



Analysis of the management of a shelter dog kennel

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Abstract: In Italy a law (n° 281/91) requires that stray and ownerless dogs can no longer be put down and mandates the creation of kennels, public or private, where these animals are housed while awaiting adoption. Therefore, it is important to study the management of kennels and evaluate the different factors that can influence dog adoptions. For this research, the management of a medium-sized shelter kennel, located in Lucca (Italy), and managed by a social service cooperative, was evaluated. The years 2021, 2022 and 2023 were examined, and data were obtained from the kennel management registers. In 2022, a greater average number of dogs were present in the kennel ($n^{\circ} 58.00 \pm 8.19$ S.D.) than in 2021 ($n^{\circ} 63.58 \pm 1.24$ S.D.) and 2023 ($n^{\circ} 55.00 \pm 3.27$ S.D.). Regarding the animals adopted during these three years, there were 86 adoptions. The majority of adoptions involved young animals under 5 years of age (70% of total adoptions). In 2013, 63% of females housed in the kennels were adopted, compared to 33% of males; moreover, 14 black dogs were adopted (16% of the total), followed by dogs with black and tan coats and black and white coats. Finally, 60% of adopted dogs spent up to 75 days in the shelter.

Key Words: shelter, dog, adoption.

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Introduction

The dog has shared its existence with our species for thousands of years (Pörtl & Yung 2017; Yung & Pörtl, 2018). Continuous selection by man has transformed this animal into a being very different from the wolf from which it originated.

Centuries of selection, conscious or not, have made this animal capable of developing a bond of attachment towards humans (Mariti et al., 2018; 2020) that is unmatched in the animal kingdom. This characteristic has resulted in the dog becoming the most widespread pet and being granted a particular legal status in some nations that prohibits killing it except for valid reasons.

This is the case of Italy, where a law (n° 281/91 www.normattiva.it/uri-res/N2Ls?urn:nir:sta-to:legge:1991-08-14;281) requires that stray and ownerless dogs can no longer be put down. This law has mandated the creation of kennels, public or private, where these animals are housed while waiting for adoption. Unfortunately, finding an adoptive home for a dog is neither a simple nor a frequent event, and many dogs spend a large part of their lives in kennels.

For this reason, numerous studies have been conducted to evaluate the possible stress that dogs may experience during their stay in the kennel (Cozzi et al., 2016; Coppola et al., 2006). Equally numerous studies have been carried out to identify the behavioral characteristics of animals, to facilitate adoptions that do not end with the dog's return to the kennel (Zilocchi et al., 2015; Mornement et al., 2010).

The process that leads to the adoption of a shelter dog is complex and must be analyzed in detail to give the animals a new future and alleviate the economic cost of maintaining them for the community.

Therefore, it is important to study the management of kennels and evaluate the different factors that can influence dog adoptions.

Material and methods

For this research, the management of a medium-sized shelter kennel, "Canile di Pontetetto, Via Santeschi 993, 55100 Pontetetto, Lucca, Italy), managed by a social service cooperative, was

evaluated. The years 2021, 2022 and 2023 were examined, and data were obtained for the kennel management registers.

Statistical analysis was conducted using Jamovi (Version 2.5) retrieved from <https://www.jamovi.org> (The Jamovi project 2024). The Friedman test (a non-parametric for repeated measures), the Durbin-Conover test (for the pairwise comparison) and the Chi square test were used.

Results

Figure 1 shows the values relating to the dogs present in the kennel during different months of the years 2021, 2022 and 2023. In 2022, a greater average number of dogs were present in the kennel ($n^{\circ} 58.00 \pm 8.19$ S.D.) than in 2021 ($n^{\circ} 63.58 \pm 1.24$ S.D.) and 2023 ($n^{\circ} 55.00 \pm 3.27$ S.D.).

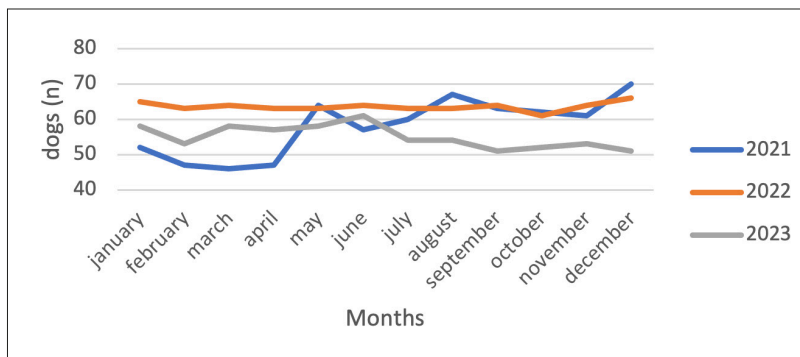


Figure 1. Dog hosted in the shelter in 3 different years

The Friedman test ($\chi^2 = 9.5$; $p = 0.009$) shows a significant difference in the number of dogs in the shelter across the three years analyzed. The Durbin-Conover test (Tab. 1) confirms that there is a statistically significant difference in the number of dogs present in the shelter in different months of 2022 compared to 2021 and 2023.

Table 1. Statistical comparison of data relating to dogs present in the kennel in the 3 years considered

Year		Year	d	p
2021	vs	2022	2.26	0.03
2021	vs	2023	1.51	0.15
2022	vs	2023	3.77	0.001

Regarding the animals adopted during the three years, there were 86 adoptions. The number of adoptions progressively increased, with $n^{\circ} 21$ in 2021, $n^{\circ} 29$ in 2022 and $n^{\circ} 35$ in 2023. Only 2 adopted dogs (2.32%) were returned to the shelter, but both found a new successful adoption.

As shown in Figure 2, the majority of adoptions involved young animals under 5 years of age (70% of total adoptions).

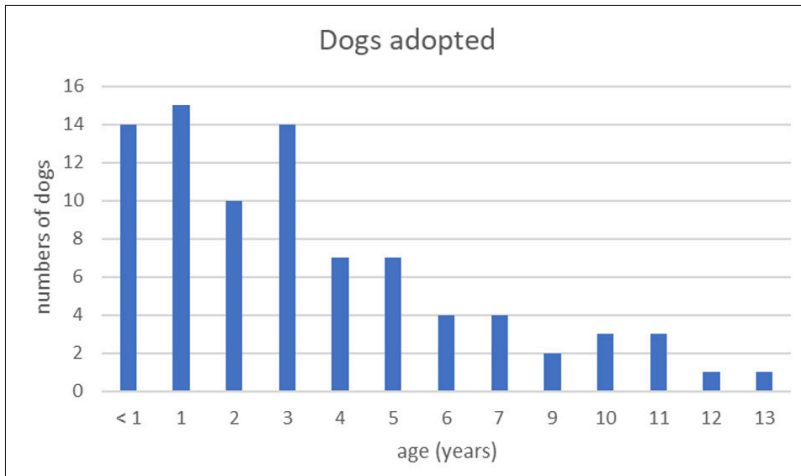


Figure 2. Data relating to the number of dogs adopted in the three years under study

Examining the situation of kennel occupants in 2023 and the related adoptions, the data analysis showed that 63% of females hosted in kennels (n° 22) were adopted, compared to 33% of males (64), ($\chi^2 = 6.45$; $p = 0.011$).

Another element that seems to influence the probability of adoption is the color of the dog’s coat. In our survey, 14 black dogs were adopted, the highest number, equal to 16% of the total, followed by dogs with black and tan coats and black and white coats (11 dogs in both categories, 13% of the total).

Figure 3 shows the length of time adopted dogs spent in the shelter. 60% of them spent up to 75 days in the shelter.

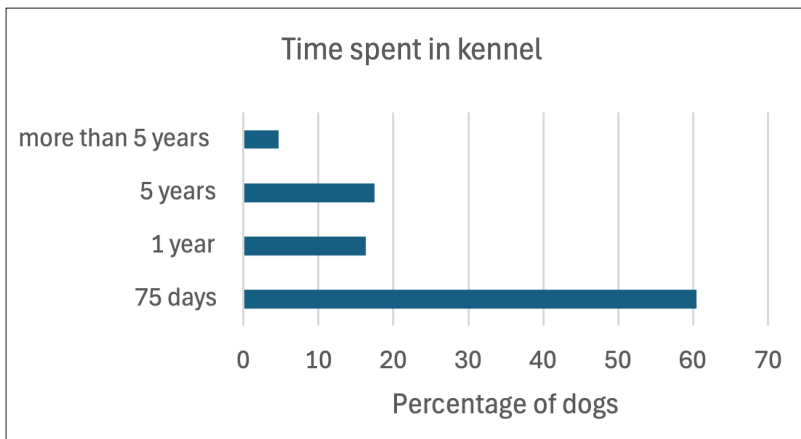


Figure 3. Time spent in the shelter by adopted dogs

Discussion

Adopting dogs from kennels is desirable for both the well-being of the animal and to alleviate the community’s expense of their maintenance. The absence of the attachment bond, which dog spontaneously develops with human, is the primary cause of suffering for dogs in kennels.

It is difficult to determine exactly how many dogs are present in Italian kennels. A dossier by the Lega Antivivisection (LAV) in 2020 estimated their number at around 69,000 units, with a daily expenditure of 242,000 euros (<https://static.lav.it/docs/dossier-sul-randagismo.pdf>).

The results of this research, albeit limited to a local study in a medium-sized kennel, are important to understand which aspects of shelter management are crucial and where interventions can be made to increase the number of adoptions.

Our data indicates that adopted dogs remain in the shelter for a very limited time. This is a significant factor, as it has been shown that a prolonged stay in the shelter can deteriorate the dog's behavior (Cozzi et al., 2016), making them less adoptable and increasing the likelihood of their return to the facility due to being unmanageable by new owners.

Prompt intervention is necessary to prevent behavioral changes in dogs and to implement training programs that make them more adoptable. This approach helps dogs integrate more easily into the human families that adopt them.

Another important factor for adoption is the dog's age. Our data confirms that adopters tend to choose young animals under 4 years old, although the age of shelter dogs is often estimated without any certificate of origin. It is understandable that adopters prefer young animals, believing they are easier to train and integrate into the family. However, it should be considered that adult dogs can also learn new routines easily and can be an excellent choice for adopters. Geriatric animals must be carefully entrusted to their adopters, as they may suffer from a serious form of cognitive dysfunction, like humans, which can be very demanding for owners (Ciurli et al., 2023 a; b).

In our study, the sex of the animal significantly influenced the likelihood of adoption, with a higher percentage of female dogs being adopted, contrary to data from other studies (Normando et al., 2016). Regarding the color of the dog's coat, previous studies (Voslarova, 2018; Sinski et al., 2016) have shown that the length of stay in the kennel is influenced by the coat color, with black dogs spending more time in the kennel than multi-colored or brindle dogs. However, our data, although based on a small sample, suggests a contrast, as 16% of the adopted dogs were black. Further research is needed to determine if these findings can be generalized to the broader context of our country.

In conclusion, these initial data help clarify some critical points in the dog adoption process from shelter. Careful management of the animals and public awareness efforts, including pre- and post-adoption information programs, will help increase the number of dogs finding new owners.

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Analisi della gestione di un canile

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Sintesi

In Italia la legge (n° 281/91) prevede che i cani randagi e senza padrone non possano più essere soppressi e impone la creazione di canili, pubblici o privati, dove ospitare questi animali in attesa di adozione.

È quindi importante studiare la gestione dei canili e valutare i diversi fattori che possono influenzare le adozioni dei cani. Per questa ricerca è stata valutata la gestione di un canile di medie dimensioni, situato a Lucca (Italia), gestito da una cooperativa di servizi sociali. Sono stati esaminati gli anni 2021-2022 e 2023, ricavando i dati riportati nei registri di gestione dei canili. Nel 2022, in media, erano presenti in canile ($n^{\circ} 58,00 \pm 8,19$ D.S.) più cani rispetto al 2021 ($n^{\circ} 63,58 \pm 1,24$ D.S.) e al 2023 ($n^{\circ} 55,00 \pm 3,27$ D.S.). Gli animali adottati nel triennio sono stati 86. La maggior parte delle adozioni ha riguardato animali giovani, di età inferiore ai 5 anni (70% del totale delle adozioni). Nel 2023, il 63% delle femmine ospitate in canile è stato adottato, contro il 33% dei maschi; inoltre, sono stati adottati 14 cani neri (16% del totale), seguiti dai cani con mantello nero e marrone e dai cani con mantello bianco e nero. Infine, il 60% dei cani adottati ha trascorso fino a 75 giorni in canile.

