

Behavioural Differences of Dogs of Various Ages in Czech Households

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Received August 27, 2003

Accepted June 17, 2004

Abstract

Baranyiová E., A. Holub, M. Tyrlík, B. Janáčková, M. Ernstová: *Behavioural Differences of Dogs of Various Ages in Czech Households*. Acta Vet. Brno 2004, 73: 229-233.

The aim of the study was to evaluate the behaviour of dogs of various ages as viewed by their owners in the Czech Republic. The data were obtained in a questionnaire. The dogs were divided by age as follows: 35 animals younger than one year (Y), 220 middle-aged dogs (M), and 12 dogs, seniors (S) older than 8 years (giant and large breed dogs were included in this group at 8 years, medium at 10 years, and small and toy breeds at 12 years of age). The following significant differences were found: young dogs were destructive (household items and gardens), they eliminated in the house more frequently and mounted people. They were fed more than twice a day, and were never described as nervous. Middle-aged dogs were more often than others described as dominant and were given treats. Old dogs were most frequently described as nervous, sometimes difficult to control, and excessively barking, whining and howling. On the other hand, they were more often described as protective of the house and household members, and they were most often walked unleashed. These differences are in agreement with earlier data on the ontogeny of dog behaviour, and show some changes in the co-existence of people and dogs of various ages in Czech households. Importantly, they serve as a basic information about behaviour problems that may be encountered in veterinary practice and show a need for client education programmes and preventive behavioural medicine in the country.

Young, middle-aged, old dogs, development, behavioural traits, questionnaire

The behaviour of an individual changes in the course of its life. In past decades this fact was reflected in a scientific concept of the postnatal development of behaviour in dogs divided into several periods (Scott and Marston 1950; Scott 1962). The first, postnatal period lasting two weeks, is characterized by total dependence on mother for food, temperature regulation, and elimination. The puppies spend about 90% time sleeping, and their social contacts are limited to mother. It is followed by transitional period (days 15-28) with eyes and ears opening, locomotion changing from crawling to walking and gradually less dependence on mother for food and elimination. Social contacts with mother and littermates increase in frequency and complexity. In the following socialization period between weeks 4 and 12 or 14, also weaning occurs. This period is characterized by seeking other social contacts and is behaviorally the most important stage in dog's life (Houpt 1991; Beaver 1999). Juvenile period (3rd to 6th month of age) with rapid growth gradually turns into puberty around 10 months of age, then into adulthood, the relatively longest life period. It is followed by senescence the onset of which is still difficult to assess. In past decades, dozens of different tests have been described for evaluation of biological age, especially in humans. They consist mostly of variables characterizing the development of physiological functions and statistically analyzed. They are directed towards the causal scheme: mechanisms of senescence - biological age - mortality, likelihood of death

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(Ďoubal and Klemra 1999). Nevertheless, senescence has not been sufficiently elucidated as yet. Similar analyses are scarce in dogs (Brace 1981; Reid and Peterson 2000). There is evidence about decreasing adaptability of dogs to stress situations, decreased performance and higher incidence of diseases at older age. However, it is difficult to detect when these changes begin to make themselves felt so as we can speak about senescence (Haupt and Beaver 1981; Hofecker 1983abc; Kraft 1998; Burkholder 1999). There is an arbitrary agreement that dogs may be considered seniors based not only on their chronological age but also on breed or size. Large and mixed breed dogs are ageing more rapidly than purebred dogs and medium size and small dogs (Patronek et al. 1997; Hoskins and McCurnin 1997; Kraft 1997, 1998, Burkholder 1999). Their ageing may be accompanied by changes in the regulation of the hypothalamus-pituitary-adrenocortical system, binding capacities of receptors in CNS structures (Rothuizen et al. 1993), accumulation of pigments in CNS, depletion of dopamine, neurodegenerative processes (Hoskins and McCurnin 1997), personality and learning changes (Riis et al. 1992). It is thus also reflected in decreased cognitive abilities and behaviour (Haupt and Beaver 1981; Hoskins and McCurnin 1997; Landsberg and Ruehl 1997; Bain et al. 2001; Frank 2003).

Despite the fact that behaviour and its age changes especially in the postnatal period have attracted much attention in recent years, it is useful to continue studies along this line. Our aim was to find how age changes in behaviour of dogs affect their coexistence with humans in Czech households.

Materials and Methods

We further analyzed data on dogs obtained from a modified questionnaire based on Askew (1997) and Podberscek and Serpell (1997) as described earlier (Baranyiová et al. 2001). The questionnaire was published in a monthly magazine "Náš pes". Most data came from its readers and the rest was obtained from clients of veterinary clinics. We obtained data about the age and breed of dogs, age of their acquisition, health status, type of family housing, family structure (numbers of adults and children, other dogs and other animals in the household), about the daily routine of the dogs (nutrition and feeding regime, walks, types of games, plays with people and other dogs), their obedience (following commands), other behaviour manifestations (including the negatively perceived behaviours such as aggression), and general assessment of the position of the dog in the household. We analyzed how frequently the behaviours were reported and how they differed among dogs of various ages.

This time we divided the population of dogs of known age ($n = 267$) into three groups. The first one ($n = 35$) comprised dogs aged up to 12 months (young), second group ($n = 220$), middle-aged, and, the third group ($n = 12$) seniors aged between 8 and 12 years (dogs of giant and large breeds aged 8 and more years, medium-sized breeds aged 10, and small and toy breeds from 12 years; Brace 1981; Kraft 1997, 1998; Burkholder 1999).

For statistical evaluation of the results we used the χ^2 test from a statistical software SPSS v. 8.

Results

The age structure of our dog population was uneven. Young dogs formed 13% of the population under study. The most numerous was the group of adults or middle aged dogs (82%). With advancing age the numbers of dogs decreased and only 4.5% were up to 14 years of age.

In the studied dog population structured by age, we found the following: the owner-described behaviour of dogs was not different from that indicated earlier (Baranyiová et al. 2001): more than nine-tenths of the dogs were considered playful, they were viewed as family members, their owners spoke to them daily, communicated with them, had their photographs, and assumed that the dogs perceived their moods and vice versa they perceived moods of their dogs. More than three-fourths of the dogs were considered faithful, people shared their problems with dogs, took them along for travel and vacation. Other behaviours were mentioned less frequently.

However, we found significant relationships between the age category (young /Y/, middle-aged /M/ and Senior /S/) and frequency of feeding ($\chi^2 = 28.764$, $df = 2$, $p < 0.001$),

destruction of household items ($\chi^2 = 18.511$, $df = 2$, $p < 0.001$), destruction of gardens ($\chi^2 = 6.807$, $df = 2$, $p < 0.033$), elimination in the house ($\chi^2 = 9.580$, $df = 2$, $p < 0.008$), attempts to mount people ($\chi^2 = 5.853$, $df = 2$, $p < 0.054$), dominant behaviour ($\chi^2 = 7.395$, $df = 2$, $p = 0.025$), people sharing treats (food) with dogs ($\chi^2 = 11.567$, $df = 2$, $p = 0.03$), excessive whining, barking and howling ($\chi^2 = 13.873$, $df = 2$, $p = 0.001$), dog sometimes hard to control ($\chi^2 = 10.611$, $df = 2$, $p = 0.028$), dog leashed in the streets ($\chi^2 = 10.312$, $df = 2$, $p = 0.006$) and dog considered as protecting their owners ($\chi^2 = 7.397$, $df = 2$, $p = 0.025$).

a) the group of young /Y/ dogs differed from the other two groups by the following most frequently occurring traits: 31.7% (compared to M = 6.8% and S = 8.3%) were fed more often than twice a day, 42.9% of them (compared to M = 13.8% and S = 8.3%) destroyed household items, 39.4% of them (compared to M = 20.0% and S = 33.3%) destroyed gardens, 35.3% (compared to M = 14.2% and S = 41.7%) eliminated in the house, 47.1% (compared to M = 27.7% and S = 41.7%) attempted to mount people. Most of these dogs, namely 85.7% (compared to M = 65.9% and S = 50.0%), were acquired in their socialization period, i.e. between the 6th and 10th week of life. Young dogs were never described as nervous.

b) Middle-aged (M) dogs, were more frequently considered dominant - in 40.1% cases (compared to Y = 16.7%, S = 11.0%), and in 83.6% (against Y = 58.8% and S = 75.0%) were given treats.

c) Seniors - old dogs were characterized more often by specific, mostly negatively perceived traits. Two thirds of them (66.7%) (compared to Y = 12.1% and M = 25.1%) whined, barked and howled excessively, 45.5% of them (compared to Y = 29.4% and M = 14.4%) were sometimes difficult to control. One third of them, 33.3% (compared to Y = 0.0% and M = 22.5%), were described as nervous. When walked in streets, only 2.4% of them were leashed (compared to Y = 80.0% and M = 80.5%). Their protectiveness of household members and items (83.3%) was perceived as a positive trait (compared to Y = 58.8% and M = 80.5%).

Discussion

As soon as 1981 Houtp pointed out the fact that during the individual development the co-existence of dogs with people undergoes critical phases. This happens around the dog's age of 3-to-6 months. At this age the problems with destructive behaviour, chewing, biting and housebreaking usually deteriorate. Another problem period is the second year of life in dogs, especially males, when they mature socially and some of them tend to become aggressive. Problems appear also in aged dogs. These are usually connected with their aggression caused by chronic pain due to arthritis, degenerative disease of the locomotor apparatus or CNS, but also with inappropriate elimination in the house in dogs suffering from renal, gastrointestinal or cardiovascular disease. They may also be connected with other behaviours resulting from changes typical of old age such as deteriorating olfaction, sight and hearing, restlessness/waking at night, pathological mourning. These problems were also reported by our respondents for all three age categories of dogs. For example, the youngest group, aged up to one year showed in agreement with ontogeny of their behaviour a physiological need for biting and chewing connected with exploration and play (Lindell 1997; Melese 1999) that was reflected in destructing items in the house and garden. During sexual maturation they have more frequently shown masturbation and mounting people. Askew (1997) found 86% normal and 84% of problem dogs occasionally mounting people. However, the latter may accompany aggression or be a sign of conflict behaviour (Houtp 1997; Connolly 2002). Frequency of described behaviours in the early phase after arrival in the owner's families shows insufficient basic training and absence of owner education (e.g., Hunthausen and Seksel 2003).

Senior dogs in our population were more often walked without leash; they were less active. In agreement with this notion is our report (Baranyiová et al. 2003) that seniors aged 12-to-15 years became victims of interdog aggression in only 1% of incidents. Ability of old dogs to perceive, process and remember information about their environment obviously diminished. Old dogs suffer from repeatedly described cognitive dysfunction (Landsberg and Ruehl 1997; Bain et al. 2001; Neilson et al. 2001; Frank 2003). Statistically significant evidence of these problems was also obtained in our population of dogs when respondents reported nervousness, excessive vocalization (whining, barking and howling) and sometimes difficult control of their dogs.

The results of our study show the occurrence of behaviours some of which the owners perceive as negative. However, these were mostly physiological behavioural patterns shown in a context unacceptable for the owners. Frequency of negatively perceived components of behaviour in dogs shows the necessity to provide professional counseling to dog owners in veterinary clinics so that the quality of the human-animal bond remains intact.

Rozdíly v hodnocení chování mladých a dospělých psů v českých domácnostech

Cílem studie bylo vyhodnotit chování psů v českých domácnostech. Data získaná anketou jsme rozdělili dle jejich věku do tří skupin. První tvořilo 35 mladých psů, ve věku do jednoho roku, druhou 220 jedinců věku středního a třetí 12 psů nejméně osm až dvanáct let starých (psy plemen obřích a velkých od osmi, středních od deseti a malých a trpasličích od dvanácti roků). Zaznamenali jsme následující věkové statisticky významné vztahy: psi nejmladší častěji poškozovali a ničili vybavení domácností i zahrad, znečišťovali obytné plochy močením a skákali lidem na nohu. Byli častěji krmeni víc než dvakrát denně a nikdy nebyli pokládáni za nervózní. Psi středního věku pak byli častěji než ostatní popisováni jako dominantní a členové domácností se s nimi víc dělivali o pamlsky. Psi staří pak byli frekventněji označováni jako nervózní, vytýkalo se jim, že jsou těžko kontrolovatelní a byli viněni z toho, že nadměrně kňučí, štěkají a vyjí. Byli však častěji pokládáni i za ochránce a obránce členů a vybavení domácností a na ulicích byli nejméně často poutáni na vodítku. Uvedené rozdíly jsou v souladu se skutečnostmi, které byly o věkových ontogenetických proměnách chování psů již dříve uváděny a dokládají proměny vztahů a soužití členů českých domácností se svými psími druhy různého věku. Zároveň poukazují na některé problémy s chováním psů, které se mohou objevit ve veterinární praxi a ukazují na nezbytnost kvalifikovaného poradenství pro klienty, majitele psů a preventivní behaviorální medicíny.

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