

Assessing adoptability in shelter dogs through a behavioral test

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Abstract: In Italy, a specific law (281/1991) establishes that shelter dogs cannot be euthanized unless dangerous or affected by severe or untreatable diseases. The result of this 'no-kill' policy is that some dogs are kept in shelters for their whole lives.

Aim of the research has been to realize a test for adoptability evaluation of shelter dogs, subjecting them to the most common stimuli of urban environment.

For the research twenty-six dogs were involved. The dog adoptability evaluation was performed in 4 different steps.

Step 1: Evaluation of some important dog characteristics not changeable by a re-education program, such as: age, size, coat colour and dog morphology.

Step 2: Information obtained by shelters operators about dog behaviour in the common kennel routine.

Step 3: Dog reaction to a direct approach of an unknown person to the shelter fence.

Step 4: Last subtest consists of 13 steps based on possible scenarios that approximate/simulate common situations encountered by dogs at home.

All the score in the 4 steps represent the dog adoptability index (DAI), a value indicative of the level of desirability that each dog possesses, because of its specific characteristics. On the basis of the DAI obtained scores we created 3 categories:

Category 1 - Dogs immediately adoptable (DAI \geq 80).

Category 2 - Dogs with a critic adoptability ($60 \leq$ DAI \leq 79).

Category 3 - Dogs adoptable with difficulty (DAI \leq 59).

The examined sample had a minimum score of 50.5 and a maximum score of 92.5.

17 of the 26 dogs examined in the present research were adopted. 70% of the dogs adopted belonged to Category 1, 18% to Category 2 and 12% to Category 3.

It is very important to identify the problem dogs and subject them to a behavioral modification program as soon as possible to make them adoptable. Only in this way the kennels will become sites for dog redevelopment and will fulfill an important social function, protecting/increasing animal welfare.

Key Words: dog, shelter, behavior, adoptability.

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Introduction

Dog shelters are common in western societies and provide a valuable service by rehousing stray dogs, animals brought in by their owners for various reasons and dogs seized because of negligence or other violations. (De Palma, 2005). In Italy, a specific law (281/1991) establishes that shelter dogs cannot be euthanized unless dangerous or affected by severe or untreatable diseases. The result of this 'no-kill' policy is that some dogs are kept in the shelter for their whole lives (De Palma, 2005; Cafazzo, 2014). This fact has determined a considerable increase in the number of dogs housed in shelters, since the rate of adoption is not sufficient to counterbalance the number of abandoned animals (Normando, 2009; Pullen, 2010).

Some morphologic and behavioral characteristics of the dog seem to be important for its adoption (Lepper et al., 2002).

Posage (1998) reported that purebred dogs, small dogs, and dogs of particular coat colors are more likely adopted than animals with other physical characteristics. Smaller dogs may be more attractive to people looking for a dog that requires comparatively less outdoor activity. In addition, behavioral problems can be more easily managed: a small dog that, for example, jumps up on people will be more tolerable and manageable than a large dog with the same behavioral problem.

Possibly, some people select smaller dogs because they believe that a small dog suggests owner refinement and sophistication and parents may select smaller dogs for fear that a larger dog could be difficult to manage and intimidate their children.

Moreover, dogs remaining at the front of their kennels may attract more adopter's interest and preference than those that stay behind (Diesel, 2008).

In literature there are many behavioral tests created with the aim to evaluate the dog behavior: some of them are very complicated to perform and often do not test the animal in situations related to the new life environments.

Aim of this research has been to realize a test for adoptability evaluation of shelter dogs, subjecting them to the most common stimuli of urban environment.

Material and methods

For the research twenty-six dogs were utilized (21 males and 5 females; mixed breeds) that were kenneled at the public shelter of Pisa. Dogs were aged between approximately 1 and 10 years (mean = 5.43 years; SD = 2.23): exact ages were difficult to determine since most of the animals were either relinquished by their previous owners or found as strays. The dogs had been housed in the kennel for over 2 months and were in good health.

The dog adoptability evaluation was performed in 4 different steps.

Step 1: Evaluation of some important parameters of the dogs, such as: age, size, coat colour and morphology.

Regarding the age, puppies have a higher appeal to people, rarely leading to indifference or fear (Gazzano et al., 2013). Youth seems to play an important role (Fridlun & MacDonald, 1998), probably because people are more attracted by neotenic features (Lorenz, 1943; Archer & Monton, 2011; Mariti et al., 2011).

Brachycephalic morphology has been considered less favorable for the adoption because the wounds provoked by this type of dog are generally more serious (Levi et al., 2009).

Moreover it is very important to take into consideration the mass of the dog that influences the dangerousness (Dehasse, 2006): small dogs were significantly more likely to be adopted than larger dogs (Posage, 1998).

The black coat color of the dog has been penalized because previous studies (Catalani, 2007) showed that black dogs are less easily adopted.

In table 1 the scores assigned to the different components are reported.

Step 2: Information obtained by shelter operators about dog behaviour in the common kennel routine. In table 2, the relative evaluation table about dog reactions evaluated by an expert shelter operator is reported.

Step 3: Dog reaction to the direct approach of an unknown person to the shelter pen (Shepherd, 2009). In this test, a stranger has a direct approach to the cage/kennel (50 cm), without staring the dog in the eye. An expert dog trainer evaluated dog behavior. In table 3, the relative evaluation scale is reported.

Table 1. Values assigned to the different dog characteristics.

Parameter	Range	Value
Age	< 6 months	+2
	>6 months < 1 year	+1
	>1 year	-1
Size	<20 kg	+2
	>20 kg <30 kg	+1
	>30 kg	-1
Morphology	Brachycephalic	-1
Coat colour	Black	-1
	Other colours	0
Number of attacks towards humans	<3	-3
	>3	-6
Number of attacks towards dogs	0	+1
	<3	-1
	>3	-3
Total (range maximum-minimum)		+5
		-13

Table 2. Evaluation table of information obtained by shelters operators about dog behaviour in the common kennel routine.

Dog management	Value
1. Dog behavior when approached by humans	
1. Calm/Sociable	3
2. Apathic/Impetuous	2
3. Escape attempt/Aggression attempt	1
4. Aggression without threatening	0
2. Exit from the kennel	
✓ Calm	3
✓ Avoiding	1
✓ Growling	0
3. Entering in the kennel	
✓ Calm	3
✓ Pulling for quickly entering	1
✓ Refusing to enter	0
4. Walking	
✓ Calm	3
✓ Walk with the tail between legs	1
✓ Pulling with force	0
Total (range maximum-minimum)	12-0

Table 3. Evaluation scale of the dog reaction to a direct approach of a strange person to the box.

Dog behaviour	Value
1. Bite	
2. Snap	0
3. Growling	
4. Stiffening up, staring	
5. Lying down, legs up	
6. Standing crouched, tail tucked under	1
7. Creeping, ears back	
8. Walking away	
9. Turning body away, sitting, pawing	
10. Turning head away	2
11. Yawning, blinking, nose licking	
12. Calm, indifferent	3
Total (range maximum-minimum)	0 + 3

Step 4: Last subtest consists of 13 parts based on scenarios that approximate common situations encountered by dogs at home. All dogs were taken outside the shelter for a walk to analyze their reaction to stressful stimuli. Two evaluators (a veterinary behaviorist and a dog trainer) observed the dog's behavioral reactions during the evaluation. The value is the mean of the two evaluations.

Part 1: Approach to the handler (standing with the dog on the leash) by a stranger getting out of a car.

Part 2: The stranger, holding an artificial hand, shakes it with the handler.

Part 3: The stranger strokes/pets the dog for three times with the artificial hand (from the head to the tail).

Part 4: A biker comes frontally and passes close to the dog (1.5 m).

Part 5: The biker rings the bell of the bike when crossing the dog.

Part 6: The dog passes in the middle of three people who are talking and gesticulating.

Part 7: Two people approach the dog.

Part 8: The dog is led towards the third person who opens an umbrella.

Part 9: The dog is exposed to a sudden noise of high volume and frequency.

Part 10: The dog meets an unknown dog at a distance of 1.5 m.

Part 11: The dog meets a jogger at a distance of 1.5 m.

Part 12: The jogger kicks a can.

Part 13: A pushchair with a crying doll goes towards the dog.

Scores

The dog shows a positive or neutral response, maintaining a confident and calm behavior: + 6.

The dog shows a fearful response: +3

The dog shows an aggressive response: +1.

Total score between 13 and 78.

All the scores in the 4 steps represent the dog adoptability index (DAI), a value indicative of the level of desirability that each dog possesses for its specific characteristics (Posage et al., 1998).

On the basis of the DAI values obtained we created 3 categories:

Category 1 - Dogs immediately adoptable ($DAI \geq 80$): subjects without behavioural problems, with good socialization skills, good level of confidence and experience, adequate self-control.

Category 2 - Dogs with critic adoptability ($60 \leq DAI \leq 79$): insecure individuals with behaviors of fear and anxiety and / or with insufficient self-control, no aggressive behavior. To this group belong “potentially easier to manage” dogs, but the foster owners must be experienced.

Category 3 - Dogs difficultly adoptable ($DAI \leq 59$): subjects requiring behavioural therapy, with aggressive behavior, insecure and not very adaptable and/or with inadequate self-control.

Results

In the table 4, the DAI of the animals included in this research are shown. Category 1 includes 57.7% of subjects ($n=15$), category 2, 25.9% ($n=7$) and category 3, 16.4% ($n=4$).

The sample examined had a minimum score of 50.5 and a maximum score of 92.5.

17 of the 26 dogs examined in the present research were adopted.

The percentages of the dogs adopted belonging to the different categories are reported in Fig. 1.

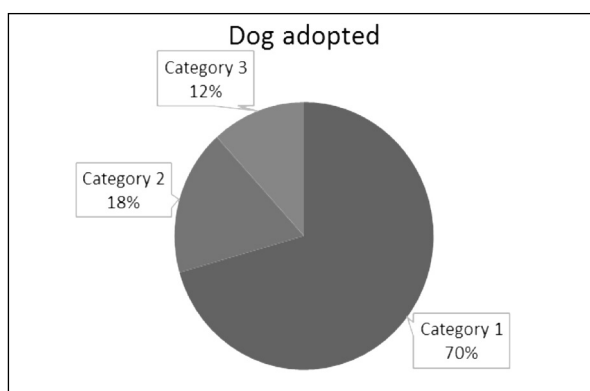


Fig. 1. Percentages of dog adopted in the 3 different categories.

Table 4. DAI of animals included in the research.

Dog	1	2	3	4	5	6	7	8	9	10	11	12	13
Step ₁	2	2	1	-2	0	-5	-1	-1	0	0	-1	-6	-3
Step ₂	12	12	12	12	7	12	12	12	12	12	9	12	8
Step ₃	2	0	2	3	3	2	3	3	3	0	0	2	3
Step ₄	68	69,5	75,5	69,5	71,5	60	71,5	71	77	72,5	69,5	74	49,5
Total	84	83,5	90,5	82,5	81,5	69	85,5	85	92	84,5	77,5	82	57,5

Dog	14	15	16	17	18	19	20	21	22	23	24	25	26
Step ₁	-4	-2	-5	0	0	-1	1	-2	2	1	-10	2	2
Step ₂	12	7	12	12	8	12	6	5	12	12	0	12	11
Step ₃	3	0	1	3	3	3	3	1	2	1	3	3	3
Step ₄	63	50	57,5	68	73,5	53	56,5	46,5	76,5	77	66,5	61	73,5
Total	74	55	65,5	83	84,5	67	66,5	50,5	92,5	91	50,5	78	89,5

Discussion

The aim of the present study was to examine whether a test could detect behavioral traits of shelter dogs attracting future owners.

The number of dogs in shelters is in fact growing, despite all efforts to avoid abandonment and unwanted births of animals.

Very often, the person who decides to adopt a shelter dog makes a choice based more on emotion of the moment than on information about the behavior of the dog.

In some kennels the practice of taking a pre-adoption path exists and, during this period, the new owners get to know the dog, but, in many situations, the adoption is blindly effectuated.

It is therefore necessary to assess the dog's behavior so one can find the best location for the animal and protect the safety of foster people.

The behavioral assessment of a dog is a long and delicate process (Wells & Hepper, 1992). For this reason it is necessary to get as much information as possible from people who know the animal in the most common everyday situations.

In addition to aggressive dogs, both toward the man and conspecifics, there are the animals that require careful management. Dogs that are victims of abuse or raised in a poor stimulating environment can develop generalized phobias, with serious risks to their well-being. Moreover a correct and accurate behavioral assessment of the kennel dogs must be supported by a significant survey on the needs and lifestyle of the adopter in order to improve the effectiveness of adoptions, thus decreasing re-entry (Giussani, 2002).

For this reason, the test subjects the dog to a number of environmental stimuli that are common in everyday life.

The investment of energy from the staff of the shelter and dog trainers must not only focus on the animals considered of critic adoptability, but rather should make them even more attractive. In fact the adopters are likely most influenced by variables that were readily observable in a few seconds, such as the overall look of the dog and the information that was written on the cage card. This information may be used by shelters to maximize adoptions and prioritize resources. For example, instead of introducing a training program, shelters may elect to enhance the physical appeal of the dogs (Protopopova et al., 2012).

Training shelter dogs may still be beneficial for reasons other than increasing adoption success (Luescher & Medlock, 2009). For example, human interaction and exercise may increase the welfare of the dogs during their stay at the shelter (Coppola et al., 2006, Bergamasco et al., 2010).

For all these reasons, the collaboration and the availability of kennel staff are essential to increase the index of adoptability.

The possible implementation of educational pre-adoption programs would be crucial in preparing dogs adoption. Staff members and volunteers can guide adopters toward a choice of animal that best fits their lifestyle and living situation (Weiss et al., 2012).

Attention should be provided as well, as the information provided by the staff members or volunteers about the pet should be accurate, as sending adopters home with incorrect information about what to expect regarding their new pet could put the bond at risk (Haupt, 1996).

In conclusion a test that evaluates the adoptability of the dog is an important preliminary screening tool that allows identification of the animals that can be immediately adopted and others requiring a preparation course. Indeed, it is very important to identify problematic dogs and to subject them to a behavior modification program to make them adoptable as soon as possible. Only in this way the kennels will become places for dog redevelopment and will fulfill an important social function, protecting and increasing animal welfare.

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Valutazione dell'adottabilità del cane di canile attraverso un test comportamentale

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Sintesi

La legge italiana 281/1991 prevede che i cani senza proprietario non siano più soppressi ma conferiti a canili. Questo fatto ha provocato nel corso degli anni un notevole aumento degli animali ospitati nei canili poiché le adozioni da parte di privati non sono sufficienti.

Lo scopo della presente ricerca è stato quello di mettere a punto un test che permetta di valutare l'adottabilità del cane, fornendo uno strumento per identificare i cani rapidamente affidabili a nuovi proprietari ed individuando animali problematici che possano essere recuperati con adeguate terapie comportamentali e/o farmacologiche.

Per la ricerca sono stati utilizzati 26 cani ed il test per la valutazione della loro adottabilità si è svolto in 4 differenti parti.

Parte 1: Valutazione di alcuni parametri importanti del cane che non sono modificabili attraverso programmi di rieducazione come età, taglia, colore del mantello, morfologia.

Parte 2: Informazioni sul comportamento del cane ottenute da operatori di canile nella routine comune.

Parte 3: Reazione del cane all'avvicinamento al box di una persona estranea.

Parte 4: 13 subtest svolti in un ambiente con stimoli uguali a quelli che il cane troverà nella vita familiare e cittadina.

I punteggi ottenuti nelle 4 parti del test contribuiscono a creare l'Indice di Adottabilità (IDA), un valore che indica il livello adottabilità che ogni cane possiede in base alle sue specifiche caratteristiche.

In base ai valori ottenuti sono state create 3 categorie di animali:

Categoria 1: Cani immediatamente adottabili con valori di IDA ≥ 80 .

Categoria 2: Cani con adottabilità critica, con valori di IDA tra 60 e 79.

Categoria 3: Cani immediatamente adottabili con valori di IDA ≤ 59 .

I cani esaminati hanno ottenuto IDA compreso tra 50,5 e 92,5. 17 dei 26 cani esaminati sono stati adottati: il 70% dei cani adottati apparteneva alla categoria 1, il 18% alla categoria 2 ed il 12% alla categoria 3.

In conclusione è molto importante, secondo questi dati preliminari, identificare i cani problematici e sottoporli ad un percorso di modificazione comportamentale in modo da renderli quanto prima adottabili. Solo in questo modo i canili diventeranno luoghi di riqualificazione del cane e assolveranno un importante compito sociale, proteggendo il benessere animale.