



The Level of Loyalty of Pet Owners to Their Animals in Türkiye *

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An understanding of the nature of the relationship between the pet owner and his companion animal and the factors influential on this bond is critical to the establishment of a healthy relationship between both sides. This study was aimed at measuring the level of loyalty of pet owners to their animals and identifying the factors influential on this commitment. For this purpose, a survey consisting of the Pet Loyalty Scale and demographic information items was administered face to face to 300 pet owners in Istanbul (150), Ankara (60) and Izmir (90). The results of this study showed that while the level of loyalty of the owner to the pet animal decreased with the increasing age of the survey participants ($p<0.01$), it increased with the increasing age of the pet animal ($p<0.05$). The assessment of the gender and marital status parameters demonstrated that women, compared to men ($p<0.01$), and singles, compared to married individuals ($p<0.05$), were more loyal to their pets. Furthermore, the loyalty of the pet owners to their animals decreased with an increasing income level ($p<0.001$), but increased with an increasing monthly cost of keeping the pet animal ($p<0.05$). In conclusion, we determined that the young compared to the elderly, female compared to male, and singles compared to married persons displayed higher levels of loyalty to their pet animals. Moreover, respondents with a lower level of income and those paying for a higher cost to keep their pets also showed higher levels of loyalty to their pets.

Key Words: Animal companion, animal owner, loyalty, pet, pet loyalty scale

Türkiye'deki Evcil Hayvan Sahiplerinin Hayvanlarına Olan Sadakat Düzeyleri

Ev hayvanı ve sahibi arasındaki ilişkinin içeriğinin ve bu ilişkiyi etkileyen faktörlerin bilinmesi sağlıklı bir birliktelik için önemlidir. Çalışmada ev hayvanı sahiplerinin hayvanlarına olan sadakat düzeylerinin ölçülmesi ve bu konu üzerinde etkili faktörlerin ortaya çıkarılması amaçlandı. Bu amaçla İstanbul (150), Ankara (60) ve İzmir (90) illerindeki 300 evcil hayvan sahibine Pet Sadakat Ölçeği ve demografik bilgi maddelerinden oluşan yüzyüze bir anket uygulandı. Çalışma sonucunda, katılımcıların yaşı arttıkça hayvanlarına olan sadakat düzeylerinin azaldığı ($p<0.01$); hayvanın yaşı arttıkça ise sadakat düzeyinin arttığı ($p<0.05$) görüldü. Cinsiyet ve medeni durum parametresi açısından kadınların erkeklere ($p<0.01$); bekarların evlilere ($p<0.05$) kıyasla hayvanlarına daha sadık olduğu belirlendi. Ayrıca katılımcıların gelir düzeyi arttıkça hayvanlarına olan sadakat düzeylerinin azaldığı ($p<0.001$), hayvan için yapılan harcama miktarı arttıkça hayvana olan sadakat düzeyinin yükseldiği ($p<0.05$) görüldü. Sonuç olarak gençlerin yaşlılara, kadınların erkeklere, bekarların evlilere göre evcil hayvanlarına daha fazla bağlılık gösterdikleri tespit edildi. Ayrıca, gelir düzeyi daha düşük olan ve evcil hayvanlarını beslemek için daha yüksek ücret ödeyen katılımcıların da evcil hayvanlarına daha yüksek düzeyde bağlılık gösterdiği görüldü.

Anahtar Kelimeler: Arkadaş hayvan, evcil hayvan, hayvan sahibi, pet sadakat ölçeği, sadakat

Introduction

Regardless of the changes that the place and role of animals in human life have undergone, mankind and animals have been bonded since the prehistoric ages. Over time, animals have occupied a larger place in the lives of humans and have even entered their homes as a family member (1, 2).

With animals sharing the homes of humans and their role evolving into being a companion, attention drew to the level of bonding and the content of the relationship between the pet animal and its owner (1, 2), and a lot of research has been done to understand the nature of this relationship. These researches aimed to understand the general structure of the human-animal bond and to measure the strength of this bond (3-7). Undoubtedly, the strength and quality of the bond the owner builds with his pet animal varies among individuals. While the bonding of some pet animal owners can be described as disinterested love, that of some others may reach the level of dependency. Some other owners may build their bond with animals on the purpose of taking advantage of them. Thus, the level of loyalty of owners to their pet animals may vary (8, 9). Even if described as being strong, the bond between a human and a pet animal may still lack the qualities of a loyal bond, such as devotedness, persistence, continuity and stability (10). The willing acceptance of a person to sacrifice for his object of value

Received : 03.07.2024
Accepted : 19.08.2024

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* This study was derived from Seda ÇAVUŞ ALAN's doctoral thesis. It was supported by Fırat University Scientific Research Projects Coordination Unit (Project number: VF.20.03).

(purpose) and his perception of the interest of the object as his own interest both indicate his devotedness and strong bonding with the object of value (11).

Several parameters show influence on the relationship of animal owners with their pets. One of these parameters is gender. In general, women show more empathy (12-14) and a more positive attitude (15-18) to animals, when compared to men. Another influential parameter is the age of the animal owner. Younger people are reported to be more affectionate to animals (16, 19). Furthermore, a higher monthly expenditure of the owner for his pet animal is also known to strengthen the bond between them (20-21). Other parameters, which affect the owner-pet bond, include the marital and socioeconomic statuses of the animal owner and the age of the animal (22-24).

While several studies have been conducted to investigate the strength of the bond between pet animals and their owners (4, 25-28), to the authors' knowledge, there is no previous study on the measurement of the level of loyalty of animal owners to their pets. This study was aimed at measuring the level of loyalty of animal owners to their pets and determining the demographic variables influential on their level of loyalty.

Materials and Methods

Research and Publication Ethics: This study was conducted pursuant to the 23.05.2019 dated and 2019/13 numbered approval of the Ethics Board for Social and Human Sciences Research of Firat University.

Study Design: In this study, the Pet Loyalty Scale (PLS) was used to measure the level of loyalty of animal owners to their pets in Türkiye. A questionnaire was prepared to demonstrate the correlation between the attitudes assessed by this scale and the demographic variables.

Pet Loyalty Scale: This is a 19-item scale developed in Turkish by Çavuş Alan et al. (29) The items are scored from 1 (Strongly disagree) to 5 (Strongly agree) using a 5-item Likert scale. The PLS is a valid and reliable scale, consisting of four dimensions, namely, "Hearty commitment", "Stability", "Possibility of giving up" and "Responsibility". Based on analysis, the total variance and Cronbach's alpha value were determined as 62.1% and 0.764, respectively (29).

Questionnaire: The first section of the questionnaire, which was prepared by the authors of this study, aimed to collect data on several variables, including among others the age, gender, marital status, educational background, income level and type of dwelling of the respondent, the species, age, breed and sex of the pet animal, the time dedicated by the respondent to the pet animal, the method of adoption of the pet animal, (if valid) the price at which the pet animal was bought, the monthly cost of keeping the pet animal, and the place of sleep of the pet animal. This section included 19 questions, three of which were open-ended and 16 of which were closed-ended. The second section of the questionnaire consisted of the PLS.

Participants: The target group of the study was pet animal owners. The size of the target group was determined based on the number of pet animals in Türkiye, as published in the 2019 Report of the European Pet Food Industry (30). The study was conducted in İstanbul, İzmir and Ankara, which are the first three provinces in Türkiye with the highest household numbers (31) and highest veterinary business (clinic, polyclinic and animal hospital) numbers (32).

Data for this study were derived from the doctorate thesis titled "Development and Validation of a Scale for Measuring Pet Owners' Loyalty to Their Pet" (33). As this study is a follow-up of the indicated doctorate thesis, the sample groups of this study and the thesis are the same. In the indicated thesis, the sample group was determined according to the number of items generated by an explanatory factor analysis (EFA) and confirmatory factor analysis (CFA). In scale development research, it is recommended to set the sample number at least 5 times and even 10 times larger than the number of items generated by the EFA (34). In the study (29), the number of items generated by the EFA was 30. Thus, the sample number was calculated to be 10 times larger than the number of items (30 x 10), and thereby, was set as 300. The provincial distribution of the sample was based on the number of veterinary businesses in the study provinces, and the selection of the sample was performed with the proportional-stratified sampling technique (35). According to 2020 data, the total number of veterinary businesses in the provinces İstanbul (677), İzmir (416) and Ankara (271) was 1364. The sample number initially set as 300 was proportioned according to the number of veterinary clinics in the selected provinces, such that the numbers of participants to be surveyed at veterinary clinics in İstanbul, İzmir and Ankara were finalized as 150, 90 and 60, respectively.

The study was carried out by face-to-face interviewing pet animal owners, who had consulted the chosen veterinary clinics in Ankara, İstanbul and İzmir, and upon being informed volunteered to participate in the survey. The target audience comprised of pet animal owners aged 18 years and older with a history of at least 1 year of living together with cats and dogs. Prior to the interviews, all participants were given written and verbal information about the survey, and were assured for the confidentiality of their responses.

They were also assured of their right to withdraw from the study at any point. In order to ensure an accurate interpretation of the relationship of the survey participants with their pets, owners taking care of two or more animals were asked to respond by focusing on only one of their pets. The survey was applied to 300 pet animal owners, who met these conditions and willingly participated in this study. The study data were collected during the months of February and March in the year 2021.

Statistical Analysis: The PLS total scores were calculated using the SPSS 22 software. The highest and lowest scores that could be achieved on the PLS were 95 and 19, respectively. A higher total score on the scale indicated a higher level of loyalty of the owner to the pet

animal. Furthermore, a higher total score achieved from the items related to the "Stability", "Hearty commitment" and "Responsibility" dimensions and a lower score achieved from the items related to the "Possibility of giving up" dimension indicated a positive influence on the attitude related to the level of loyalty (29). The study data were analyzed by frequency and percentile distribution. Kolmogorov Smirnov Test and Shapiro-Wilk Test were performed to determine whether the data showed normal distribution. The test results revealed that the data showed normal distribution. Independent Sample T-Test was used in paired group comparisons and One-Way Analysis of Variance (ANOVA) was used to compare more than two groups. In variance analysis, Levene's Test was applied first to understand the homogeneity of variances and it was seen that the variances were homogeneous. Tukey test, one of the Post Hoc Tests, was used to reveal which groups there was a difference between and the relationship between the groups as a result of ANOVA. (36). The magnitude and direction of the correlation between the categorical demographic data (educational background, age, income level, age of pet animal, price paid for the adoption of the pet animal, monthly cost of keeping the pet animal) and scale scores were determined with Pearson's correlation test.

Results

The mean score of the survey participants on the PLS was calculated as 73.12 (min: 19, max: 95). The assessment of the PLS total scores and dimensional scores with respect to the demographic variables demonstrated that the attitude of the participants significantly differed with their age, gender, marital status and income level as well as with the age of the pet animal and the monthly cost of keeping the pet animal. The frequencies of these parameters, the scores from the PLS and its dimensions and the results of the significance analysis are presented in separate tables (Tables 1-7). No difference was detected on the PLS and its dimensions for educational background, type of dwelling, the species, breed and sex of the pet animal, the time dedicated by the respondent to the pet animal, the price at which the pet animal was bought, the method of adoption of the pet animal, the price paid for the adoption of the pet animal, and the place of sleep of the pet animal. Therefore, data pertaining to these parameters were deleted from the tables.

Age of Animal Owners: The attitudes of the respondents with respect to the PLS ($p=0.001$) and Hearty commitment ($p=0.001$) significantly differed for the age variable. According to these data, the respondent age group with the highest scores from the PLS and the Hearty commitment dimension, in other words, showing the highest level of loyalty and the strongest hearty commitment was the youngest group aged 18-30 years. No difference was detected in the attitudes of the respondents with respect to the Stability, Possibility of giving up and Responsibility dimensions for this parameter (Table 1).

Gender of Animal Owners: The attitudes of the respondents with respect to Hearty commitment ($p=0.012$), Stability ($p=0.019$), Responsibility ($p=0.003$) and the PLS ($p=0.006$) for this parameter showed that the female respondents had higher scores than the male respondents and their attitude differed from that of male. No difference was determined for gender in the attitudes of the respondents with respect to the Possibility of giving up (Table 2).

Marital Status of Animal Owners: With respect to the Hearty commitment ($p=0.003$) and Responsibility ($p=0.008$) dimensions and the PLS ($p=0.014$), the single respondents were determined to have achieved significantly higher scores than the married respondents, and thus, to display attitudes different from those of the married. No significant difference was observed in the attitudes of the respondents with respect to the Stability or Possibility of giving up dimensions (Table 3).

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Income Level of Animal Owners: It was determined that participants with a monthly income level below 6.609 TL (\$923) obtained higher scores than participants with a monthly income level above 6.609 TL (\$923) in terms of Hearty commitment and Stability dimensions as well as the PLS (Table 4).

Table 1. Distribution of participants by animal owner's age variable, scores obtained from PLS and its dimensions

Age of the Owner	n	%	Hearty Commitment (Mean \pm SEM)	Stability (Mean \pm SEM)	Possibility of Giving up (Mean \pm SEM)	Responsibility (Mean \pm SEM)	PLS (Mean \pm SEM)
18-30 age	134	44.6	4.8035 ^a	4.5679	1.3899	4.2711	3.9264 ^a
31-40 age	89	29.7	4.6854 ^{ab}	4.3539	1.3511	4.2285	3.8066 ^{ab}
41-50 age	56	18.7	4.5357 ^b	4.3095	1.5089	3.8452	3.7180 ^b
>50 age	21	7.0	4.6508 ^{ab}	4.5000	1.5833	4.1429	3.8772 ^{ab}

(PLS: Pet Loyalty Scale; ^{a,b}: There is no difference between groups with the same letter; SEM: Standard error of mean) ($p=0.001$ for Hearty commitment and PLS; $p>0.05$ for Stability and Possibility of giving up and Responsibility)

Table 2. Distribution of participants by gender variable, scores obtained from PLS and its dimensions

Variables	Gender	n	Mean	SEM	t	df	p
Hearty commitment	Female	173	4.7620	0.0318	2.540	298	0.012
	Male	127	4.6339	0.0398			
Stability	Female	173	4.5266	0.0453	2.368	298	0.019
	Male	127	4.3491	0.0619			
Possibility of giving up	Female	173	1.3540	0.0458	-1.922	298	0.056
	Male	127	1.4961	0.0594			
Responsibility	Female	173	4.2909	0.0595	3.017	298	0.003
	Male	127	4.0052	0.0750			
PLS	Female	173	3.8958	0.0241	2.764	298	0.006
	Male	127	3.7841	0.0337			

(PLS: Pet Loyalty Scale; df: degrees of freedom; SEM: Standard error of mean)

Table 3. Distribution of participants by marital status variable, scores obtained from PLS and its dimensions

Variables	Marital status	N	Mean	SEM	t	df	p
Hearty commitment	Married	116	4.6135	0.0458	-3.015	298	0.003
	Single	184	4.7672	0.0283			
Stability	Married	116	4.3822	0.0627	-1.477	298	0.141
	Single	184	4.4951	0.0460			
Possibility of giving up	Married	116	1.4828	0.0624	1.488	298	0.138
	Single	184	1.3709	0.0447			
Responsibility	Married	116	4.0115	0.0833	-2.682	298	0.008
	Single	184	4.2699	0.0556			
PLS	Married	116	3.7863	0.0358	-2.467	298	0.014
	Single	184	3.8877	0.0235			

(PLS: Pet Loyalty Scale; df: degrees of freedom; SEM: Standard error of mean)

Table 4. Distribution of participants by income level variable, scores obtained from PLS and its dimensions

Income level	n	%	Hearty	Stability	Possibility of	Responsibility	PLS
			commitment (Mean ±SEM)	(Mean ±SEM)	giving up (Mean ±SEM)	(Mean ±SEM)	(Mean ±SEM)
<2.029 TL (<\$283)	70	23.3	4.8024 ^a	4.5595 ^b	1.3643	4.1810	3.9038 ^a
2.029-6.609 TL (\$283- \$923)	129	43.0	4.7584 ^a	4.5961 ^b	1.3953	4.2455	3.9182 ^a
>6.609 TL (>\$923)	101	33.7	4.5776 ^b	4.1917 ^a	1.4728	4.0660	3.7213 ^b

(PLS: Pet Loyalty Scale; ^{a,b}: There is no difference between groups with the same letter; SEM: Standard error of mean) ($p=0.001$ for Hearty commitment; $p<0.001$ for Stability and PLS; $p>0.05$ for Possibility of giving up and Responsibility)

Table 5. Distribution of participants by animal age variable, scores obtained from PLS and its dimensions

Age of the Pet Animal	n	%	Hearty	Stability	Possibility of Giving	Responsibility	PLS
			Commitment (Mean ±SEM)	(Mean ±SEM)	up (Mean ±SEM)	(Mean ±SEM)	(Mean ±SEM)
<2 age	103	34.3	4.6489	4.3770 ^b	1.4417 ^{ab}	4.1062	3.8104 ^{ab}
2-4 age	91	30.3	4.7491	4.5659 ^{ab}	1.5027 ^a	4.1586	3.9063 ^{ab}
5-6 age	56	18.7	4.6607	4.2161 ^b	1.4420 ^{ab}	4.2202	3.7731 ^b
7-8 age	32	10.7	4.7240	4.5260 ^{ab}	1.2031 ^{ab}	4.2396	3.8438 ^{ab}
>8 age	18	6.0	4.9537	4.8981 ^a	1.0972 ^b	4.2778	4.0175 ^a

(PLS: Pet Loyalty Scale; ^{a,b}: There is no difference between groups with the same letter; SEM: Standard error of mean) ($p<0.001$ for Stability; $p<0.05$ for Possibility of giving up and PLS; $p>0.05$ for Hearty commitment and Responsibility)

Table 6. Distribution of participants by variable of monthly amount spent on animals, scores obtained from PLS and its dimensions

Cost of keeping pet animal (monthly)	n	%	Hearty Commitment (Mean \pm SEM)	Stability (Mean \pm SEM)	Possibility of Giving up (Mean \pm SEM)	Responsibility (Mean \pm SEM)	PLS (Mean \pm SEM)
≤ 100 TL (\leq \$13)	27	9.0	4.6543	4.5000 ^{ab}	1.5926 ^a	4.0617 ^{ab}	3.8674
101-200 TL(\$14-\$27)	87	29.0	4.6762	4.3870 ^{ab}	1.5000 ^{ab}	3.9962 ^b	3.8088
201-300 TL(\$28-\$41)	102	34.0	4.6536	4.3536 ^b	1.4608 ^{ab}	4.2092 ^{ab}	3.8165
≥ 301 TL(\geq \$42)	84	28.0	4.8234	4.6214 ^a	1.2113 ^b	4.3373 ^a	3.9224

(PLS: Pet Loyalty Scale; ^{a,b}: There is no difference between groups with the same letter; SEM: Standard error of mean) ($p < 0.05$ for Stability and Responsibility; $p < 0.01$ for Possibility of giving up; $p > 0.05$ for Hearty commitment and PLS)

Table 7. Correlation analysis results for PLS and its dimensions

		Hearty Commitment	Stability	Possibility of Giving up	Responsibility	PLS
Income level	Pearson correlation	-0.203**	-0.233**	0.066	-0.061	-0.213**
	P	0.000	0.000	0.253	0.290	0.000
	N	300	300	300	300	300
Age of the pet animal	Pearson correlation	0.113*	0.101	-0.140*	0.048	0.068
	P	0.050	0.082	0.015	0.404	0.242
	N	300	300	300	300	300
Age of the owner	Pearson correlation	-0.201**	-0.117*	0.087	-0.141*	-0.166**
	P	0.000	0.042	0.133	0.015	0.004
	N	300	300	300	300	300
Cost of keeping pet animal	Pearson correlation	0.124*	0.094	-0.190**	0.151**	0.087
	P	0.031	0.103	0.001	0.009	0.132
	N	300	300	300	300	300

(PLS: Pet Loyalty Scale; *: Correlation is significant at the 0.01 level; **: Correlation is significant at the 0.05 level)

Age of Pet Animals: The attitudes of the respondents with respect to Stability ($p < 0.001$), Possibility of giving up ($p < 0.05$) and the PLS ($p < 0.05$) were observed to differ for this variable. Analyses demonstrated that the owners of the oldest animals showed a more positive attitude with respect to the PLS, Stability and Possibility of giving up parameters, in comparison to the other respondents (Table 5).

Cost of Keeping Pet Animals: The analyses for the monthly cost of keeping pet animals showed that the respondents with the highest monthly expenditures showed more positive attitudes with respect to the Stability ($p < 0.001$), Possibility of giving up ($p < 0.05$) and responsibility ($p < 0.05$) dimensions, when compared to the other respondents (Table 6).

The results of the Pearson's correlation analysis, which was performed to demonstrate the correlation of the PLS and its dimensions with the variables, are presented in Table 7.

Based on these results, it was observed that the income level of the respondent was weakly and negatively correlated with Hearty commitment ($p < 0.001$; $r = -0.203$), Stability ($p < 0.001$; $r = -0.233$) and the PLS ($p < 0.001$; $r = -0.213$). Similarly, the age of the animal owner was also weakly and negatively correlated with Hearty commitment ($p < 0.001$; $r = -0.201$), Stability ($p < 0.05$; $r = -0.117$), Responsibility ($p < 0.05$; $r = -0.141$) and the PLS ($p < 0.01$; $r = -0.166$). The age of the pet animal was weakly and positively correlated with Hearty

commitment ($p = 0.05$; $r = 0.113$) and weakly and negatively correlated with the Possibility of giving up ($p < 0.05$; $r = -0.140$). Finally, the monthly cost of keeping the pet animal was weakly and positively correlated with Hearty commitment ($p < 0.05$; $r = 0.124$) and Responsibility ($p < 0.01$; $r = 0.151$), and weakly and negatively correlated with the Possibility of giving up ($p < 0.01$; $r = -0.190$) (Table 7).

Discussion

The present study was aimed at measuring the level of loyalty of pet animal owners to their pets and determining the factors influential on the owner-pet bond. For this purpose, pet animal owners living in the major cities of Türkiye were interviewed face-to-face, using a questionnaire including the PLS developed by Çavuş Alan et al. (29), and the data collected by means of this questionnaire were analyzed. The evaluation of the scores achieved from the PLS and its dimensions for the demographic variables demonstrated that the related attitudes of the respondents significantly differed with their age, gender, marital status and income level, as well as with the age of the pet animal and the monthly cost of keeping it.

In this study, the attitudes of the respondents with respect to loyalty and Hearty commitment differed for the age of the animal owner. According to the PLS and Hearty commitment scores, the youngest respondents were determined to have more positive attitudes with

respect to loyalty and Hearty commitment, in comparison to the older respondents (Table 1). The results of the correlation analysis were confirmatory, such that the attitudes of the respondents with respect to Hearty commitment, Stability, Responsibility and the PLS changed negatively with increasing age (Table 7). In a previously conducted study (15), respondents aged 25 years and younger were reported to be more affectionate to animals, when compared to respondents aged 76 years and older. Likewise, in some other studies, young people were reported to show more interest in animals than the elderly (16, 19), to display a more positive attitude to animals (37), and to have a stronger perception of animal welfare (38). Thus, our results appear to be consistent with literature data. Some studies (39-41) have reported an increased occurrence of physical and mental disorders with advancing age, and Garrity et al. (42) have suggested that these disorders and emotional distress reduce the commitment of the elderly to pet animals. In view of the older respondents included in the present study having shown a more negative attitude with respect to the level of loyalty and hearty commitment to pet animals, when compared to the young respondents, it can be said that the speculations proposed in the abovementioned literature reports (39-42) could explain the differences observed in the attitudes of the respondents included in the different age groups in the present study.

Gender is described as one of the major variables influencing the strength of the human-animal bond. It has been reported that, when compared to male, female are more committed to their pet animals (17, 23, 43, 44), show a more positive attitude to pets (15-18, 45), are more supportive of animal rights issues (19, 45), have a higher opinion of animal welfare (12, 46-48), and show more empathy towards animals (12, 14, 46-48). Similarly, in the present study, based on the assessment of the attitudes of the respondents with respect to the PLS and its dimensions, it was determined that female, when compared to male, showed a more loyal, stable, responsible and hearty committed attitude to their pet animals (Table 2). Thus, the results of the present study agree with the abovementioned literature data. This may be related to the traditional gender roles that women generally assume as caregivers (15, 19).

The assessment of the attitudes of the respondents with respect to the PLS and its Responsibility and Hearty commitment dimensions for marital status demonstrated that the single respondents were significantly more loyal to their pet animals, when compared to the married respondents (Table 3). While some previously conducted studies have reported no statistically significant difference to be associated with the marital status of pet animal owners (44, 49), some other studies have suggested married pet animal owners to show a weaker commitment to their pet animals (22, 23) and to have a weaker perception of animal welfare (48), when compared to single animal owners. The results of the present study are in agreement with these literature reports (22, 23, 48). The differences observed between the attitudes of the married and single respondents could be related to multiple factors. For instance, Kellert and

Berry (15) have claimed that increased responsibilities associated with marriage could reduce the ethical sensitivities of individuals. Furthermore, Walsh indicated that young people with no children perceive their pet animals as "soulmates". As speculated in the literature (26), in the present study, the higher level of loyalty of the single respondents to their pet animals, when compared to the married respondents, could be related to single individuals perceiving their pets as soulmates. In addition, considering that the number of people adopting pets increased during the pandemic period (50), it can be said that this situation is related to overcoming the feeling of loneliness and providing social support.

Based on the assessment of the PLS, Hearty commitment and Stability scores of the respondents for monthly income, it was ascertained that, when compared to the respondents with a monthly income above 6.609 TL (\$923), those with a low income showed a higher level of loyalty to their pet animals (Table 4). These data were confirmed by the results of Pearson's test, as it was observed that the attitudes of the respondents with respect to hearty commitment, stability and loyalty were observed to be influenced negatively with an increasing income level (Table 7). While some studies have reported no statistically significant difference in the level of commitment of individuals to their pet animals in association with their income level (51-54), one particular study reported that respondents with a high level of income were more committed to their pet animals, in comparison to respondents with a low level of income (55). Some other studies suggested an inverse correlation between income level and commitment level, such that, when compared to individuals with a high income, those with a low income showed a higher level of commitment (23) and a more positive attitude (56) to their pet animals. Our results are consistent with literature reports suggesting an inverse correlation (23, 56). More comprehensive research on the impact of income level on the human-animal bond is needed to clarify this discrepancy across studies.

On the other hand, the assessment of the attitudes of the respondents with respect to the PLS and its Stability and Possibility of giving up dimensions for the age of the pet animal showed that pet animal owners displayed a more positive attitude to animals aged 8 years and older, in comparison to younger animals (Table 5). Results on the attitudes of the respondents with respect to the Possibility of giving up dimension were confirmed by the results of the correlation analysis (Table 7). Our overall assessment suggests that the ageing of the owner together with the pet animal increases his loyalty to the animal. The review of available research indicates that relevant studies have assessed the impact of the time spent with the pet animal rather than the age of the pet animal, and have demonstrated that a longer time spent with the animal increases the commitment of the owner to the pet (17, 49, 57). In this context, the results of the present study agree with literature data as an older age of the pet animal could most possibly indicate the owner to have spent a longer time period with the animal.

The assessment of the study data for the monthly cost of keeping the pet animal showed that respondents, who had declared to pay for a greater monthly cost, showed more positive attitudes with respect to Stability, Possibility of giving up and Responsibility (Table 6). These data were confirmed by the results of the correlation analysis (Table 7). Our overall assessment suggests that the monthly expenditure of the owner to keep the pet animal could be used as an indicator of his level of loyalty to the animal. In fact, previous studies have reported that high expenses paid by owners for their pet animals indicate the presence of a strong bond between them (20, 21). Furthermore, it has also been indicated that owners consider themselves better parents, when they pay more for keeping their pets (58). In this context, our results are consistent with literature data.

In conclusion, after the application of the PLS to animal owners, it was observed that as the age of the

participants increased, their loyalty to their animals decreased; and as the age of the animal increased, the loyalty level increased. Furthermore, we determined that the young compared to the elderly, female compared to male, and singles compared to married persons displayed higher levels of loyalty to their pet animals. Moreover, respondents with a lower level of income and those paying for a higher cost to keep their pets also showed higher levels of loyalty to their pets.

In the present study, the definition of pet animal encompassed only dogs and cats. Furthermore, this study was conducted in three major provinces of Türkiye with the highest numbers of veterinary businesses and households. This may have caused sociocultural bias. On the other hand, the only criteria used for the selection of the sample were the participants owning a dog or cat and their age being older than 18 years. This is a limitation of the present study.

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