

Epidemiology of Abandonment: reasons why guardians seek out animal protection Civil Society Organizations (CSOs) to give up their pets*

Epidemiologia do abandono: razões pelas quais tutores procuram Organizações da Sociedade Civil (OSC's) de proteção animal para entrega de seus animais domésticos

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ABSTRACT

Abandoning domestic animals is a frequent problem in urban areas, harming animals, humans, and the environment. A single health strategy-based approach is necessary to understand the context of this problem, making it possible to build measures to tackle it. This study aimed to identify the main reasons given by guardians who contacted animal protection Civil Society Organizations (CSOs) to surrender their pets. We found that the majority of the animals were puppies (34.9%, 44/126), did not have a defined breed (54.8%, 69/126), were not neutered (57.9%, 73/126), had lived with their guardian for less than 6 months (54%, 68/126), and were street-rescued (42.9%, 54/126). The most frequently reported reasons for giving up their animals were housing issues (44.2%, 23/52), followed by financial problems (30.8%, 16/52), and the guardian's illness (11.5%, 6/52). Regarding the profile of the guardians taking part in this study, the majority were female (71.2%, 37/52), had completed high school (46.2%, 24/52), had children (65.4%, 34/52), and did not receive any social benefits (71.2%, 37/52). When guardians were offered alternative support to give up or keep the animal, 90.4% (47/52) said nothing would enable them to keep it. This study is a first step towards understanding animal abandonment in Brazil. Furthermore, it shows that few people are willing to resolve the situation that led to them wanting to give up the animal, demonstrating that dealing with abandonment goes far beyond an informed reason, which often seems to have the intention of supporting abandonment. Understanding human behavior in abandoning domestic animals is a significant challenge, as guardians rarely resolve the situation. Thus, developing ways of strengthening the human-animal bond will be necessary to propose coping measures.

Keywords: Relinquishment. Unique health. Human-animal bond. Non-human animals. Human behavior.

RESUMO

O abandono de animais domésticos é um problema frequente nas áreas urbanas, impacta negativamente os animais, o ser humano e o meio ambiente e necessita de uma abordagem sob a estratégia de saúde única para compreender o contexto em que este problema está inserido, possibilitando a construção de medidas para o seu enfrentamento. O objetivo deste trabalho foi identificar os principais motivos relatados por tutores que entraram em contato com Organizações da Sociedade Civil (OSC's) de proteção animal para realizar a entrega de seu animal doméstico. Verificou-se que a maioria dos animais eram filhotes (34,9%, 44/126), não tinham uma raça definida (54,8%, 69/126), não eram castrados (57,9%, 73/126), apresentavam tempo de convivência com o tutor menor que 6 meses (54%, 68/126) e foram resgatados da rua (42,9%, 54/126). Os motivos mais relatados para entrega de seu animal foram questões de moradia (44,2%, 23/52), seguido de problemas financeiros (30,8%, 16/52) e doença do tutor (11,5%, 6/52). Sobre o perfil dos tutores que participaram desta pesquisa, a maioria era do gênero feminino (71,2%, 37/52), possuía ensino médio completo (46,2%, 24/52), tinha filhos (65,4%, 34/52) e não recebia nenhum benefício social (71,2%, 37/52). Quando foram oferecidas alternativas de apoio para o tutor desistir da entrega ou permanecer com o animal, 90,4% (47/52) informaram que não haveria nada que possibilitaria a permanência do animal. Este estudo é um primeiro passo para a compreensão do abandono de animais no Brasil. Com este estudo verificamos que poucas pessoas estão dispostas a solucionar a situação geradora do desejo de entrega do animal, demonstrando que o enfrentamento ao abandono vai muito além de um motivo informado, este, frequentemente, parece ter a intenção de respaldar o abandono. Compreender o comportamento humano no abandono

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de animais domésticos é um grande desafio, pois raramente os tutores estão dispostos a solucionar a situação, então, para propor medidas de enfrentamento será necessário desenvolver maneiras de fortalecer o vínculo humano-animal.

Palavras-chave: Renúncia. Saúde única. Vínculo humano-animal. Animais não-humanos. Comportamento humano.

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Introduction

The abandonment of domestic animals involves complex social issues that lead to devastating consequences for the animal, the human community, and the environment. When the human-animal relationship breaks down or fails to develop, animals can be at risk of being abandoned by their keepers, as well as being subject to issues involving their welfare (neglect and mistreatment) and public health issues (animals loose on public roads, risk of dog bites, zoonosis) (Coe et al., 2014).

Giving up custody of a domestic animal is devastating not only for the animal itself but also for people. Many experience giving up a pet as equally traumatic, compromising their well-being. Pet owners who abandon their pets can struggle with doubt, guilt, regret, and other challenging emotions. The emotional toll on animals and people from giving up pets can be significant (Sharkin & Ruff, 2011).

The lack of information on the number of abandoned animals makes it difficult to formulate public policies to prevent and combat abandonment. Understanding the profile of those who have been abandoned, the reasons for abandonment, and the profile of the abandoned animal are some of the answers that the epidemiology of animal abandonment seeks to understand (Oliveira, 2019). One of the points raised by researchers is to understand the reasons for the breakdown in human-animal relationships (DiGiacomo et al., 1998). When this human-animal relationship breaks down or fails to develop, animals can risk being abandoned (Coe et al., 2014).

In Brazil and Latin America, there is little information on the factors associated with animal abandonment (Silva et al., 2013). Most of the data is obtained from studies in other countries such as the United States (DiGiacomo et al., 1998; New Junior et al., 2000; Salman et al., 1998), Australia (Alberthsen et al., 2016; Carter & Taylor, 2018; Marston et al., 2004), Spain (Fatjó et al., 2015), some Asian countries (Weng et al., 2006) and others.

In developed countries, dogs can arrive at animal shelters in four ways: surrendered by their owners, as strays (animals that were on the streets), returned to the shelter after adoption, or confiscated as part of cruelty and criminal cases (Protopopova & Gunter, 2017). However, in developing countries, such as Brazil, it is not common for shelters to take in animals from owners. Generally, abandoned dogs and cats become part of the street population. They are eventually rescued by private shelters or independent protectors or enter public shelters confiscated from mistreatment or because they are in extreme suffering on the streets. In addition, it is difficult to estimate the number of animals entering shelters in these countries as most do not record this data. The results of a Brazilian study found that 15.8% of shelters recorded the entry of animals (Cuglovici & Amaral, 2021), making it challenging to analyze this data in existing CSOs.

Suppose we want to design evidence-based strategies to reduce the number of abandoned dogs and cats and protect the welfare of domestic animals where relinquishment cannot be prevented. In that case, we need to know more about the population of dogs and cats involved (Hazel et al., 2018). In order to develop effective interventions to prevent relinquishment, it is essential to understand the domestic situation that leads to relinquishment and the barriers that prevent the development of the bond with the animal (Dolan et al., 2015). A deeper understanding of the circumstances that lead to the relinquishment of a domestic animal is fundamental for planning more effective population management strategies and alternatives (Carter & Taylor, 2018). This study aimed to identify the main reasons reported by guardians who contacted animal protection Civil Society Organizations (CSOs) to surrender their domestic animals.

Materials and Methods

This study was carried out between December 2021 and June 2022. A literature search was conducted to construct the

questionnaire to identify the main reasons for surrendering dogs and cats.

The questionnaire was developed with the collaboration of professionals from various fields: psychology, social work, a specialist in animal psychology, and veterinarians with experience in collective veterinary medicine. Three meetings were held remotely in September 2021 to discuss the questionnaire.

Guardians who contacted the CSOs for information or help, indicating they could not continue caring for their pets, were invited to participate in the survey. A link to the questionnaire was sent via the cell phone application for exchanging WhatsApp messages and brief information on the survey. The questionnaire was online for easier access and the possibility of anonymity.

Initially, we had the support of OSC Amigo Animal, located in Campo Magro/PR. The CSO, founded in 2000, prioritizes working with dogs and helps maintain temporary homes for cats, and currently houses more than 1,000 dogs (Amigo Animal, 2022). After a few months, other CSOs were invited to contribute to the survey to increase responses to the questionnaire. Three online meetings were held with the CSOs: Segunda Chance, MaxMello, and Catland, who agreed to help disseminate the questionnaire.

The questionnaire consisted of 52 questions, of which six (6) were about the guardian, eleven (11) about the animal, and thirty-five (35) about the reasons for not keeping the animal. It took 10 min to complete.

The reasons why the guardian or person responsible for the animal could no longer keep their pets were classified into seven (7) categories, encompassing fourteen (14) reasons, as shown in Chart 1.

Using the versatility of virtual forms, the questionnaire was designed to direct the respondent to specific questions, depending on the reason reported. For all categories, the

specific questions go into more detail about the chosen reason. Next, the respondent was asked about alternatives to resolve the situation and whether anything could help them give up the animal. The questions were closed, and the respondents could select multiple options. In the last question about possibilities for help, in addition to a list of some possibilities, the option was given that none of the alternatives provided could help. At the end of the questionnaire, a question allowed an open answer.

The results were tabulated in Microsoft Excel 365 spreadsheets and presented in frequency tables. Statistical analysis was done using MedCalc® Statistical software version 20.027 (MedCalc Software Ltd, Ostend, Belgium). The data was described using absolute frequency (n) and percentage (%) measures, followed by Fisher's exact or chi-squared tests.

Results and Discussion

The questionnaire received 52 responses, and aid was requested for 126 animals. The questionnaire was available for completion between December 2021 and June 2022. The results obtained were tabulated and presented in the following tables.

Statistical analysis revealed that guardians who sought help for a single animal showed greater statistical significance ($P \leq 0.031$) than guardians who sought help for more than one animal. The guardian or person responsible for the animal answered the questionnaire in a significantly higher proportion ($P \leq 0.039$) than by other categories. The animal species "dog" was significantly more common ($P \leq 0.000023$) than other species. No significant difference was observed between the sexes (male, female, both) ($P \geq 0.25$). The hypothesis test used was Fisher's exact test. The data obtained from the answers is shown in Table 1.

Chart 1 – Reason for not keeping your pet

Animal behavior problems	The animal has bitten someone or another animal in the house.
	The animal "gets into trouble" often (mess, damage, disobedience, etc.).
	It did not adapt to my other animals.
Animal disease	The animal is sick.
	The animal is too old.
Amount of animals	I have many animals to look after.
Financial problems	I cannot afford to keep the animal.
Illness of the owner/caregiver	The person responsible for the animal is ill or deceased.
	The animal is causing health problems for someone in my family (e.g., allergies).
Housing issues	I am moving and cannot take the animal with me.
	I do not have room to keep the animal in my house.
	The animal is causing problems with the neighbors.
Human expectations	I do not have time to look after the animal.
	I cannot "handle" the animal.

Table 1 – Distribution of information on animals by guardian or responsible person

	Variable	N	%
You are looking for help with how many animals	One	30	57.7%
	Two to four	14	26.9%
	More than five	8	15.4%
	Total	52	100%
You are the guardian or responsible for the animal(s)	Yes	29	55.8%
	No, I rescued it	14	26.9%
	No, it belongs to an acquaintance	8	15.4%
	Another	1	1.9%
	Total	52	100%
Species of animal(s)	Dog	40	76.9%
	Cat	7	13.5%
	Dog and cat	5	9.6%
	Another	0	0%
	Total	52	100%
Sex of the animal(s)	Male	20	38.5%
	Female	17	32.7%
	Male and female	14	26.9%
	Do not know	1	1.9%
	Total	52	100%

Most published studies evaluating the main characteristics of animals surrendered to shelters were carried out in the 1990s and early 2000s (Weiss et al., 2014). In these studies, the characteristics of dogs and cats associated with a higher risk of being surrendered to a shelter included being of no defined breed (Salman et al., 1998), over 6 months old when acquired (New Junior et al., 2000; Patronek et al., 1996), younger (New Junior et al., 2000), not neutered (Patronek et al., 1996; Salman et al., 1998), short time in care (New Junior et al., 2000) and low cost of ownership (New Junior et al., 2000; Patronek et al., 1996).

In this study, the majority of the animals involved in the research were puppies at 34.9% (44/126), followed by medium-sized animals (15 kg to 25 kg) at 28.6% (36/126). Small-sized animals (up to 15 kg) with 19.8% (25/126), and lastly, large-sized animals (25 kg to 5 kg) with 4% (5/126), there were no responses from giant-sized animals (over 45 kg), 12.7% of the animals did not have their size informed (16/126). The data obtained from the answers is shown in Table 2.

Statistical analysis revealed that puppies (n=44) were significantly more common than non-puppies (n=82) (P=0.0055). Medium-sized animals (15 kg to 25 kg) were significantly more common (P≤0.008) than large (25 kg to 45 kg), giant (more than 45 kg), and did not know or not informed. Only small animals (up to 15 kg) were not significantly more common (P=0.13). Small animals (up to 15 kg) were significantly more common (P≤0.0003) than large (25 kg to 45 kg) and giant (more than 45 kg). Small animals (up to 15 kg) were not significantly larger than medium-sized animals (15 kg to 25 kg) (P=0.13). Fisher's exact test was used.

Dolan et al. (2015) reported in their study that the majority of the animals handed in were small (42.2%), followed by medium-sized (34.9%), and finally, large-sized (18.7%), 4.2% of the animals did not provide information on their size. Diesel et al. (2010) also found that the majority of animals were medium-sized (59.9%), followed by small (22.4%) and large (17.6%).

The predominance of young animals in the sample, especially puppies, raises the need to understand how this age group may relate to guardians relinquishment. According to research by Weng et al. (2006), puppies require more effort in care and training, which can increase the likelihood of an unsuccessful human-animal relationship, a phenomenon evidenced in the results of this study.

Concerning age, most owners reported that their animals were up to 6 months old, with 38.1% (48/126), different from the number of puppies marked in the previous question. This is because the questionnaire did not standardize the age range for the puppy category, where four people who had not considered their animals to be puppies answered that the animals were less than 6 months old. The data obtained from the answers is shown in Table 2.

Statistical analysis revealed that two age groups were significantly more frequent than all the others: "up to 6 months" and "1 year to 3 years". The distribution of ages is bimodal, i.e., it has two frequency peaks. The "up to 6 months" age group was significantly more frequent than all the others (P≤0.00006). The "up to 6 months" range is not significantly more common than the "1 year to 3 years" range (P=0.17). The "1 year to 3 years" age group was also

Table 2 – Distribution of animal information

	Variable	N	%
Type or size of animal(s)	Puppies/Kittens	44	34.9%
	Medium (15 Kg to 25 Kg)	36	28.6%
	Small (up to 15 Kg)	25	19.8%
	Big (25 Kg to 45 Kg)	5	4.0%
	Giant (more than 45 Kg)	0	0%
	Do not know or not informed	16	12.7%
	Total	126	100%
Age of the animal(s)	Up to 6 months	48	38.1%
	6 months to 1 year old	12	9.5%
	1 year old to 3 years old	34	27.0%
	3 years old to 5 years old	8	6.3%
	More than 5 years old	10	7.9%
	Do not know or not informed	14	11.1%
	Total	126	100%
Animal breed(s)	No breed	69	54.8%
	With breed	18	14.3%
	Do not know or not informed	39	31.0%
	Total	126	100%
Reproductive status of the animal(s)	Uncastrated	73	57.9%
	Castrated	17	13.5%
	Pregnant	0	0%
	Do not know or not informed	36	28.6%
	Total	126	100%

significantly more frequent than all the others ($P \leq 0.0058$). The “1 year to 3 years” range was not significantly higher than the “up to 6 months” range ($P = 0.17$). The hypothesis test used was Chi-square.

These results are consistent with previous research findings on pet relinquishment, where the majority are young animals (Dolan et al., 2015; New Junior et al., 2000; Salman et al., 1998; Soto et al., 2007). New Junior et al. (2000) found that dogs and cats surrendered to a shelter were significantly younger (dogs < 2 years and cats < 3 years). The risk of surrender seemed to decrease with increasing age (from < 3 months to 2 or 3 years) and could be considered a protective factor about surrendering dogs to a shelter as they age. However, this was not so strongly observed for cats.

Most of the animals in this study were not of a defined breed, representing 54.8% (69/126) of the sample. Animals with a defined breed accounted for 14.3% (18/126), while 31% (39/126) of the owners did not provide information on the breed of their animals. The data obtained from the answers is shown in Table 2. Animals without a breed were significantly more common ($P \leq 0.015$) than those with a breed and did not know/not informed; the test used was the chi-square. These results are in line with previous findings, which showed that the majority of relinquished animals had no defined breed, with rates ranging from 78% to 90% (Diesel et al., 2010; New Junior et al., 2000; Salman et al., 1998; Soto et al., 2007). In addition, research

by Patronek et al. (1996) observed that animals without a defined breed were more susceptible to abandonment. The prevalence of animals without a defined breed may be related to the ease of acquiring these animals, often without associated costs, which may increase the risk of abandonment, as New Junior et al. (2000) pointed out.

In this survey, more than half of the animals were not castrated (57.9%, 73/126), only 13.5% (36/126) of the animals were castrated, there were no pregnant animals, and 28.6% (7/126) of the animals had no information about their reproductive status. The data obtained from the answers is shown in Table 2. Non-castrated animals were significantly more common ($P \leq 0.003$) than non-castrated, pregnant, and do not know/not informed animals. The chi-square test was used.

Existing literature demonstrates that the distinction between castrated and non-castrated animals does not show substantial differences (Diesel et al., 2010; New Junior et al., 2000; Salman et al., 1998), the results of this study reveal a lower proportion of castrated animals compared to previous research, while the numbers of non-castrated animals are similar to other research.

New Junior et al. (2000) found that dogs and cats of both sexes who had been surrendered to a shelter and were over 6 months old were significantly more likely not to have been neutered. This may have occurred because most of the animals in this study were young. This data

reinforces the need for educational campaigns encouraging the neutering of animals at an early age and for public authorities to promote free neutering campaigns for the population.

This study found that more than half of the animals (54%, 68/126) had been under the guardianship or responsibility of their carers for less than 6 months. Of these, 8.7% (11/126) had been with their guardians for less than a week, while 45.2% (57/126) had lived with their caregivers for a week and six months. Then, with 16.7% (21/126) of the animals, the length of time they had lived together was between 1 year and 3 years, 4.8% (6/126) between 3 years and 6 years, 4% (5/126) for more than 6 years, and for 20.6% (26/126) of the animals, the length of time they had lived together was not informed. The data obtained from the answers is shown in Table 3. The time of guardianship “less than 6 months” is significantly more represented than all the others ($p \leq 0.0002$). The test used was chi-square.

New Junior et al. (2000) found that compared to a control group, dogs and cats surrendered to a shelter spent a relatively short period living with their guardian or keeper (dogs <1 year and cats <2 years). The risk of surrender tended to decrease with increased cohabitation, playing a protective factor concerning surrendering these animals to a shelter.

Research consistently indicates that giving up pets tends to occur in situations where the time spent living together is relatively short (Diesel et al., 2010; New Junior et al., 2000; Salman et al., 1998; Soto et al., 2007), a trend corroborated by the results of this study.

When asked how the animal was acquired, the majority (42.9%, 54/126) said they rescued the animal from the street, 27% (34/126) of the animals came from their own home, in third place with 7.9% (10/126) the animal appeared in the home of the guardian or responsible person, in 7.1% (9/126) the animals were received as a gift from a relative, 4.8% (6/126) came as a gift from a friend, 1.6% of the animals were adopted from an NGO, one of the animals, representing 0.8% of the sample, was bought online, there were no animals bought from a store, and 7.9% (10/126) of the animals the guardians could not remember or did not say how they bought them. If we add together the options “won from a friend” and “won from a relative,” we would have 11.9% (15/126) of the animals bought as a gift, coming third in terms of how they were acquired. The data obtained from the answers is shown in Table 3.

How pets are acquired plays a vital role in the decision to keep them in homes, with owners who did not plan the acquisition of a domestic animal more likely to abandon their pets than those who planned the acquisition (Jensen et al., 2020). This finding was consistent with our research, as most

Table 3 – Distribution of data on animal guardianship

	Variable	N	%
Guardianship time	Less than a week	11	8.7%
	Less than 6 months	57	45.2%
	Between 1 year old and 3 years old	21	16.7%
	Between 3 years old and 6 years old	6	4.8%
	More than 6 years	5	4.0%
	Do not know or not informed	26	20.6%
	Total		126
Acquisition of the animal(s)	Rescued from the street	54	42.9%
	It is the offspring of a dog/cat at home	34	27.0%
	It showed up at my house	10	7.9%
	He got it from a relative	9	7.1%
	He got it as a present from a friend	6	4.8%
	Adopted from an NGO	2	1.6%
	Bought online	1	0.8%
	Bought in a store	0	0%
	Do not remember/do not know	10	7.9%
	Total		126
The presence of other animals in the home	I do not have any more animals	35	67.3%
	Yes, I have dogs	8	15.4%
	Yes, I have cats	5	9.6%
	Yes, I have cats and dogs	3	5.8%
	Yes, I have birds	1	1.9%
	Yes, other species of animals	0	0%
Total		52	100%

of the animals were acquired in “unintentional” ways, i.e., the acquisition of these animals may not have been planned or even desired by the owners, as they were imposed by circumstances such as unwanted breeding, abandonment or a gift from someone close. Another point that some research addresses is that many animals surrendered to shelters are often acquired from sources where pre-adoption counseling is not possible, and this is a crucial point when addressing unplanned acquisition, emphasizing the importance of providing information to future guardians about the costs and responsibilities associated with keeping a pet, in order to generate realistic expectations and reduce the surrender of these animals in the future (Scarlett, 2008).

In this study, we also assessed some characteristics of the guardians or keepers of these animals. Existing research shows that the characteristics of the people most at risk of surrendering an animal to a shelter are younger adults (New Junior et al., 2000; Shore et al., 2003), lower annual income (Patronek et al., 1996; Shore et al., 2003) and lower education (New Junior et al., 2000; Salman et al., 1998).

Most participants in this survey were female, 71.2% (37/52), and 28.8% (15/52) were male. Statistical analysis using the Chi-Square test showed that females were significantly more frequent than males ($P=0.009$). The data obtained from the answers is shown in Table 4. Some studies have also shown that

women are the majority of people who surrender a domestic animal to a shelter (Dolan et al., 2015; New Junior et al., 2000; Salman et al., 1998). However, New Junior et al. (2000) found that compared to guardians who kept their animals, the likelihood of surrendering dogs and cats to a shelter was higher among men. The study by Jacobetty et al. (2019) found that pragmatic attitudes towards surrendering an animal were more common among men, leading to a greater likelihood of surrendering their animal to a shelter. The data verified in this research does not establish a connection with the probability that more women will surrender their animals to shelters. The most likely hypothesis is that the higher number of female respondents in this research may be related to the role of women in a patriarchal society, where there is a social expectation that they will care for animals (Adanls & Donovan, 1995).

In this survey, the majority of people had completed high school, with 46.2% (24/52), in second place, with 11.5% (6/52) people had incomplete elementary school, completed elementary school or completed higher education, 9.6% (5/52) of people had incomplete high school and 9.6% (5/52) had incomplete higher education. The data obtained from the answers is shown in Table 4. Using Fisher’s exact test, tutors who had completed high school were significantly more common than all other

Table 4 – Distribution of data on the guardian or person responsible for the animals

	Variable	n	%
Gender	Female	37	71.2%
	Male	15	28.8%
	Not mentioned	0	0%
	Total	52	100%
Education	No education	0	0%
	Incomplete elementary school education	6	11.5%
	Completed elementary school education	6	11.5%
	Incomplete high school education	5	9.6%
	Completed high school education	24	46.2%
	Incomplete university degree	5	9.6%
	Completed higher education	6	11.5%
	Do not know/not mentioned	0	0%
	Total	52	100%
With kids	With kids	34	65.4%
	No kids	18	34.6%
	Total	52	100%
Receive any social benefits	I do not receive any aid	37	69.8%
	Social aid	8	15.1%
	Social tariff for electricity and/or water	3	5.7%
	Emergency aid	2	3.8%
	Disability retirement (INSS) or aid	2	3.8%
	Continuous Cash Benefit (BPC)	1	1.9%
	Elderly adult card	0	0%
	Total	53*	100.1%*

*Possibility of checking more than one option

categories ($P \leq 0.003$). Research has shown similar results, with a lower level of schooling found in people who have given their pets to a shelter (Dolan et al., 2015; Soto et al., 2007). New Junior et al. (2000) found that people who surrendered their animals to a shelter were more likely not to have attained an educational level beyond high school when compared to guardians who kept their animals.

As for the presence of children, 34.6% (18/52) had no children, and 65.4% (34/52) had children, of whom 76.5% (26/34) had one to two children. The data obtained from the answers is shown in Table 4. Using the chi-square test, we found that the category “have children” was significantly more common than “no children” ($P = 0.048$). A study by Patronek et al. (1996) found that households with children had a higher risk of having an abandoned animal than households without children.

The question about receiving some social benefit allowed respondents to check multiple options, so the sum was greater than the total number of respondents. The data obtained from the answers is shown in Table 4. In this survey, 71.15% (37/52) of people reported not receiving any social benefits from the government, and 28.85% (15/52) received some social benefits from the government. Using Fischer’s exact test, we found that the category “Does not receive any aid” was significantly more common than all the other categories ($P \leq 0.0001$). This finding is noteworthy because we can infer from the result that these people did not belong to a group of high social vulnerability, contrary to what was found in the research by Shore et al. (2003), who investigated only guardians who gave up their animals

due to moving, and found that 48.2% reported a family income of less than \$30,000/year, a low income.

Soto et al. (2007) found that level of education and social status could influence pet ownership through a lack of knowledge of the consequences and responsibilities of keeping pets.

The survey found that the most common reason for giving up pets was related to housing issues (44.2%). Of those interviewed who gave this reason, the majority said they were moving and could not take the animal (25%). This was followed by questions about the lack of space to keep the animal (17.3%) and problems with neighbors (1.9%). The data obtained from the answers is shown in Table 5. Housing issues are highlighted in much of the literature as the main reason for surrendering a domestic animal to a shelter (Carter & Taylor, 2018; Jensen et al., 2020; Salman et al., 1998), and this research was consistent with this finding.

These results suggest that the needs of the domestic animal were not a priority when looking for a new home, similar to the findings of Shore et al. (2003). It is possible that the owners did not consider the possibility of taking the animal with them or that they did not find a home that met the animal’s needs.

Financial problems were the second most reported reason in this survey, with 30.8% (16/52) of tutors. Financial problems are usually a more frequently reported reason in poorer regions. Dolan et al. (2015) found that most owners (88%) when informed that they could seek services that would help with the situation, chose to keep

Table 5 – Shows why pet owners or guardians reported not keeping their pets

Motives	N	%	Motives by category	n	%
The animal has bitten someone or another animal in the house	2	3.8%	Behavior problems	2	3.8%
The animal “gets into trouble” often (mess, damage, disobedience, etc.)	0	0%			
It did not adapt to my other animals	0	0%			
The animal is sick	0	0%	Animal disease	0	0%
The animal is too old	0	0%			
I have many animals to look after	3	5.8%	Number of animals	3	5.8%
I cannot afford to keep the animal	16	30.8%	Financial problems	16	30.8%
The person responsible for the animal is ill or has died	4	7.7%	Guardian’s disease	6	11.5%
The animal is causing health problems for someone in my family (e.g., allergies)	2	3.8%			
I am moving and cannot take the animal	13	25.0%	Housing issues	23	44.2%
I do not have any space to keep the animal in my house	9	17.3%			
The animal is causing problems with the neighbors	1	1.9%			
I do not have time to look after the animal	1	1.9%	Human expectations	1	1.9%
I cannot “deal” with the animal	0	0%			
Others	1	1.9%	Others	1	1.9%
Total	52	100%	Total	52	100%

the animal and try to get help. Their study found that costs may be associated with the decision to give up their animals. The forms of assistance in cases where financial issues would impede keeping their domestic animal could be assistance to cover the costs of veterinary treatment, food banks, low-cost neutering programs, and access to veterinary care (Russo et al., 2021). A study in Los Angeles found that owners are willing to seek help before giving up their animals (Dolan et al., 2015).

The last question in the questionnaire: “Is there anything that would make you keep this animal?” was open-ended, and only five people (9.6%, 5/52) answered with possibilities that would help them keep the animal in their care. The vast majority (90.4%, 47/52) reported that no alternative would enable them to keep the animal. The data obtained from the answers is shown in Table 6.

Only two people reported that they would not be able to keep their animals for reasons related to the move. However, both said they would keep their animals if they received help with transportation. This result suggests that, in these cases, providing some assistance could prevent the animal from being abandoned. As for the other reasons, most people were unwilling to look for solutions to keep their animals. It is necessary to investigate whether the reason was just an excuse for not keeping the animal or whether the person cannot see any alternatives to resolve the situation.

Giving up a pet can be seen as a problem experienced by the guardian, whether it is justifiable or not. This problem can be perceived as a lack of obligation towards the responsibility of keeping the animal. Guardians abandon their animals because of problems they experience, which can be real or perceived, linked to the animal itself (behavioral problems, for example) or situations in their own lives (Jensen et al., 2020).

Understanding human behavior is critical to pet abandonment (Carter & Taylor, 2018). Studies on pet abandonment reveal conflicting human attitudes. The reasons reported for abandonment may not be accurate but rather

convenient and socially acceptable excuses assumed by the animal’s guardian. This is because the non-human animal occupies a vulnerable position in our society, which allows abandonment to be socially and morally acceptable to the person committing it in an attempt to justify a decision that suits them (Carlisle-Frank & Frank, 2001).

In this survey, we found that 90.4% believed there would be no alternative to keeping their animal. This suggests that the participants expected to give up their animal, not to find a solution to the situation. As no alternative was seen as viable by the majority of people, we hypothesize that giving up the animal was considered acceptable, fostered by the possibility of there being a reason that would make the decision morally acceptable. Although domestic animals, especially dogs, and cats, are often seen as family members, there is a conflicting role with that dictated by society, where these animals are still seen and treated as property and considered an economic good that can be bought. This conflict can lead to the so-called “social dissonance” described by Carlisle-Frank & Frank (2001) as society’s conflicting role on how we should think, feel, and behave towards animals. These inconsistent attitudes leave animals vulnerable, allowing them to be abandoned and mistreated. This conflicting perception of animals as family members and property causes a blurred vision of how we should treat them, which can lead to animal abuse and abandonment.

There is conflicting evidence about how attached people are to an animal when they hand it to a shelter (Dolan et al., 2015). Shore et al. (2003) found that some people maintain a particular emotional involvement with the animal, while Kwan & Bain (2013) found less attachment.

Conclusion

This study identified why owners sought out CSOs to surrender their animals. The results were similar to those of other studies on animal abandonment. Regarding profile, most animals were young, medium-sized, without a defined breed, not neutered, with little time living with their guardian, and rescued from the street. The guardian’s profile was mainly made up of women with a medium level of education and children who did not receive any social benefits.

This study shows that few people are willing to resolve the situation that led to the desire to give up their animal, demonstrating that coping with abandonment goes far beyond an informed reason, which often seems to be intended to support abandonment. Understanding human behavior in abandoning domestic animals is a significant challenge, as

Table 6 – Distribution of responses from guardians or keepers when asked if anything would make them continue to guard the animal

Variable	n	%
No	47	90.4%
Financial aid for animal transportation	2	3.5%
Finding a suitable home to keep the animal in	1	1.9%
Solving the animal’s behavior problem	1	1.9%
Be able to afford to keep the animal	1	1.9%
Total	52	100%

guardians rarely resolve the situation. Developing ways of strengthening the human-animal bond will be necessary to propose coping measures.

This study is a first step towards understanding animal abandonment in Brazil. The topic is intrinsically related to One Health, which recognizes the interconnectedness between animals, humans, and the environment. Most studies on the abandonment of domestic animals focus on determining the reasons that lead the guardian to surrender their animal to a shelter. However, many other issues are involved in this surrender, which research has not yet been able to elucidate. Understanding the social construction involved in the decision to “give up” your animal will make it possible to build coping approaches more rooted in its real emergence.

References

- Adanls JC, Donovan J. *Animals and women: feminist theoretical explorations*. Durham: Duke University Press; 1995.
- Alberthsen C, Rand J, Morton J, Bennett P, Paterson M, Vankan D. Numbers and characteristics of cats admitted to Royal Society for the Prevention of Cruelty to Animals (RSPCA) shelters in Australia and reasons for surrender. *Animals (Basel)*. 2016;6(3):23. <http://doi.org/10.3390/ani6030023>. PMID:26999223.
- Amigo Animal [Internet]. Curitiba: Associação do Amigo Animal; 2022. Amigo Animal - História [cited 2022 Aug 16]. Available from: <https://amigoanimal.org.br/>
- Carlisle-Frank P, Frank JM. Conflicting attitudes and social dissonance: why mixed messages lead people to abandon their companion animals. In: *Proceedings of the SSSP'01 Conference “Confronting Anthropocentric Definitions of Community”*; 2001 Aug 20. Anaheim: SSSP; 2001. 16 p.
- Carter J, Taylor CS. Socio-economic factors in companion animal relinquishment on the Sunshine Coast, Australia. *Soc Anim*, 2018; 28(5-6):531-49. <http://doi.org/10.1163/15685306-12341473>.
- Coe JB, Young I, Lambert K, Dysart L, Nogueira Borden L, Rajić A. A scoping review of published research on the relinquishment of companion animals. *J Appl Anim Welf Sci*. 2014;17(3):253-73. <http://doi.org/10.1080/10888705.2014.899910>. PMID:24738944.
- Cuglovici DA, Amaral PIS. Dog welfare using the Shelter Quality Protocol in long-term shelters in Minas Gerais State, Brazil. *J Vet Behav*. 2021;45:60-7. <http://doi.org/10.1016/j.jveb.2021.06.004>.
- Diesel G, Brodbelt D, Pfeiffer DU. Characteristics of relinquished dogs and their owners at 14 rehoming centers in the United Kingdom. *J Appl Anim Welf Sci*. 2010;13(1):15-30. <http://doi.org/10.1080/10888700903369255>. PMID:20017043.
- DiGiacomo N, Arluke A, Patronek G. Surrendering pets to shelters: the relinquisher's perspective. *Anthrozoos*. 1998;11(1):41-51. <http://doi.org/10.1080/08927936.1998.11425086>.
- Dolan ED, Scotto J, Slater M, Weiss E. Risk factors for dog relinquishment to a Los Angeles municipal animal shelter. *Animals (Basel)*. 2015;5(4):1311-28. <http://doi.org/10.3390/ani5040413>. PMID:26690483.
- Fatjó J, Bowen J, García E, Calvo P, Rueda S, Amblás S, Lalanza JF. Epidemiology of dog and cat abandonment in Spain (2008-2013). *Animals (Basel)*. 2015;5(2):426-41. <http://doi.org/10.3390/ani5020364>. PMID:26479243.
- Hazel SJ, Jenvey CJ, Tuke J. Online relinquishments of dogs and cats in Australia. *Animals (Basel)*. 2018;8(2):25. <http://doi.org/10.3390/ani8020025>. PMID:29414919.
- Jacobetty R, Lopes D, Fatjó J, Bowen J, Rodrigues DL. Psychological correlates of attitudes toward pet relinquishment

Conflict of Interest

The authors declare no conflict of interest.

Ethics Statement

The project has already been submitted and approved under nº 005/2020 by the ANIMAL USE ETHICS COMMITTEE (CEUA) OF THE AGRICULTURAL SCIENCES SECTOR OF THE FEDERAL UNIVERSITY OF PARANÁ - BRAZIL, with degree 2 of invasiveness, on 02/28/2020, as it is in accordance with the precepts of Law nº 11,794, of 8th October, 2008, of Decree nº 6,899, of 15th July, 2009, and with the standards issued by the National Council for the Control of Animal Experimentation (CONCEA).

- and of actual pet relinquishment: the role of pragmatism and obligation. *Animals (Basel)*. 2019;10(1):63. <http://doi.org/10.3390/ani10010063>. PMID:31905793.
- Jensen JB, Sandøe P, Nielsen SS. Owner-related reasons matter more than behavioural problems: a study of why owners relinquished dogs and cats to a danish animal shelter from 1996 to 2017. *Animals (Basel)*. 2020;10(6):1064. <http://doi.org/10.3390/ani10061064>. PMID:32575574.
- Kwan JY, Bain MJ. Owner attachment and problem behaviors related to relinquishment and training techniques of dogs. *J Appl Anim Welf Sci*. 2013;16(2):168-83. <http://doi.org/10.1080/10888705.2013.768923>. PMID:23544756.
- Marston LC, Bennett PC, Coleman GJ. What happens to shelter dogs? An analysis of data for 1 year from three Australian shelters. *J Appl Anim Welf Sci*. 2004;7(1):27-47. http://doi.org/10.1207/s15327604jaws0701_2. PMID:15066769.
- New Junior JC, Salman MD, King M, Scarlett JM, Kass PH, Hutchison JM. Characteristics of shelter-relinquished animals and their owners compared with animals and their owners in US pet-owning households. *J Appl Anim Welf Sci*. 2000;3(3):179-201. http://doi.org/10.1207/S15327604JAWS0303_1.
- Oliveira HGO. Epidemiologia do abandono animal. In: Garcia RCM, Calderón N, Brandespim DF, editors. *Medicina veterinária do coletivo: fundamentos e práticas*. São Paulo: Ed. Integrativa; 2019. p. 200-8.
- Patronek GJ, Glickman LT, Beck AM, McCabe GP, Ecker C. Risk factors for relinquishment of dogs to an animal shelter. *J Am Vet Med Assoc*. 1996;209(3):572-81. <http://doi.org/10.2460/javma.1996.209.03.572>. PMID:8755975.
- Protopopova A, Gunter LM. Adoption and relinquishment interventions at the animal shelter: a review. *Anim Welf*. 2017;26(1):35-48. <http://doi.org/10.7120/09627286.26.1.035>.
- Russo A, Dowling-Guyer S, McCobb E. Community programming for companion dog retention: a survey of animal welfare organizations. *J Appl Anim Welf Sci*. 2021;26(2):117-31. <http://doi.org/10.1080/10888705.2020.1869551>. PMID:33530720.
- Salman MD, New Junior JG, Scarlett JM, Kass PH, Ruch-Gallie R, Hetts S. Human and animal factors related to relinquishment of dogs and cats in 12 selected animal shelters in the United States. *J Appl Anim Welf Sci*. 1998;1(3):207-26. http://doi.org/10.1207/s15327604jaws0103_2. PMID:16363966.
- Scarlett JM. Interface of epidemiology, pet population issues and policy. *Prev Vet Med*. 2008;86(3-4):188-97. <http://doi.org/10.1016/j.prevetmed.2008.02.007>. PMID:18403033.
- Sharkin BS, Ruff LA. Broken bonds: understanding the experience of pet relinquishment. In: Blazina C, Boyraz G, Shen-Miller D, editors. *The psychology of the human-animal bond: a resource for clinicians and researchers*. USA: Springer; 2011. p. 275-87.
- Shore ER, Petersen CL, Douglas DK. Moving as a reason for pet relinquishment: a closer look. *J Appl Anim Welf Sci*. 2003;6(1):39-52. http://doi.org/10.1207/S15327604JAWS0601_04.
- Silva AJS, Guilloux AGA, Zetun CB, Polo G, Braga GB, Panachão LI, Santos O, Dias RA. Abandono de cães na América Latina: revisão de literatura. *Rev Educ Cont Med Vet Zootec*. 2013;11(2):34-41. <http://doi.org/10.36440/recmvz.v11i2.16221>.
- Soto FRM, Sousa AJ, Pinheiro SR, Risetto MR, Bernardi E, Shimozako HJ, Camargo CC, Azevedo SS. Motivos do abandono de cães domiciliados para eutanásia no serviço de controle de zoonoses do município de Ibiúna, São Paulo, Brasil. *Vet Zootec*. 2007;14(1):100-6.
- Weiss E, Slater M, Garrison L, Drain N, Dolan E, Scarlett JM, Zawistowski SL. Large dog relinquishment to two municipal facilities in New York City and Washington, D.C.: identifying targets for intervention. *Animals (Basel)*. 2014;4(3):409-33. <http://doi.org/10.3390/ani4030409>. PMID: 26480315.
- Weng HY, Kass PH, Hart LA, Chomel BB. Risk factors for unsuccessful dog ownership: an epidemiologic study in Taiwan. *Prev Vet Med*. 2006;77(1-2):82-95. <http://doi.org/10.1016/j.prevetmed.2006.06.004>. PMID:16887222.

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