

Determination of awareness, attitude and sensitiveness of dog owners and levels of understanding of dog body language

Determinación de la conciencia, actitud y sensibilidad de los dueños de perros y niveles de comprensión del lenguaje corporal del perro

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ABSTRACT

This research was carried out to determine the identification of the awareness, attitude and sensitiveness of dog owners in Türkiye, and levels of understanding the body language of dogs. The research material consisted of data obtained from face-to-face surveys with randomly selected 172 dog owners. In the study, the differences between the education level categories of dog owners were found to be statistically significant ($P < 0.01$), but not for marital status, child ownership, age and household income ($P > 0.05$). In addition, the rate of those who did not have children was found to be higher among those who adopted dogs for the reasons of animal love/compassion (58.6%) and feeling of loneliness (75.0%). According to the findings, dog owners spend a maximum of 1–2 hours with their dogs during the day. Men have more difficulty in caring for their dogs than women due to lack of time, financial constraints and other reasons. In this study, dog owners were able to correctly identify 10 of the 20 images of dog body language at a medium and high level (50.0–95.3%), and 10 of them at a low and very low level (47.7–4.1%). As a result; It is important for those who want to have a dog to make an attempt by questioning whether they have the necessary time, energy and financial means. In addition, it is thought that it is important to learn the body language of dogs, that there is a need for institutional structures that will help people who own or want to acquire dogs in this regard and in the field of general breeding, and teach them the requirements of their responsibilities.

Key words: Awareness; dog body language; dog owner; attitude

RESUMEN

Esta investigación se llevó a cabo para determinar la identificación de la conciencia, la actitud y la sensibilidad de los dueños de perros en Turquía, y los niveles de comprensión del lenguaje corporal de los perros. El material de investigación consistió en datos obtenidos de encuestas cara a cara con 172 dueños de perros seleccionados al azar. En el estudio, se encontró que las diferencias entre las categorías de nivel educativo de los dueños de perros eran estadísticamente significativas ($P < 0,01$), pero no para el estado civil, la propiedad de los hijos, la edad y los ingresos del hogar ($P > 0,05$). Además, se encontró que la tasa de quienes no tenían hijos era mayor entre quienes adoptaron perros por razones de amor/compasión animal (58,6 %) y sentimiento de soledad (75,0 %). Según los hallazgos, los dueños de perros pasan un máximo de 1 a 2 horas con sus perros durante el día. Los hombres tienen más dificultades para cuidar a sus perros que las mujeres debido a la falta de tiempo, limitaciones financieras y otras razones. En este estudio, los dueños de perros pudieron identificar correctamente 10 de las 20 imágenes del lenguaje corporal canino en un nivel medio y alto (50,0–95,3 %), y 10 de ellas en un nivel bajo y muy bajo (47,7–4,1 %). Como resultado: Es importante que aquellos que quieren tener un perro lo intenten preguntándose si tienen el tiempo, la energía y los medios económicos necesarios. Además, se piensa que es importante aprender el lenguaje corporal de los perros, que existe la necesidad de estructuras institucionales que ayuden a las personas que poseen o quieren adquirir perros en este sentido y en el campo de la cría en general, y enseñar ellos los requisitos de sus responsabilidades.

Palabras clave: Conciencia; lenguaje corporal canino; propietario; actitud

INTRODUCTION

Dogs (*Canis lupus familiaris*) and human are species that incredibly communicate and understand each other. They share common emotions. In the developed world, the most common role of a dog as a pet is companionship [16]. Thus, motivations, attitudes and behaviours of the present and possible dog owners, generates a small but important field that should be evaluated in an interdisciplinary manner. The most common factors in owning a dog are the physical appearance, behaviour and health of the dog, social effects such as the popularity of certain races, demographic and socioeconomic factors and the previous owning experience of the owner [15].

Currently, irresponsible production, purchasing and as a direct result of this action, welfare problems are important common issues for all races of dogs [9]. Internet is a way to buy puppies, which is increasingly getting widespread. In the United States, 19% of the puppies were obtained from shelter, 27% were obtained from raisers and 1% were obtained from the internet in 2008 [33].

Along with the simplicity of owning a dog, the presence of a thought that many people are keeping a pet, results in the feeling that everyone can have a pet and keeping a pet is easy. Likewise, if individuals have kept dogs previously, they believe that they know how to live along with all types of dogs. Therefore, most dog owners believe that they do not need to be trained on how to look after their dog. Most of the owners believe that they love their dogs and thus they are good owners [27]. However, in order to adjust the management strategies of the owners to their needs, they have to understand and interpret the dogs' behaviours. Additionally, understanding the body language of the dogs helps people understand the emotions of the animals. Facial expressions and the body posture of the dogs may provide important information on their moods and emotional situations [13].

In a study investigating the awareness and sensitiveness of the dog owners, despite having been aware of the health problems of their dogs, 19.9% reported that their dogs had a minimum of one conformational operation, 36.5% reported that their dogs had experienced temperature regulation problem, 17.9% reported that their dogs had experienced breathing problems, and 70.9% mentioned tragically that their brachycephalic dogs were very healthy or pretty healthy [26].

Currently, dog owners in Türkiye are increasing in number every day. However, the issue whether the given care and nutrition for these dogs are sufficient or not, is of much concern. Most commonly, dogs are owned on a momentary basis; however, the own living and welfare rights of the dogs are underestimated.

The awareness, attitude and sensitiveness of dog owners in Türkiye and their level of understanding the body language of the dogs are important issues to be determined. Scientific studies on the subject are lacking. Thus, the aim of the present study was to determine the awareness, attitude and sensitiveness of dog owners with regard to sociodemographic characteristics due to the widespread owning, feeding and raising of dogs, which are one of the most commonly owned pets. Furthermore, measuring the levels of understanding the body language of the dogs by the owners and the related current situation in Türkiye was to be investigated.

MATERIAL AND METHODS

The study was conducted in the clinics and animal hospitals of 4 Cities (Ankara, Antalya, İstanbul, İzmir), which have a high number of

clinics and animals' hospitals intensively acting for pets in Türkiye. The clinic and animal hospitals, and dog owners to be included in the surveys of the study were randomly selected, and face-to-face surveys were conducted with the owners who accepted to participate in the study. In this study conducted between May and October 2021, during the pandemic conditions, the survey data obtained from a total of 172 dog owners constituted the material of the study. The ethical approval necessary for the study was obtained from Erzincan Binali Yıldırım University, Human Researches Ethical Committee (date: 30.04.2020, no.: 04/15).

The survey form used in the study included two parts. In the first part, dog owners were asked sociodemographic questions, their reason for owning their dogs, the time period they shared with their dogs, the most complicated problems they experienced, if they punished their dogs or not, whether they had owned and left a dog previously, and in the second part, they were asked to fill a visual scale on the body language of the dogs [20] (FIG. 1). The questions in the survey were prepared by the researchers benefiting from similar studies [10, 11, 12, 29].

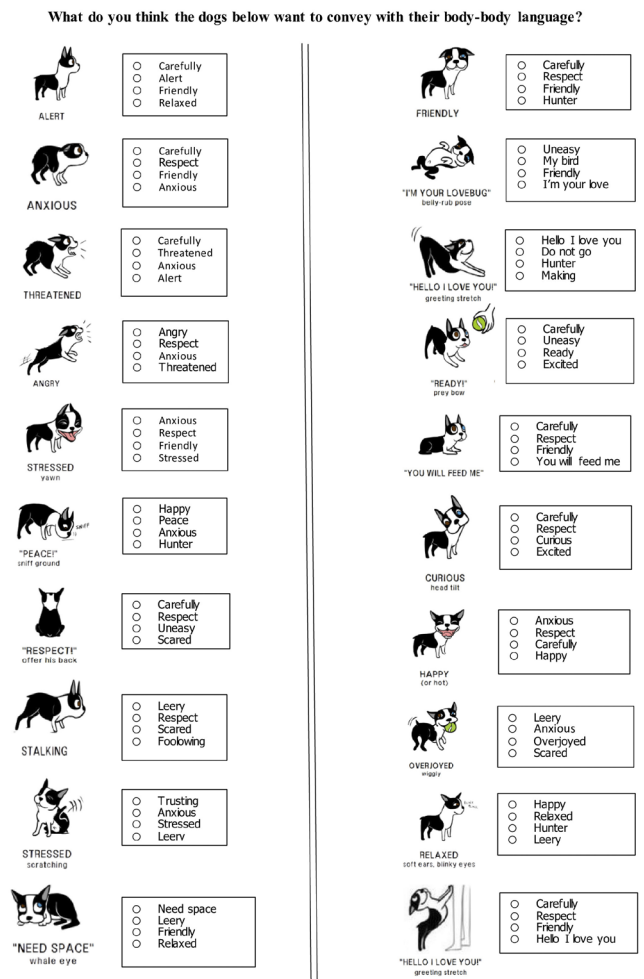


FIGURE 1. The dog body language scale used in the study. This figure has been modified from Lili [20]

The descriptive statistics of the data obtained in the study were calculated. In this context, numbers and percentages (%) were calculated for each parameter. Some of the questions were not answered by the owners. The survey was prepared according to volunteering, and the owners were free for not answering some of the questions. Thus, the number of answers to the questions (frequency) were different for each question. Instead of revising the lacking answers according to the number of all participants, the statistic calculations were performed over actual answers. The Pearson chi square test was used to evaluate the gender, age, marital status, having children, educational status and income status of the dog owners as demographic characteristics, and rates of correct and incorrect answers (%) to the questions on the understanding of body language of dogs. The level of significance was accepted as $P < 0.05$ [1]. The SPSS 22.0 program package was used for both the descriptive statistics and the calculations of the analyses [31].

RESULTS AND DISCUSSION

Determining the sociodemographic characteristics and dog owning situations of the dog owners

In this study, the sociodemographic characteristics of the dog owners by gender have been presented in TABLE 1. Only differences among the educational levels within the sociodemographic characteristics were observed to be significant ($P < 0.01$).

TABLE I
Sociodemographic characteristics of the dog owners by gender

| Characteristics | Female | | Male | | P | |
|------------------------------|-------------------------|----|------|----|------|----|
| | n | % | n | % | | |
| Marital status | Married | 36 | 46.8 | 43 | 45.9 | ns |
| | Single | 41 | 53.2 | 52 | 54.1 | |
| Child ownership status | Yes | 32 | 41.6 | 41 | 43.2 | ns |
| | No | 45 | 58.4 | 54 | 56.8 | |
| Age (year) | 20 and less | 10 | 13.0 | 9 | 9.4 | ns |
| | 21-30 | 27 | 35.1 | 40 | 42.1 | |
| | 31-40 | 20 | 25.9 | 25 | 26.3 | |
| | 41-50 | 9 | 11.7 | 12 | 15.5 | |
| | 51 and more | 11 | 14.3 | 9 | 9.4 | |
| Education level | Primary education | 0 | 0.0 | 10 | 10.6 | ** |
| | Secondary education | 23 | 29.9 | 38 | 40.0 | |
| | Associate degree | 22 | 28.6 | 14 | 14.7 | |
| | Undergraduate education | 23 | 29.9 | 28 | 29.4 | |
| | Graduate education | 9 | 11.6 | 5 | 5.3 | |
| Household income (USD/month) | 355,62 \$ and less | 10 | 13.0 | 20 | 21.1 | ns |
| | 355,63 \$ – 1319,96 \$ | 52 | 67.5 | 53 | 55.8 | |
| | 1319,97 \$ and more | 15 | 19.5 | 22 | 23.2 | |

USD: USA Dollar, ns: $P > 0.05$, **: $P < 0.01$

The rates of singles and married owners were observed to be similar. Accordingly, it may be concluded that the marital status has no effect on owning a dog. Although no correlation was found between having children and owning a dog, the rate of participants with no children was higher than those who had children. The rate of owners aged 21-40 was observed to be higher compared to < 20 age and > 41 . The age of male owners in the 21-30 age group was observed to be higher compared to female owners of the same age group. According to the results, the rate of owners aged 31-40 were similar.

Among the female dog owners, mid-school, associate degree and university graduates had the highest rate and were similar. Among the male dog owners, mid-school and university graduates had the highest rate. The rate of female, mid-school graduate dog owners were lower compared to male owners of the same type, whereas the rates of university graduate female and male owners were similar.

In the study of Kubinyi *et al.* [18] conducted in Germany, 79.6% of the dog owners were female, 64.9% were male, 5.3% were in the 31-60 age group, 5.3% were < 18 , 40.3% were mid-school graduates, 2.0% were high school graduates, 22.3% were primary school graduates, and 11.4% were university graduates. In another study conducted by Meyer and Forkman [24] in Denmark, 77.9% of the dog owners were female, 83.8% were married and 41.6% had children. In this study, the educational status of the dog owners and the results showing that the majority of the dog owners were older and youngest group included the lowest level of dog owning, were compared to the study conducted in Germany, and similar outcomes were observed. Furthermore, the rate of married women among dog owners were lower compared to that in the study in Denmark, and similar with regard to the rate of dog owners with children.

The results on the reasons for dog owning have been presented in TABLE II. The question on the reason for dog owning in the study was answered as animal love/compassion in 81.4% of the participants, as loneliness in 16.3% and as other/gift in 2.3% ($P < 0.01$) (TABLE II).

Kubinyi *et al.* [18] reported the rate of dog owners who owned their dogs to make them a member of the family to be the highest. In the study of Kobelt *et al.* [17] conducted in Australia, friendship was mentioned to be the most important reason for owning a dog (74%). These results were identical to the outcomes observed in the present study indicating that animal love/compassion and feeling of loneliness were the most common reasons for owning a dog.

Meyer and Forkman [24] reported a negative correlation between owning a dog plus having children and being fond of the dog. Those who had children had spent less time and money and felt less love for their dogs. Likewise, Marinelli *et al.* [22] reported that owners with no children were found of their dogs more than those with children. These results were similar to the outcomes observed in the present study indicating that people who had children owned dogs at a lower rate.

In this study, it was observed that the longest duration of owning a dog among the participants was 49 months and longer for females, and the shortest duration was 25-36 months. The same rates were 37-48 and 7-12 months among males. In the light of the findings obtained, female owners had a longer past with their dogs compared to male owners. This indicates that females owning the same dog for more than 4 years were more advantageous than males who owned the same dog for less than 1 year, with regard to knowing their dogs and experience (TABLE III).

TABLE II
Dog owners' dog adoption reasons

| Characteristics | | | Animal love/ mercy | Feeling of loneliness | Other/ present | |
|------------------------|-------------------------|-----|-----------------------|--------------------------|----------------|----------|
| Gender | Female | n | 65 | 1 | 11 | |
| | | % | 46.4 | 33.3 | 39.3 | |
| | Male | n | 75 | 2 | 17 | |
| | | % | 53.6 | 66.7 | 60.7 | |
| <i>P</i> | | | | ns | | |
| Marital status | Married | n | 64 | 1 | 13 | |
| | | % | 45.7 | 25.0 | 46.4 | |
| | Single | n | 76 | 3 | 15 | |
| | | % | 54.3 | 75.0 | 53.6 | |
| <i>P</i> | | | | ns | | |
| Child ownership status | Yes | n | 58 | 1 | 14 | |
| | | % | 41.4 | 25.0 | 50.0 | |
| | No | n | 82 | 3 | 14 | |
| | | % | 58.6 | 75.0 | 50.0 | |
| <i>P</i> | | | | ns | | |
| Education level | Primary education | n | 9 | 0 | 1 | |
| | | % | 6.4 | 0.00 | 3.6 | |
| | Secondary education | n | 51 | 1 | 9 | |
| | | % | 36.4 | 25.0 | 32.1 | |
| | Associate degree | n | 32 | 1 | 3 | |
| | | % | 22.9 | 25.0 | 10.7 | |
| | Undergraduate education | n | 36 | 1 | 13 | |
| | | % | 25.7 | 25.0 | 46.4 | |
| Graduate education | n | 12 | 1 | 2 | | |
| | % | 8.6 | 25.0 | 7.1 | | |
| <i>P</i> | | | | ns | | |
| Age (year) | 20 and less | n | 16 | 0 | 4 | |
| | | % | 11.4 | 0.00 | 14.3 | |
| | 21-30 | n | 62 | 1 | 5 | |
| | | % | 44.3 | 25.0 | 17.9 | |
| | 31-40 | n | 34 | 1 | 7 | |
| | | % | 24.3 | 25.0 | 25.0 | |
| | 41-50 | n | 14 | 1 | 6 | |
| | | % | 10.0 | 25.0 | 21.4 | |
| | 51 and more | n | 14 | 1 | 6 | |
| | | % | 10.0 | 25.0 | 21.4 | |
| <i>P</i> | | | | ns | | |
| General | | n | 140 | 4 | 28 | <i>P</i> |
| | | % | 81.4 ^x | 16.3 ^y | | ** |

ns: $P > 0.05$, **: $P < 0.01$, ^{xy/z}: Difference between values with different letters on the same line is important ($P < 0.05$)

TABLE III
The time dog owners spend with their dogs and the time they spend together during the day

| Characteristics | Female | | Male | | |
|--|-------------|----|------|----|------|
| | n | % | n | % | |
| The time (hours) dog owners spend with their dogs during the day | 1-2 | 25 | 32.4 | 34 | 35.8 |
| | 3-5 | 21 | 27.3 | 33 | 34.8 |
| | 6-10 | 13 | 16.9 | 18 | 18.9 |
| | 11 and more | 18 | 23.4 | 10 | 10.5 |
| <i>P</i> | ns | | | | |
| Dog owners' stay with their dogs (months) | 0-6 | 11 | 14.3 | 11 | 11.6 |
| | 7-12 | 16 | 20.8 | 26 | 27.4 |
| | 13-24 | 15 | 19.5 | 16 | 16.8 |
| | 25-36 | 7 | 9.1 | 16 | 16.8 |
| | 37-48 | 8 | 10.4 | 6 | 6.3 |
| | 49 and more | 20 | 26.0 | 20 | 21.1 |
| <i>P</i> | ns | | | | |

ns: $P > 0.05$

According to the results obtained in the study, the highest rate of the females shared 1-2 hours with their dogs daily, and the lowest rate of them shared 6-10 hours with their dogs; the highest rate of males shared 1-2 hours, 3-5 hours at a similar rate, and the lowest rate shared 11 hours or longer. The similarity between females and males who spent 1-2 hours with their dogs daily is notable (TABLE III). Likewise, Philpotts *et al.* [27] reported that the most common 5 welfare problems of owning a dog included leaving the dogs alone for delayed hours. Kubinyi *et al.* [18] reported that approximately 70% of the participants of the survey spent more than 3 hours with their dogs daily, and that they played with their dogs every day. The outcomes of the study demonstrated that dog owners in Germany spent more time with their dogs compared to owners in Türkiye.

Dog owners frequently underestimate the duration they leave their dogs alone. Dogs necessitate companionship and are social animals. Some dogs suffer even when they are left for short periods. The duration dogs can be left alone depends on factors such as race, age, education, previous experience of leaving alone lifestyle and need for sheltering for the dog. However, no dog should be left alone routinely for more than 4 hours.

The subjects regarding difficulties dog owners had been time in 39.0%, money in 15.7% and "other" for 45.3% ($P < 0.01$). The status of their child ownership status was found to be statistically significant in terms of the most challenging issues for dog owners while raising dogs ($P < 0.01$) (TABLE IV).

It was observed that males had more problems in looking after their dogs compared to females due to time insufficiency, limited budget and other reasons. Owners with no children had more problems compared to those with children for all three mentioned reasons ($P < 0.01$) (TABLE IV).

In the study of Applebaum *et al.* [2] during the COVID-19 pandemic, it was observed that 7% of the participants could not run the risk of having pets due to a possible income loss in case of a job loss. This

TABLE IV
The most difficult issues for dog owners when raising dogs

| Characteristics | Time | Limited budget | | Other ^v | |
|------------------------------|------------------------|-------------------|-------------------|--------------------|----------|
| | | n | % | | |
| Gender | Female | n | 31 | 10 | 36 |
| | | % | 46.3 | 37.0 | 46.2 |
| | Male | n | 36 | 17 | 42 |
| | | % | 53.7 | 63.0 | 53.8 |
| <i>P</i> | ns | | | | |
| Household income (USD/month) | 355,62 \$ and less | n | 8 | 8 | 14 |
| | | % | 11.9 | 29.6 | 17.9 |
| | 355,63 \$ – 1319,96 \$ | n | 43 | 16 | 47 |
| | | % | 64.2 | 59.3 | 60.2 |
| | 1319,97 \$ and more | n | 16 | 3 | 17 |
| | | % | 23.9 | 11.1 | 21.9 |
| <i>P</i> | ns | | | | |
| Child ownership status | Yes | n | 32 | 4 | 37 |
| | | % | 47.8 | 14.8 ^a | 47.4 |
| | No | n | 35 | 23 | 41 |
| | | % | 52.2 | 85.2 ^b | 52.6 |
| <i>P</i> | ** | | | | |
| Education level | Primary education | n | 3 | 1 | 7 |
| | | % | 4.5 | 3.7 | 9.0 |
| | Secondary education | n | 24 | 7 | 29 |
| | | % | 35.8 | 25.9 | 37.2 |
| | Associate degree | n | 10 | 11 | 14 |
| | | % | 14.9 | 40.8 | 17.9 |
| Undergraduate education | n | 23 | 7 | 21 | |
| | % | 34.3 | 25.9 | 26.9 | |
| Graduate education | n | 7 | 1 | 7 | |
| | % | 10.4 | 3.7 | 9.0 | |
| <i>P</i> | ns | | | | |
| Age (year) | 20 and less | n | 3 | 6 | 10 |
| | | % | 4.5 | 22.2 | 12.8 |
| | 21-30 | n | 31 | 12 | 25 |
| | | % | 46.3 | 44.4 | 32.1 |
| | 31-40 | n | 19 | 4 | 21 |
| | | % | 28.4 | 14.8 | 26.9 |
| | 41-50 | n | 8 | 2 | 11 |
| | | % | 11.9 | 7.4 | 14.1 |
| | 51 and more | n | 6 | 3 | 11 |
| | | % | 8.9 | 11.1 | 14.1 |
| <i>P</i> | ns | | | | |
| General % | n | 67 | 27 | 78 | <i>P</i> |
| | % | 39.0 ^y | 15.7 ^z | 45.3 ^x | ** |

USD: USA Dollar, ns: $P > 0.05$, **: $P < 0.01$, ^v: barking of the dog, defecating in the house, complaints from the neighbours, health problems of the owners, obligation of vacations, and others, ^{a,b}: Difference between values with different letters on the same column is important ($P < 0.05$), ^{x,y,z}: Difference between values with different letters on the same line is important ($P < 0.05$)

rate was lower than the rate of females and males who had difficulties in looking after their dogs due to limited budget in the present study.

The needs of the dogs and the potential of the owner to meet these needs may change at an important extent during the lifetime of a dog. Therefore, it is obvious that owners may sometimes meet their needs and sometimes not. Problems and difficulties of the regular life include economic and psychological aspects. Likewise, emotional addiction to the dogs could further complicate these difficulties. In order to be affected by these negative conditions at a minimal rate, it is believed that animal-related foundations and associations should provide support for both the animals and the owners.

In this study, the case of punishments of the dogs by the dog owners were investigated, and it was observed that 57.6% sometimes punished their dogs, 34.3% never punished, and 8.1% punished their dogs always ($P<0.01$)(TABLE V).

Some of the most frequent ways of punishing the dogs are hitting or kicking them, yelling at them and forcing the dog to leave an object physically, and glaring at the dog [14]. Punishing the dog does not only affect the dog, but it affects the owner as well. Reward-based education is less stressful and painful for the dog. Therefore, it is safer for the owner [8]. In the study of Valtonen et al. [32] in Finland, it was reported that violence against animals necessitated Veterinarian permanent emergency precaution applications and interrogation of the police. 70.0% of the denouncements were related to dogs, and 9.6% of all cases detected were reported by veterinarians for police questioning.

Punishment of dogs should be the final solution in an education; the placement, condition and route of punishment should be evaluated very carefully. People should primarily know that the dog has needs and that these needs should be considered; dogs should be empathized, and kindness should be shown. However, the efficiency of these strategies is related to factors such as the previous experiences, habits, emotions, perceptions, prejudgements, attitudes, beliefs, characters, intelligence and self-awareness. Thus, public inspection and sanction are important for the impropriety of punishers and should be kept active as a tool.

The results on getting support of dog owners from experts about the care of the dogs in the present study have presented on TABLE VI.

In the present study, the highest rate of getting support was observed among males, the 21-30 age group and university graduates. The least support was observed to be by primary school and university graduates (TABLE VI).

Millions of dog-human relationships fail each year worldwide. Some of them arise from simple and avoidable non-conformities. Non-realistic and false expectations related to the behaviours of a dog is a common cause of disarray of the animal-human relationship. Veterinarians can reduce the frequency of false expectations and improve the rate of successful dog owning by providing consultation to the customers prior to owning by helping them arrange many factors of dog owning, by preparing them for taking the responsibility of the dogs they will own and by training them on the needs and behaviours of the dogs [21]. However, dog owners obtain information not only from veterinarians, but from other sources as well [28]. These sources include TV programs, internet or videos. Many of these information is mostly from advertisements that may mislead the owners and negatively affect dog welfare [27]. The most popular sources of

TABLE V
Situations of dog owners punishing their own dogs

| Characteristics | | Every time | Sometimes | Never | | |
|------------------------|-------------------------|------------|------------------|-------------------|-------------------|----------|
| Gender | Female | n | 5 | 46 | 26 | |
| | | % | 35.7 | 46.5 | 44.1 | |
| | Male | n | 9 | 53 | 33 | |
| | | % | 64.3 | 53.5 | 55.9 | |
| <i>P</i> | | ns | | | | |
| Child ownership status | Yes | n | 6 | 45 | 22 | |
| | | % | 42.9 | 45.5 | 37.3 | |
| | No | n | 8 | 54 | 37 | |
| | | % | 57.1 | 54.5 | 62.7 | |
| <i>P</i> | | ns | | | | |
| Age (year) | 20 and less | n | 2 | 10 | 7 | |
| | | % | 14.3 | 9.9 | 11.9 | |
| | 21-30 | n | 4 | 41 | 22 | |
| | | % | 28.6 | 41.4 | 37.3 | |
| | 31-40 | n | 6 | 26 | 13 | |
| | | % | 42.9 | 26.4 | 22.0 | |
| | 41-50 | n | 2 | 13 | 6 | |
| | | % | 14.3 | 13.2 | 10.2 | |
| | 51 and more | n | 0 | 9 | 11 | |
| | | % | 0.0 | 9.1 | 18.6 | |
| <i>P</i> | | ns | | | | |
| Education level | Primary education | n | 0 | 6 | 4 | |
| | | % | 0.0 | 6.1 | 6.8 | |
| | Secondary education | n | 8 | 34 | 19 | |
| | | % | 57.1 | 34.3 | 32.2 | |
| | Associate degree | n | 4 | 19 | 13 | |
| | | % | 28.6 | 19.2 | 22.0 | |
| | Undergraduate education | n | 2 | 29 | 20 | |
| | | % | 14.3 | 29.3 | 33.9 | |
| Graduate education | n | 0 | 11 | 3 | | |
| | % | 0.0 | 11.1 | 5.1 | | |
| <i>P</i> | | ns | | | | |
| Total | | n | 14 | 99 | 59 | <i>P</i> |
| | | % | 8.1 ^z | 57.6 ^x | 34.3 ^y | ** |

ns: $P>0.05$, **: $P<0.01$, ^{x,y,z}: Difference between values with different letters on the same line is important ($P<0.05$)

information in the United Kingdom are the internet, veterinarians and books, with veterinarians being the most common source [19].

Dog walkers and daily dog-sitters may have minimal information and experience regarding dogs, or they may not have any information at all. However, many owners deliver their dogs to these people happily without concern. Therefore, any potential advice from these people who are automatically accepted as experts may be harmful for the

TABLE VI
Status of dog owners getting support from experts about the care of their dogs

| Characteristics | | | Yes | No | |
|-------------------------|-----------------|-------------------|------|------|---|
| Gender | Female | n | 43 | 34 | |
| | | % | 43.0 | 47.2 | |
| | Male | n | 57 | 38 | |
| | | % | 57.0 | 52.8 | |
| <i>P</i> | | | ns | | |
| Age (year) | 20 and less | n | 9 | 10 | |
| | | % | 9.0 | 13.8 | |
| | 21-30 | n | 39 | 28 | |
| | | % | 39.0 | 39.1 | |
| | 31-40 | n | 29 | 14 | |
| | | % | 29.0 | 19.5 | |
| | 41-50 | n | 12 | 10 | |
| | | % | 12.0 | 13.8 | |
| | 51 and more | n | 11 | 10 | |
| | | % | 11.0 | 13.8 | |
| | <i>P</i> | | | ns | |
| | Education level | Primary education | n | 3 | 7 |
| % | | | 3.0 | 9.7 | |
| Secondary education | | n | 34 | 27 | |
| | | % | 34.0 | 37.5 | |
| Associate degree | | n | 18 | 18 | |
| | | % | 18.0 | 25.0 | |
| Undergraduate education | | n | 35 | 16 | |
| | | % | 35.0 | 22.2 | |
| Graduate education | n | 10 | 4 | | |
| | % | 10.0 | 5.6 | | |
| <i>P</i> | | | ns | | |

ns: $P > 0.05$

owners and reduce the welfare of the dog instead of improving it [27]. Dog owners should therefore get information from real experts and should choose the person carefully to obtain advice.

The findings on cases and reasons for dog owners to adopt and abandon another dog before have been presented in TABLE VII.

In this study, the rate of abandoning a dog previously was observed to be higher among males (11.6%) compared to females (10.4%). According to the findings, the rate of abandoning due to difficulties in care of the dogs was higher among males (63.64%) compared to females (25.0%), and the rate of health issues among females (37.5%) was higher compared to males (9.09%). Time insufficiency was 37.5% among females and 27.27% among males (TABLE VII).

Philpotts *et al.* [27] reported that dog owning, and subsequent abandoning were one of the most frequent issues in dog welfare problems. In the study of Baquero [3], violence (83.6%), health issues

TABLE VII
Cases and reasons for dog owners to adopt and abandon another dog before

| | | | Female | Male |
|--|--------------------|---|--------|-------|
| Previous dog ownership and abandonment | Yes | n | 8 | 11 |
| | | % | 10.4 | 11.6 |
| | No | n | 69 | 84 |
| | | % | 89.6 | 88.4 |
| <i>P</i> | | | ns | |
| Reasons for saying "yes" | Difficulty in care | n | 2 | 7 |
| | | % | 25.0 | 63.64 |
| | Health reasons | n | 3 | 1 |
| | | % | 37.5 | 9.09 |
| | Lack of time | n | 3 | 3 |
| | | % | 37.5 | 27.27 |
| <i>P</i> | | | ns | |

ns: $P > 0.05$

(38%), behavioural problems (20,9%), moving to another house (13,3%), insufficient space (3,8%), pregnancy (3,8%), problem causing (3,8%), approaching death (3,8%) and being elderly (3,8%) were reported as the main causes of dog abandoning. Mota-Rojas *et al.* [25] observed that the economic status and time insufficiency, return from vacation, complaints of the neighbours, the reality of a puppy growing up, dog diseases and being elderly were the common causes of dog abandoning. However, objectively, many dogs living in the streets or in the barns have been abandoned. Many owners realize that dog owning is not as easy as they expect, and they abandon them [4].

In the present study, the reasons for abandoning were asked to the participants under 3 main titles; however, it is obvious that many factors contribute to the situation. Dog owners may give many other reasons for their abandoning to justify themselves. On the other hand, dog abandoning leads to important health, political, socioeconomic and welfare problems within the society as well.

Understanding level of dog owners at dog body language

In this study, the differences between categories of educational status, time spent for the dogs and time the owners shared with their dogs with regard to the correct understanding of the visual scale for the body language of dogs were found to be significant ($P < 0.01$). The results on the correct understanding of the visual scale for the body language of the dogs for the owners have been presented in TABLE VIII. The findings on the level of understanding the body language of the dogs with regard to gender, educational status, time spent with the dogs and time the owners shared with their dogs have been presented in TABLE IX.

It was observed that among the 20 figures in the visual scale, dog owners could identify 10 of them with moderate and high accuracy (50.0–95.3%), and 10 of them with low and very low accuracy (4.7–4.1%). Figures that were identified correctly at the highest level were those that represented pleased and very happy, and at the lowest level they were those that repressed peaceful-no problem, concerned and stressful.

TABLE VIII
Frequencies and ratios in the correct evaluation of dog body language images

| Question number | The correct answers to the question | Correct answers | |
|-----------------|-------------------------------------|-----------------|------|
| | | n | % |
| 1 | Alert | 50 | 29.1 |
| 2 | Anxious | 143 | 83.1 |
| 3 | Threatened | 95 | 55.2 |
| 4 | Angry | 128 | 74.4 |
| 5 | Stressed | 42 | 24.4 |
| 6 | Peace | 7 | 4.1 |
| 7 | Respect | 30 | 17.4 |
| 8 | Stalking | 77 | 44.8 |
| 9 | Stressed | 24 | 14.0 |
| 10 | Need space | 82 | 47.7 |
| 11 | Friendly | 113 | 65.7 |
| 12 | I'm your lovebug | 86 | 50.0 |
| 13 | Hello | 131 | 76.2 |
| 14 | Ready | 90 | 52.3 |
| 15 | You will feed me | 65 | 37.8 |
| 16 | Curious | 126 | 73.3 |
| 17 | Happy | 162 | 94.2 |
| 18 | Overjoyed | 164 | 95.3 |
| 19 | Hello | 57 | 33.1 |
| 20 | Relaxed | 82 | 47.7 |

Salgirli et al. [30] reported important differences between male and female participants with regard to identification of emotional situations of the dogs through images in the videos, and no difference was determined between females and males with regard to the answers given for the perceptions and dominant behaviours of the dogs. In that study, 71.4% of males and 58,1% of females defined the emotional situations of the dogs as comfortable and all the dogs in the videos were mostly defined as comfortable (68.4%) and self-confident (65.1%). The dominant behaviours of the dogs were playfulness (23.0%) and friendliness (19.2%). Catalán et al. [7] mentioned that experienced veterinarians were successful at determining the behaviours of the dogs, and that moderate to low-experienced veterinarians were not. Among the veterinarians, 66.18% could identify the violence and concern behaviours of the dogs, whereas 49.39% had made accurate interpretations. Bloom and Friedman [5] determined that the body language of the dogs could be interpreted differently among experienced and non-experienced individuals. Likewise, it was determined in the study of Bloom et al. [6] that university students could significantly correctly identify 6 different emotions (happiness, sorrow, anger, fear, disgust, surprise) in Doberman, Rhodesian and Malinois from their body languages. Accurate identification of the emotions was lower for Dobermans, which was related to small emotional hints of the body that could be masked due to the dark fur colour of these dogs.

Those who could accurately evaluate the body language of the dogs at the highest rate were: males, mid-school graduates, those who

TABLE IX
Dog owners' levels of understanding dog body language according to different characteristics

| Characteristics | Correct answer (%) | |
|--|-------------------------|----------------------|
| Gender | Female | 45.17 |
| | Male | 54.83 |
| <i>P</i> | ns | |
| Education level | Primary education | 6.64 ^c |
| | Secondary education | 34.19 ^a |
| | Associate degree | 20.22 ^{ab} |
| | Undergraduate education | 29.10 ^a |
| <i>P</i> | Graduate education | 9.85 ^{bc} |
| <i>P</i> | ** | |
| Time spent with the dog during the day (hours) | 1-2 | 32.87 ^a |
| | 3-5 | 31.15 ^a |
| | 6-10 | 17.37 ^b |
| | 11 and more | 18.61 ^b |
| <i>P</i> | * | |
| Dog owners' stay with their dogs (months) | 0-6 | 13.73 ^{abc} |
| | 7-12 | 23.94 ^{ab} |
| | 13-24 | 16.16 ^{abc} |
| | 25-36 | 13.22 ^{bc} |
| | 37-48 | 8.34 ^c |
| <i>P</i> | 49 and more | 24.61 ^a |
| <i>P</i> | ** | |

ns: $P > 0.05$, *: $P < 0.05$, **: $P < 0.01$, ^{a,b,c}: Difference between values with different letters on the same column is important ($P < 0.05$)

spent 1-2 or 3-4 hours with their dogs daily, and who had a past of 7-12 or 49 months or longer with their dogs (TABLE IX). On the contrary, correct evaluation was lower among females, primary school and master's degree graduates, those who spent 6-10 or 3-4 hours with their dogs daily, and among those who had a past of 37-48 months with their dogs.

In the present study, a significant difference was observed between genders with regard to body language figures of seeking for love-attention and curious, and between the educational status of the owners with regard to the figures of concerned, friendly, seeking for love-attention, satisfied and hello-willing to communicate. An important difference was observed between the owner groups of time spent daily with regard to body language figures of concerned, seeking for love-attention and hungry, and between the time passed until owning with regard to the figures of friendly and very happy. Marshall-Pescini et al. [23] reported that the human-based communicative behaviours of the dogs affected the individual education experiences at an important extent. Hasegawa et al. [13] reported that a dominant dog would have a self-confident posture and walk, risen head and ears, large eyes, bended lips and mildly moved risen tail; dogs that express violence or dominance, or those with the feeling of challenge or having been threatened, had widened pupil and risen ears.

As observed in literature reports, the body languages of the dogs cannot be precisely defined in any of the communications tools such as images, figures or videos. Each emotion of the dogs is expressed via body language; therefore, the whole-body language of the dogs should be defined better, especially for each race.

CONCLUSION

Dog owning and raising necessitates economic and emotional sufficiency, as well as devotion, knowledge and experience. In the present study, both the positive conditions concerning dog owning and raising, and the improper and insufficient conditions have been presented. The most important insufficiencies determined in this study have been listed as follows:

- The time owners spend with their dogs is very limited.
- Having children was mentioned as an important factor that is related to the difficulties of owning a pet.
- The rate of previous owning and abandoning a pet is really high.
- Dog owners punish their dogs at a rate that cannot be underestimated.
- More than half of the dog owners are insufficient in accurately determining the figure presented in the visual scale regarding the body language of the dogs.

Accurate and effective dog owning necessitates understanding of the emotions, expectations and needs of the dogs at a correct and high level and leading them. These sensitive, loyal and friendly animals deserve respect and dog owning should be a positive attempt. Therefore, the correct dog selection should be made; owners should have knowledge on the care, feeding, education, health and welfare of the dogs; the age and physiological needs of the dogs should be considered independent from the race and with the aim of feeding of the dogs, a healthy environment should be provided, and actions should be made accordingly. Additionally, it is important for the individuals who want to own dogs to have sufficient time, energy and economic situation, and to make decisions accordingly. Instructive structures should be constructed to orient people about owning a pet, the needs of the dogs and how to meet these needs, and the responsibilities to be undertaken.

In conclusion, for a better animal-human relationship and a healthier sociological environment, people who want to own dogs should be given basic ability and capability trainings; obligatory home control visits should be performed to follow-up the health and welfare of the dogs, and deterrent sanctions should be put into action.

Conflict of interest statement

The authors declare there is no conflict of interest.

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