat for people and other dogs, behavioural advice for dog owners should prioritize the prevention and control of aggression. Also, a high percent of dogs displayed inappropriate elimination and suffered from various fears and phobias, so prevention and therapy of these problems should also be considered as a priority. These results indicate that behavioural advice for dog owners is needed in our country and this domain should be granted particular attention.

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