



Training effects on dog behavior

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Dog trainers free lancers

Abstract: The purpose of this paper has been to investigate whether there are behavioral differences, and therefore repercussions on dog welfare, related to having attended or not training course and the characteristics of the latter. A questionnaire was proposed to a sample of dog owners regardless of their previous experience in dog training. The first section of the questionnaire regarded the personal data of the owner and the dog, the second section examine the daily dog management and its habits, a third section concerned the dog training and in a final part, 44 multiple-choice questions about dog behavior and their frequency of display (often, sometimes or never) were asked.

A total of 153 questionnaires were collected, half represent trained dogs and the other half represent untrained dogs. The statistical analysis revealed that certain behavioral problems are more observable in untrained dogs, like urinating at home ($\chi^2 = 6.445$; $p = 0.011$), excessive excitability when the owners return ($\chi^2 = 5.112$; $p = 0.024$), jumping on the owners in different circumstances than when they return home ($\chi^2 = 6.115$; $p = 0.013$), pulling the leash ($\chi^2 = 4.567$; $p = 0.033$). It was also shown that the duration of the training and the number of sessions in which it took place also influenced the manifestation of these behaviors. Finally, differences in behavior were observed due to the method used within the subgroup of trained dogs. This preliminary investigation show that the training dogs have less behavioral problem than the untrained dogs.

Key Words: dog training; dog welfare; behavioral problems.

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Introduction

The advancement of urbanisation and the increase in the number of pets in urban areas have aroused the interest of scientists in exploring the social interactions between humans and animals and the effects that these interactions have on animal welfare (Ruis et al., 2001; Mariti et al., 2015). Over time, the primary function of dogs has changed from utility animals to pets and the social interaction between dogs and humans has become a topic of great interest both in the popular literature (Serpell, 1995) and, more recently, in the scientific literature (Miklósi et al., 2004; Steinker, 2007; Bradshaw et al., 2009; Gazzano et al., 2013).

Most owners live with their pets for a long time, allowing the formation of a stable long-term relationship (Mariti et al., 2013a,b; 2014). The relationship between dog and owner is a vital aspect of the dog's welfare and this bond also influences the owner's well-being (Crawford et al., 2006).

The term "behavioral problem" is used to describe any behavior shown by a pet that is unacceptable to its owner (Amat et al., 2009; Mengoli et al., 2013).

Behavioral problems can be normal behaviors such as barking or abnormal behaviors such as stereotypies. Both types of behavior can become problematic for the dog owner and for society. One consequence can be a reduction of welfare for the dog showing these behaviors (Stafford, 2008). Indeed, behavioral problems can indirectly influence a dog's welfare through the owners'

reaction and response to the behaviors shown (Stafford, 2008), demonstrating the deep impact that owners have on the welfare of their dogs. Canine behavioral problems can break the bond between dog and owner, sometimes leading to dog abandonment in kennels (Patronek et al., 1996) and, in extreme cases, to dog euthanasia (Patronek et al., 1995; Houpt et al., 1996).

It has been shown that dog owners who spend time and perform activities with their dog, such as training and walking, observe fewer behavioral problems in their dogs (Bennett & Rohlf, 2007; Zilocchi et al., 2016). However, in modern society many owners work full time leaving their dog home alone for most of the day, which can lead to anxiety and behavioral problems related to separation (Rugbjerg et al., 2003; Rehn & Keeling, 2011; Scaglia et al., 2013).

The domestic dog is a highly social species capable of complex communication with conspecifics (Mariti et al. 2017; Gazzano et al., 2014), and people (Hare & Tomasello, 2005), for instance by associating subtle visual signals of their owners with positive or negative outcomes (Rooney et al., 2001; Cullinan et al., 2004). Therefore, it is not surprising that differences in owners' approaches to manipulation and training seem to influence the onset of unwanted behavior in their dogs (Hiby et al., 2004).

Dog training is essential for the domestic dog to be prepared to live better and with fewer problems of adaptation in the home and in the society of humans (Fanoni, 2003).

Animal welfare is a relevant topic for dog training in several ways, for example coercive techniques can cause fear and stress (Ziv, 2017). Numerous studies show the negative effects of the use of coercive training techniques such as aggression, stress and behavioral problems (Arhant et al., 2010, Blackwell et al., 2008, Casey et al., 2014, Cooper et al., 2014, Herron et al., 2009, Hiby et al., 2004; Masson et al., 2018) which may have implications for the human-animal bond and for future training as well as compromise the mental and physical health of dogs (Ziv, 2017).

On the contrary, it has been shown that well-conducted training increases obedience and decreases behavioral problems in dogs (Bennett & Rohlf, 2007; Clark & Boyer, 1993; Jagoe & Serpell, 1996). This means that training based on positive reinforcement can contribute to welfare as an enrichment activity for dogs and in reinforcing the bond between humans and dogs by allowing them to understand each other and communicate correctly.

Therefore, the aim of this study is to investigate if dog training can affect dog behavior improving obedience and allowing the bonding of dog-owner relationship. For this purpose, behavioral differences between trained and untrained dogs have been analysed to determine the effects of dog training.

Materials and methods

For the following research a questionnaire, divided into 4 sections, was used. The questionnaire was distributed online on Facebook in order to ensure a heterogeneous sample.

The first section of the questionnaire regarded the personal data of the owner (age, sex, level of education and profession) and the dog (sex, age, reproductive status, origin), the second section examine the daily dog management (possibility to go out in the garden, presence of other animals in the house, etc.) and its habits (play, walks, etc.), a third section concerned the dog training (duration and number of sessions, method used, professional qualification of the trainer, etc.) and in a final part, 44 multiple-choice questions about dog behavior and their frequency of display (often, sometimes or never) were asked.

After collecting data, the statistical analysis was obtained through the chi-squared test which uses the chi-squared distribution (χ^2). P-values lower than 0.05 were considered statistically significant.

Results and discussion

General data:

Among the 153 dog owners who participated in the questionnaire, 80 (52%) attended a dog training course while the remaining 73 (48%) never attended a dog training course. The average age of the owners who filled in the questionnaire is 33.5 years ($\sigma = \pm 14$) and the prevailing sex is female (83.7%).

Most of the dogs that compose the sample examined are cross breed, while all the pure breeds are poorly represented. The average age of the sample was 6.1 years ($\sigma = \pm 37.35$) with a minimum of 2 years and a maximum of 17 years. Indeed, all questionnaires reporting ages under 24 months were rejected to exclude non-adult subjects from the sample. Regarding sex distribution, even though males and females are equally distributed, 77.6% of females are sterilized while only 28.6% of males are.

39.2% of the owners stated they had never owned a dog before the current one. This data could have affected the results of this survey as separation and other behavioral problems have often been associated with the owners being at their first experience (Jagoe & Serpell, 1996; Ledger, 2000). Owners who have no experience of managing and communicating with dogs may in fact respond inappropriately to canine behavior patterns and may inadvertently initiate, or enhance, problematic behavior (Peachey, 1993).

Behavioral data:

Training - Regarding the differences between trained dogs and untrained dogs (Fig. 1), it has been observed that untrained dogs show more often the following behaviors: urinating at home ($\chi^2 = 6.445$; $p = 0.011$), excessive excitability when the owners return ($\chi^2 = 5.112$; $p = 0.024$), jumping on the owners in different circumstances than when they return home ($\chi^2 = 6.115$; $p = 0.013$), pulling the leash ($\chi^2 = 4.567$; $p = 0.033$). These behaviors are ascribable to an incorrect approach of the owner and therefore solvable and above all preventable through training. In fact, dogs mainly jump on people who are familiar with them and this behavior is influenced by the position and posture of the person (Rezac et al., 2017). Moreover, even if this is an undesirable behavior, people recognize jumping as friendly behavior and often reinforce it involuntarily (Pirner & McGlone, 2016). As for house soiling, it is possible that the owners do not spend enough time on walks with their dogs. It is therefore useful to attend training courses to understand how to prevent these behavioral problems and to reinforce the correct behavior (Gazzano et al., 2008), as demonstrated also in other species (Gazzano et al., 2015). The lack of adequate training and spending too much time alone are in fact factors that influence house soiling (Chung et al., 2016). In addition, dogs that have been forced to soil in confined spaces for a long time may lose their natural tendency to eliminate outside the home, or dogs that have always lived outdoors often do not learn to distinguish between indoor and outdoor environments (Overall, 2013). As far as the conduct on a leash is concerned, it is also manageable through a correct training and habituation. Moreover, very often pulling on the leash behavior has been studied to be associated with other behaviors, all of which are symptoms of excessive excitability, such as the one previously mentioned of jumping on people (Bennett & Rohlf, 2007; Shabelansky & Dowling-Guyer, 2016).

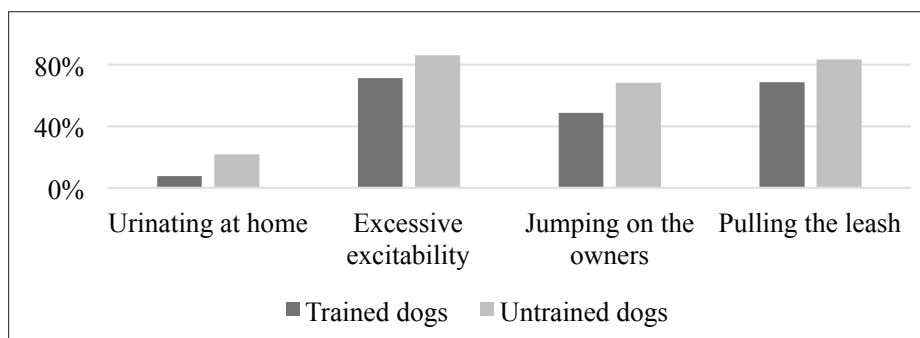


Fig. 1. Behavioral differences between trained and untrained dogs

Training duration - As for the differences related to the duration and number of sessions of the training course, it was found that some behaviors are more frequent among dogs who have attended shorter courses or courses consisting of fewer sessions. In particular, among dogs who have attended a training course lasting less than 6 months, it is more common to observe behaviors such as urine house soiling ($\chi^2 = 4.199$; $p = 0.040$), coprophagy ($\chi^2 = 4.409$; $p = 0.036$), aggressive attitudes when touched on the head ($\chi^2 = 3.827$; $p = 0.050$) and not like the entry of people into their territory ($\chi^2 = 0.678$; $p = 0.017$). In dogs who attended a training course in less than 5 sessions, on the other hand, behaviors such as faeces house soiling ($\chi^2 = 7.002$; $p = 0.008$) and fear of the vet ($\chi^2 = 4.347$; $p = 0.036$) were found. There are also common behaviors both for dogs who have attended shorter courses and for dogs who have attended fewer training sessions. In particular, the following behaviors were significantly more common: turning on itself ($\chi^2 = 4.762$; $p = 0.029$ for dogs who attended courses of less than 6 months and $\chi^2 = 4.945$; $p = 0.026$ for those who attended less than 5 sessions), repeating some action insistently ($\chi^2 = 6.574$ and $p = 0.010$ for dogs who attended courses of less than 6 months and $\chi^2 = 9.924$ and $p = 0.002$ for those who have attended less than 5 sessions) and aggressive behavior when scolded ($\chi^2 = 5.678$ and $p = 0.017$ for dogs who have attended courses lasting less than 6 months and $\chi^2 = 3.634$ and $p = 0.057$ for those who have attended less than 5 sessions). From the observation of these results we could deduce that attending training courses for a longer time could improve communication with dogs and consequently reduce their behavioral problems.

Training method - In the present research, statistically significant differences in behavior emerge between dog trained with gentle method and dog trained with coercive method (Fig.2). In particular, it was more common among coercively trained dogs to show the following behaviors: defecating in the house ($\chi^2 = 5.098$; $p = 0.024$), self-licking insistently ($\chi^2 = 3.964$; $p = 0.046$) and defending one or more objects (e. g. toys, food bowl) ($\chi^2 = 3.909$; $p = 0.048$). In our samples only a small percentage of the sample (10%) used coercive methods and these data are therefore not representative of the population. However, these results are in line with other researches. Indeed, according to a study conducted in 2008 by Blackwell et al., there is a significant relationship between the training methods used by owners and the inappropriate behavior shown by dogs. The training methods used are also significantly associated with the level of seeking attention, fear and aggressiveness (Blackwell et al., 2008). It has also been studied that dogs trained with negative reinforcements show more stress-related behavior than dogs trained with positive reinforcements (Deldalle & Gaunet, 2014). Several studies show that the immediate effects of the coercive approach may include behavioral signs related to fear and stress (Beerda et al., 1998; Schalke et al., 2007; Schilder & van der Borg, 2004) but also aggressive reactions (Herron et al., 2009). Persistent licking is a behavior often used as a substitute activity and has been studied to be a symptom of stress (Beerda et al., 1999; Hetts et al., 1992). Moreover, since pet dogs do

not have to compete for survival and reproduction, they do not need to defend resources from a functional point of view (Bradshaw et al., 2016). However, resource defence behavior is still observed (Guy et al., 2001) in varying grades and types and may therefore indicate a stress condition. Finally, house soiling can be a sign of separation anxiety if it occurs in the absence of the owner (Flannigan & Dodman, 2001).

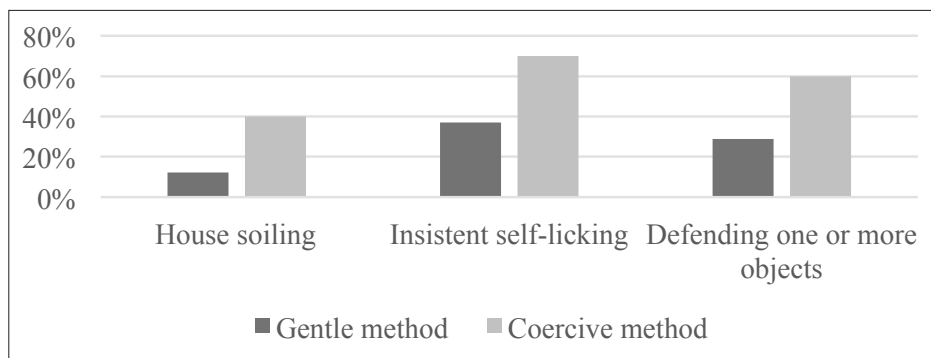


Fig. 2. Behavioral differences between dogs trained with gentle or coercive method

Punishments and rewards – In our study, the use of punishments was not found to be related to the occurrence of undesirable behavior. On the contrary, it has been observed that dogs educated by punishments, such as shouts and blows, present less frequently behaviors of eating anything on the street ($\chi^2 = 5.305$; $p = 0.021$) and chasing cats ($\chi^2 = 4.478$; $p = 0.034$). This result may be due to the inhibition that punishments can create when they are imposed on dogs. Indeed, during risk assessment, non-defensive behavior, self-grooming, nutrition and social interaction are inhibited (Blanchard et al., 1998; Mastripieri et al., 1992; Shuhama et al., 2007). The extent of inhibition of these behaviors can be used as an indirect index of alertness or anxiety (Shuhama et al., 2007). Exploration can in fact be partially or completely inhibited by anxiety, also in puppies (Guardini et al., 2016; 2017): a reduced exploration can become a measure of anxiety status (Crawley & Goodwin, 1980; Ohl et al., 2008). Instead, the use of rewards in food or game has turned out, as expected, not to be associated with any behavioral problem. On the contrary, the behavior of house soiling ($\chi^2 = 5.773$; $p = 0.016$) among those who declared not to use rewards compared to those who use them was more present. This could be due to the fact that not using the rewards to reinforce the behavior of eliminating outdoor may affect learning.

Conclusions

In conclusion, the findings of this research agree with what is generally reported by other studies. Trained dogs were found to have fewer behavioral problems than untrained dogs. It was also evident that the duration of the training courses affects the results obtained by showing that the courses carried out for longer time and in more sessions guarantee better results. Moreover, although within the sample only a small part of subjects was trained by the coercive method, it was found that the use of this method causes more behavioral problems than the gentle method. Finally, the use of punishments was found to be related to the inhibition of several behaviors while the use of rewards is related to the reduction of house soiling.

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Effetto della partecipazione a corsi di educazione cinofila sul comportamento del cane

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Istruttori cinofili liberi professionisti

Sintesi

Lo scopo di questo lavoro è stato quello di investigare se esistano differenze comportamentali e perciò ripercussioni sul benessere del cane, correlate all'aver seguito o meno un corso di educazione cinofila.

Ad un gruppo di proprietari di cani, senza tener conto delle loro pregresse esperienze, è stato proposto un questionario, suddiviso in 4 sezioni: la prima raccoglieva i dati anagrafici del proprietario, la seconda il management quotidiano del cane, la terza il tipo di corso di educazione cinofila che il cane aveva frequentato ed infine un'ultima parte riguardante il comportamento del cane.

Sono stati raccolti 153 questionari, metà dei quali compilati da proprietari di cani che non avevano seguito corsi di educazione cinofila. L'analisi statistica ha rivelato che alcuni problemi comportamentali sono maggiormente presentati da cani che non hanno frequentato corsi di educazione, come urinare in casa ($\chi^2 = 6,445$; $p = 0,011$), eccessiva eccitabilità quando i proprietari ritornano a casa ($\chi^2 = 5,112$; $p = 0,024$), saltare sopra il proprietario in situazioni diverse dal ritorno a casa ($\chi^2 = 6,115$; $p = 0,013$), tirare al guinzaglio ($\chi^2 = 4,567$; $p = 0,033$).

La durata del corso di educazione cinofila ed il numero delle sue sessioni, influenzano la manifestazione di questi comportamenti. Questi dati preliminari mostrano che i cani che hanno seguito corsi di educazione cinofila presentano in misura minore problemi comportamentali.