

The effects of the demographic characteristics of pet owners on their animal ownership and care behaviors

Ahmet Cihat TUNÇ^{1,a}, Durmuş Fatih BAŞER^{1,b}, Sercan Hüseyin BAYENDUR^{1,c}, Abuzer ACAR^{1,d,✉}

¹Afyon Kocatepe University, Faculty of Veterinary Medicine, Department of Internal Medicine, Afyonkarahisar, Türkiye.

^aORCID: 0000-0002-6296-6762; ^bORCID: 0000-0003-4272-9011; ^cORCID: 0000-0003-4246-8181; ^dORCID: 0000-0002-4235-2763

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✉Corresponding author

abuzeracar@hotmail.com

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ABSTRACT

In this study, the answers were obtained and evaluated from the questionnaires that were applied to the owners of cats and dogs in at least one province from each region, covering all geographical regions throughout Türkiye. To do this, the original questions for this survey were prepared to evaluate the information about the marital status, gender, age range, education level, place of residence (province, district, town, etc.), economic income level, animal species, and animal care/ownership knowledge level of cat and dog owners. In the study, a face-to-face questionnaire was applied to a total of 1000 participants in the cities of Hatay, Mersin, Elazığ, Erzurum, Kars, Van, Afyonkarahisar, Aydın, Balıkesir, İzmir, Uşak, Gaziantep, Şanlıurfa, Ankara, Kırıkkale, Konya, Çorum, Bursa, İstanbul, Tekirdağ. A total of 962 (96.2%) participants completed the survey in its entirety, while 38 participants were excluded from the evaluation due to incomplete responses. According to the evaluation results of the data obtained; it has been revealed that different variables such as gender, income level, education level, and age of animal owners are highly effective on variables such as the specie, care and ownership knowledge level, and responsibility. As a result, the awareness level of individuals who own cats and dogs throughout Türkiye was measured under the leadership of different variables, and a very comprehensive study was put forward.

Introduction

Pet ownership is the most common form of interaction between humans and animals. Many studies have been published on the demographic characteristics of owning a pet and its effects on human health in the United States of America (USA), United Kingdom (UK), Canada, Australia, and various European countries. In these studies, the effects of demographic characteristics of pet owners on pet ownership and care behaviors were examined in detail. In these reports, the effects of demographic factors such as age, gender, income level, and education level of pet owners on their animal ownership and care behaviors were meticulously evaluated (8, 25, 26). However, it was revealed that there were significant differences in ownership and care behaviors among pet owners in different age groups when the age factor was studied (1). For example, it turned out

that young adults own more pets and spend more time with them. On the other hand, it has been determined that older individuals generally provide better care due to being more experienced and patient (10). When the effects on gender were examined in the same studies, it was seen that the animals owned by women were more than the animals owned by men. Income level was also determined as another important factor affecting the ownership and care behaviours of pet owners. It has been revealed that pet owners with higher incomes pay more attention to the care of their animals because they have more resources and financial opportunities (8, 10, 11, 16). Studies have shown that the level of education can also affect the ownership and care behaviour of pet owners. It has been observed that individuals with higher education levels are generally more conscious and knowledgeable, have a better understanding of the needs of pets, and provide

appropriate care (20, 24). In studies on mental health, it has been concluded that having a pet can increase resistance to mental disorders by providing friendship, reducing loneliness, increasing socialization and giving meaning (12). Despite these positive findings, studies on examining sociodemographic factors suggest that individuals with pets are generally in an advantageous socioeconomic position compared to individuals who do not have pets, thus weakening the positive relationships between pet ownership and human health (2).

Türkiye has a unique diversity in pet ownership due to its cultural, economic, and social dynamics. In the literature, studies on pet ownership and care behaviours in Türkiye are limited and generally focused on Western cities (6, 22). This research aims to fill the knowledge gap in this area with data and innovative data specific to Türkiye. This study aims to explore the factors influencing pet ownership in Türkiye, specifically focusing on the demographic characteristics that drive the tendency to own cats and dogs.

Materials and Methods

Survey Population: The survey population materials of this study were collected in 20 provinces (Hatay, Mersin, Elazığ, Erzurum, Kars, Van, Afyonkarahisar, Aydın, Balıkesir, İzmir, Uşak, Gaziantep, Şanlıurfa, Ankara, Kırıkkale, Konya, Çorum, Bursa, İstanbul, and Tekirdağ), covering all geographical regions of Türkiye and including at least one province from each region. The cities were selected from the seven different geographic regions according to the existence of the University Veterinary Hospital or having high potential veterinary clinics. All the answers were obtained from the survey questions applied to cat and dog owners. The number of questionnaires was determined according to the estimated number of pet owners in each city of Türkiye used in the study. It was evaluated that 1000 participants represent a wide demographic spectrum. A face-to-face survey was applied to 1000 participants in total. The questionnaires of participants who answered all survey questions were included in the study, while those who left any questions unanswered were excluded.

Survey Questions: Survey questions were asked to the animal owners to evaluate the information about the marital status, gender, age, education level, place of residence (province, district, town, etc.), economic income level, species of the owned animal, and the level of knowledge about animal care/ownership of the cat and dog owners. Survey was composed of multiple-choice and open-ended questions. While designing the survey questions about income levels, questions were prepared on US dollar basis to make the evaluation of purchasing

power and future years more objective. While preparing the survey questions included in the study, five different scientists who are experts in their fields were asked about their opinions, and after some additions and deletions, the validity of the questions in scale of measuring the demographics of animal owners and their ownership and care was decided. Likert-type questions aimed to evaluate the participants' attitudes towards pet ownership and care behaviors by measuring the extent to which they agree with certain statements. The Cronbach's Alpha value for the validity of the Likert-type questions in the scale was obtained as 0.72, and the data was analyzed by accepting that the scale was reliable. Previous studies have reported that the reliability level of the survey increases as Cronbach's Alpha value approaches 1 (5).

Statistical Analysis: Statistical comparisons of data were performed using the SPSS® software program (SPSS 22.0, Chicago, IL, USA). An independent Chi-Square (X^2) test was used to analyze variables, and the results were presented in the relevant tables. The significance level in the analysis was taken as $P < 0.05$.

Results

In the research, a direct survey method was utilized involving 1,000 participants. Out of these, 962 individuals (96.2%) completed and returned all survey questions, while 38 participants were omitted from the analysis due to incomplete responses. The information on the demographics of the personal, environmental, educational, and income levels of the participants is given in Table 1 and Table 2.

The relationship between gender and the type of pet owned was tested and the results showed a statistically significant association ($P < 0.05$), as indicated in Table 3. According to the results, it has been revealed that women mostly prefer to own cats, whereas men mostly prefer to own dogs. However, the ownership of both species is primarily seen in males.

Whether there is a relationship between the education level of the animal owners and the type of pet animals fed was tested with the X^2 test, and it was seen that there was a statistically significant relationship ($P < 0.05$), as can be seen in Table 3. Accordingly, it was observed that with higher education level, the rate of cat ownership increased, and the rate of dog ownership decreased (Table 2). According to the results of the relationship between the education level of the animal owners and the care knowledge; It has been observed that as the education level of animal owner increases, the level of knowledge about care also increases. Accordingly, it has been revealed that animal owners with master's/doctorate degrees are more knowledgeable about care and ownership ($P < 0.05$, Table 4).

Table 1. Demographic information of the participants.

Variables	Group	Number of people	%
Gender	Female	418	43.6
	Male	540	56.4
Marital Status	Single	531	55.4
	Married	384	40.1
	Divorced	43	4.5
Age	<18	51	5.3
	18-30	492	51.4
	31-50	310	32.4
	>50	105	11
Living Place	Metropolis	503	52.5
	City	244	25.5
	County / District / Village	211	22
Type of Home	Flat	541	56.5
	Detached house	272	28.4
	Buildings	145	15.1
Household Members	1	142	14.8
	2	189	19.7
	3	249	26
	4	225	23.5
	≥5	153	16

Table 2. Demographic information about the education level and income of the participants.

Variables	Group	Number of people	%
Education	Primary School	49	5.1
	Secondary School	65	6.8
	High School	236	24.6
	Bachelor's degree	495	51.7
	Masters/PhD	113	11.8
Income (Monthly)	<410 \$	133	13.9
	410-819 \$	298	31.1
	820-1,294 \$	221	23.1
	1,235-1,649 \$	139	14.5
	>1,650 \$	167	17.4

Table 3. The relationship between the gender and educational level of individuals in pet species.

Variables	Cat	Dog	Both species	P value
Female	61.7%	28.5%	9.8%	0.001
Male	37.4%	50.6%	12.0%	
Primary school	32.7%	57.1%	10.2%	0.002
Secondary school	35.4%	60.0%	4.6%	
High school	45.8%	44.9%	9.3%	
Bachelor's degree	51.1%	36.8%	12.1%	
Masters/PhD	53.1%	32.7%	14.2%	

Table 4. The relationship between the educational level and age of individuals in care-related knowledge.

Variables	High	Low
Primary school	59.2%	40.8%
Secondary school	66.2%	33.8%
High school	72.9%	27.1%
Bachelor's degree	79.4%	20.6%
Masters/PhD	83.2%	16.8%
<18	56.9%	43.1%
18 – 30	82.7%	17.3%
31 - 49	71.9%	28.1%
>50	68.6%	31.4%

Table 5. The relationship between the age and income levels of the owners and species of pet.

Variables	Cat	Dog	Both species	P value
<18	64.7%	31.4%	3.9%	0.013
18 – 30	51.2%	38.2%	10.6%	
31 - 49	43.2%	45.5%	11.3%	
>50	39.0%	44.8%	16.2%	
<410 \$	51.1%	40.6%	8.3%	0.034
410 – 819 \$	42.6%	48.7%	8.7%	
820 – 1,234 \$	53.8%	32.6%	13.6%	
1,235–1,649 \$	46.8%	39.6%	13.7%	
>1,650 \$	48.5%	39.5%	12.0%	

Table 6. The relationship between the income level of animal owners and the compelling responsibility of owning an animal.

Variables	Yes	Sometimes	No	P value
<410 \$	16.5%	47.4%	36.1%	0.104
410 – 819 \$	13.1%	55.4%	31.5%	
820 – 1,234 \$	9.5%	56.1%	34.4%	
1,235 – 1,649 \$	12.9%	59.0%	28.1%	
>1,650 \$	10.2%	47.3%	42.5%	

It was found that there was a statistically significant difference in the evaluation of the relationship between the age of the owners and the specie of animal they own ($P<0.05$). Accordingly, it has been revealed that owners prefer to keep dogs over cats as their age increases (Table 5). Our results showed an increase in ownership knowledge in relation to increased education level and age. In this context, it was observed that the age group with the highest level of knowledge about the care and ownership of animals was in the 18-31 age group, while the <18 age group had the lowest level of knowledge on this subject (Table 4).

It was found that there is a statistically significant difference between the income level of the animal owners and the choice of animal species ($P=0.034$). According to

the findings, it was revealed that the rate of cat ownership was highest in the group with the lowest income level; and as the income level increased, the rate of owning both cats and dogs increased (Table 5). In contrast, there was no statistically significant difference between the income level of animal owners and the difficulty of owning an animal ($P>0.05$). Also, as the income level increases, it is seen that the responsibility of owning animals decreases partially (Table 6).

In this study, the relationship between the gender of the animal owners and the knowledge of the specie characteristics of the animals, the level of care and nutrition of the animals they keep, the relationship between the gender of the animal owners and the level of knowledge about the bathing of the animals, the

relationship between the gender of the animal owners and the compulsion of having an animal, and the education level of the animal owners. The relationship between the animal owners' age and the breed characteristics of the animals, the level of knowledge about the bathing of the animals, and the compulsion of the responsibility of owning the animals were insignificant ($P>0.05$). In addition, the relationship between the marital status of the animal owners and the knowledge of the animals' breed characteristics, the animal owners' income level, and the relationship between care and ownership knowledge level were examined. No statistically significant difference was found between these parameters ($P>0.05$).

Discussion and Conclusion

In the present study, it was concluded that the age, gender, and income parameters are affected directly in pet ownership and care in Türkiye. Murray et al. (18) found that there is a significant interaction between the presence of children under the age of 18 in a household in the United Kingdom and having a dog. In the same study, it was shown that there is a positive interaction between the tendency to own cats and households with children and dogs. In our study, similar to the study of Murray et al. (18), it is seen that there is generally a tendency to own cats in households with individuals under the age of 18 in Türkiye. However, the tendency to have both cats and dogs in households with individuals under the age of 18 is quite low compared to other age groups. Having an animal in a home with kids contributes positively to children's emotional, social, cognitive, and behavioural development (7, 8, 21). With the increase in the visibility of news with similar studies in parallel with the development of scientific communication day by day, makes us think that the tendency to own animals in households with children, and therefore individuals under the age of 18 increases. It has been observed that individuals between the ages of 18-30 have a higher level of knowledge about the care and ownership needs of animals compared to other age groups. While it was observed that the level of knowledge about animal ownership and care was the lowest in individuals under 18, it was determined that this level gradually decreased again in those over 30. Among the questionnaires who participated in our study, it was concluded that the level of responsibility and knowledge of those under the age of 18 was lower and that the older age group would be lower in terms of accessing information, using current communication tools, and information sources compared to those between the ages of 18-30. It is thought that the high level of knowledge of questionnaires between the ages of 18-30 is due to a high sense of responsibility and the use of technological opportunities. Therefore, it is more advantageous to access research and animal ownership information. The result of

the present study showed that 18-30 age group generally tends to own cats. Among the possible reasons for this situation may be that the time allocated for pets has decreased due to the intense work and social life in the 18-30 age group, and that taking care of cats might be seen easier than dog care. In this study, it was observed that individuals aged 50 and over tended to have dogs, and it has been observed similarly with Friedmann et al. (10) that the tendency to own animals increases as getting older, in which the adopted animals are seen as a companion.

Considering the tendency to own animals based on gender, it is reported that this tendency is higher in females than males, but there is no gender difference in terms of preferred species (17). On the other hand, in our study, it was observed that women tended to have cats and men tended to have dogs, and a significant result was obtained that gender could play a role in animal species preference. In contrast to this study, our results showed that gender is essential in choosing a type of animal. Accordingly, women tend to prefer cats more, while men tend to prefer dogs more. It's known that cats are more independent and self-sufficient than dogs (9). It was thought that women tend to prefer cats because of their fewer care requirements than dogs. Also, the reasons why women prefer cats may be related to cultural, social, or practical matters. However, the relationship between owner gender and pet animal species needs to be researched in more detail.

Saunders et al. (23) reported that the tendency to keep cats is high in singles, especially in women, and the tendency to have dogs in married individuals, and they associated this with the size of the house and the working hours of the house members. In our study, although there was no clear preference for a breed in married individuals, it was observed that the tendency to breed cats was higher in single individuals, as previously mentioned, regarding the size of the house and working hours.

Martins et al. (14) showed that there was a significant relationship in the high tendency to own a dog with a higher household income, compared to a lower household income. In our study, however, there was no significant relationship between income level and preferred animal species. Our findings differ from those of Martins et al. (14), possibly due to cultural or regional differences in pet ownership behaviors in Türkiye compared to other countries. However, proportionally, it was observed that the tendency to keep both cats and dogs increased with higher income level. Pets in socioeconomically disadvantaged households have very limited access to quality food, preventive and curative health services (3, 4, 13, 19). When the burden of responsibility of owning an animal is examined with these findings, although there is no significant difference between the income levels, the fact that the difficulty is proportionally higher in the lower

income group suggests that the main difficulty is the health and quality nutritional requirements of animals in connection with the increasing cost of living.

In previous studies, it was not reported that there is a definite relationship between education level and tendency to own a pet. In some studies, it has been concluded that individuals with a lower education level have a higher tendency to own pets. In a report published in the Netherlands, it was concluded that the level of education, when age and gender were evaluated together, had a significant effect on the tendency to own animals (24). Our research identified a positive relationship between educational attainment and cat ownership, while a negative relationship was observed concerning the inclination to own a dog. According to Schollen's (24) report, while individuals with a lower education level were less interested in the pet animals they lived with, compared to individuals with a higher education level, it was observed that as the education level increased in Türkiye, the level of knowledge about care and nutritional requirements about pet animals also increased. As the level of education increases, people's living spaces are mostly city centers and apartments. As a natural result of this situation, it is thought that cats, which are easy to care for and have fewer needs, are preferred. As seen in our study, it was determined that people with primary and secondary school education levels prefer dog-owning more. In this case, it was thought that people with this level of education prefer dog ownership as living space and condition that will meet the needs of dogs because they live in rural areas.

Michel et al. (15) reported that pet owners' tendency to feed their animals is influenced by various factors such as the nutritional value of the food content, health and safety of the food, concerns about the pet food industry, and sources of information on animal dietary management. However, the report also argues that the reasons why commercial foods are not preferred in nutrition management are the distrust of the pet food industry and the pleasure of preparing food for pets. In our study, the rate of not using any commercial food for feeding the pets was determined as 13.2%, the rate of use of non-commercial foods together with commercial food was 31.2%, and it was concluded that home meals were preferred as non-commercial food. It can be argued that the reasons why commercial food is not preferred alone in the nutrition of pets in Türkiye are the widespread acceptance in Turkish society that healthy food is home-cooked food and the diversification of the food eaten by the animal, together with economic concerns. This study uniquely contributes to understanding pet ownership trends in Türkiye, a region with distinct cultural and economic dynamics.

This research indicates that pet owners exhibit a high frequency of veterinary visits within a three-month parasite control or only when a health problem is encountered. The fact that the rate of routine vaccination and follow-up of antiparasitic applications is 86.8% suggests that the anti-vaccination in pet animals in Türkiye is not at a level to cause concern now. One of the reasons that lead animal owners not to interrupt regular antiparasitic application is the concern about human health since these factors can also affect themselves.

In this study, demographic characteristics of individuals who own cats and dogs in Türkiye were examined. As a result, it was concluded that the factors that significantly affect the tendency to have a pet are age, gender, and education level. The level of knowledge about the care and dietary needs of cats and dogs living together was associated with age and education level.

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Ethical Statement

The study was reviewed and approved by the Animal Experiments Local Ethic Committee of Afyon Kocatepe University, Afyonkarahisar, Türkiye (Decision number: 49533702/114).

Conflict of Interest

The authors declared that there is no conflict of interest.

Author Contributions

ACT, DFB, SHB and AA conceived and planned the experiments. ACT, DFB, SHB and AA carried out the experiments. ACT, DFB, SHB and AA contributed to survey preparation. ACT, DFB, SHB and AA contributed to the interpretation of the results. AK took the lead in writing the manuscript. All authors provided critical feedback and helped shape the research, analysis and manuscript.

Data Availability Statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

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