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Master's Thesis
Academic Year 2023

The Interaction Research for Adoption Events to
Promote Adoption Rate of Stray Dogs



Keio University
Graduate School of Media Design

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A Master's Thesis
submitted to Keio University Graduate School of Media Design
in partial fulfillment of the requirements for the degree of
Master of Media Design

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Abstract of Master's Thesis of Academic Year 2023

The Interaction Research for Adoption Events to Promote Adoption Rate of Stray Dogs

Category: Action Research

Summary

China has a large number of stray dogs, and the problem of stray dogs is becoming a major social problem that cannot be ignored in the course of urban development. Due to insufficient control measures from the government, the rescue of stray dogs is basically formed spontaneously by non-governmental rescue organizations. However, current rescue organizations are facing a shortage of space and funds. Only when more rescued stray dogs are adopted can rescue organizations form a better-closed cycle, operate better, and help more stray dogs. In terms of stray dog adoption, the majority of stray dogs in China are native mutts, and people's preference for purebred dogs is a barrier to their adoption. Therefore, this study aims to reduce the influence of pedigree on adoption decisions and increase the adoption rate of stray dogs during adoption events.

Based on the "Human-animal Interaction Scale" and the "Companion Animal Bonding Scale", this study confirms that effective interaction between potential adopters and rescued dogs increase the attachment of potential adopters to dogs thus increasing the adoption willingness.

This study found that interaction can effectively increase potential adopters' attachment and willingness to adopt a stray mutt. Based on the results of this study, the paper also suggested corresponding interactive services for future adoption events of stray animal rescue organizations.

Keywords:

stray dogs, human-animal interaction, attachment, adoption willingness

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Xuanjin Gao

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Chapter 1

Introduction

1.1. Background

1.1.1 China's pet market

According to "White Book of Pet's Industry in China", China's pet market size reached 249 billion yuan in 2021(Figure 1.1), achieving 20.4% year-on-year growth with a CAGR of 13.4% over the past three years, higher than the United States and Japan.

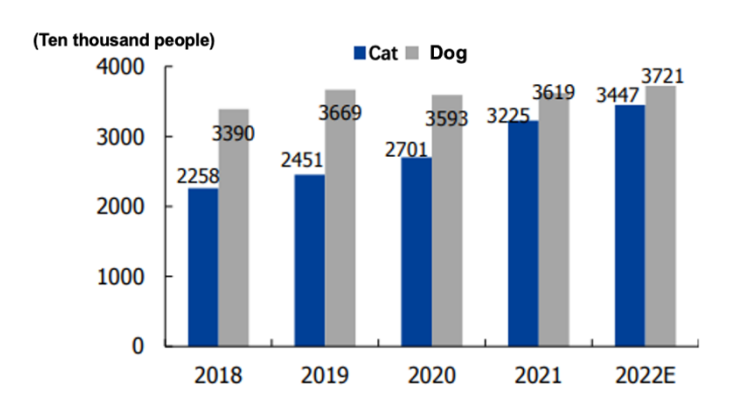


(Source: "2021 White Book of Pet's Industry in China" of GUOSHENG SECURITIES INSTITUTE)

Figure 1.1 China's pet market size and growth

Although the number of pet owners is increasing (Figure 1.2), due to the late start, China's pet market penetration rate in 2019 is only 17%, compared to the United States 67%, Australia 62%, and the United Kingdom 44%, there is still

much room for improvement.



(Source: “2021 White Book of Pet’s Industry in China” of GUOSHENG SECURITIES INSTITUTE)

Figure 1.2 The number of pet owners in China

According to the Asia Pet Alliance Institute’s ”Blue Book of Pet’s Industry in China ”, from the perspective of pet acquisition, although the proportion of pets acquired through adoption increases significantly to 33% in 2022 as the concept of “Adopt, Don’t Shop” has become popular, the proportion of pets acquired through offline channels is still as high as 52%, which is still the main way to obtain pets.

1.1.2 Animal protection law

In foreign countries, Germany, for example, is the first country to write animal protection into the constitution, and for the adoption of stray animals, once the agreement is reached, it can not be abandoned at will, malicious abandonment of pets will face a huge fine of 20,000 to 30,000 euros [5].

In contrast, at the animal rescue level in China, only a few cities have set up stray animal management agencies, and most of the provincial rescue organizations are private organizations formed by caring people on their own initiative, and their funding and material sources are obtained by volunteers through charity sales or fundraising.

At the legal level, China’s mainland has not yet introduced similar to the ”An-

imal Protection Law”, laws and regulations relating to the protection of stray animals. There are no effective legal means to combat the abandonment of stray animals and abusive behavior.

1.1.3 Animal welfare

The concept of animal protection and ecological civilization has always been a concern and advocated by people. The World Organization for Animal Health has released the concept of animal welfare, that is, animals should adapt to the environment they live in and meet their basic natural needs. Animal welfare consists of five basic elements: 1. physiological welfare, that is, to ensure that animals have basic food and water; 2. environmental welfare, which refers to the need to allow animals to have proper shelters; 3. health welfare, mainly to reduce animal injuries and diseases; 4. behavioral welfare, that is, to ensure that animals can freely express their nature; 5. psychological welfare, that is, to ensure that animals are free from the situation of fear and anxiety.

Many scholars have also studied animal welfare, rights, and interests. Peter Singer, a representative scholar of animal welfare theory, believes that humans should not use animals as tools and means and that animals can be treated as moral subjects, while their most basic right is to be free from suffering. In terms of rights and interests, animals and humans should be given equal weight, which is known as the principle of equal consideration of interests [6].

1.1.4 Stray animals in China

Overall situation

According to WHO statistics, there are more than 200 million stray dogs in the world, and China has 40 million, accounting for one-fifth, and the number is still increasing sharply by 1.5 times every year. The problem of stray dogs has gradually become a major social problem that cannot be ignored in the process of urban development in China, and it currently exists in major cities in China.

Definition of stray dogs

”Survey on the Cost of Stray Dogs in the UK and the Implementation of the Dog Registration System” defines stray animals as animals that wander around without being controlled by their owners [7]. It is worth noting that the vast majority of stray dogs are mutts in China.

Hazards of stray animals

Stray animals live in poor environmental conditions due to their long-term unstable and unmanaged status [8] and are prone to carry various pathogenic microorganisms in their bodies [9]. Stray dogs and cats have a high rate of *Toxoplasma gondii* and digestive tract parasites, and the wide range of activities of stray animals makes it easier to spread parasites, which should be given high priority in public health [10].

In addition to spreading diseases, uncontrolled stray dogs may also endanger the public safety of society. In addition, stray animals are not only a threat to the ecological environment because of the environmental pollution caused by their excrement and carcasses, but also an important cause of biodiversity loss and species extinction [11].

Definition of purebred and mutt

Purebred: In a narrow sense, a dog that is registered with the Breeders’ Association and has a proven pedigree, the offspring of a purebred dog of the same breed that meets the Breeders’ Association’s definition of such a dog is considered purebred.

Mutt: A mutt is a dog that is bred from a cross between different breeds of dogs. And mutts make up the vast majority of stray dogs in China.

1.1.5 Rescue of stray dogs

Rescue organizations

In China, some cities where the government is the main body controlling stray animals have made initiatives for the sheltering of stray animals, but they have

not achieved significant results. The limited number of places for adoption and the large number of stray dogs who need to be adopted have created a contradiction [12].

Animal shelters are mostly funded by private individuals, and given the long-term and complex situations of rescue work, there is a significant shortfall in the number of stable rescue workers. The lack of effective collaboration among existing institutions is also a major problem, as most of them face the embarrassing situation of limited space and lack of funds [13].

Preference for breed dogs

Only by increasing the adoption rate of rescued stray dogs can we improve the welfare of dogs and reduce the burden on rescue organizations, thus enabling the relevant organizations to rescue more stray dogs and form a good closed cycle. By consulting with the people in charge of rescue organizations in China, the author also learned that many people still prefer purebred dogs when adopting stray dogs, but in fact the vast majority of stray dogs in China are still mutts. Therefore, the only way to better solve the problem is to reduce the influence of breed on the willingness to adopt and to increase the adoption rate of mutts.

1.2. Research Problem

In China, the increasing problem of stray animals not only affects people's life, but also makes more pressure on rescue organizations, and people's preference for stray dog breeds makes it difficult to form a good closed-cycle rescue business. There are few studies on the adoption of stray dogs in China, and they mainly focus on policy formulation or APP design; there are studies on the adoption factors of stray dogs in foreign countries, but there is a lack of research on human behavior to enhance the adoption intention from the actual interaction.

Therefore, this study aims to explore the current situation in the field of stray dog adoption in China and to fill the theoretical gap of whether interactive can increase the willingness to adopt, hoping that the study can increase the adoption rate of stray dogs in China and help improve the situation of rescue organizations.

1.3. Research Goal

1. To understand the current attitude toward adopting stray dogs in China.
2. To study if interaction can increase people's attachments towards rescued dogs thus improving the willingness of adopting mutts.
3. To improve the service of stray dogs' adoption and promote the solution to the problem.

1.4. Thesis Structure

Chapter 1

Describes the current state of the research problem and also indicates the research questions and objectives.

Chapter 2

The literature review of the stray dog problem in China and other countries. The related work on solving the stray dog problem is also presented.

Chapter 3

The methodology used in this study is explained. The results of the questionnaire are used to show the local situation of the problem in China. The details of the hypotheses and the research settings are described.

Chapter 4

Explains the experiment conducted to test the hypotheses, including the dog, participants, scales, and procedures used in the experiment.

Chapter 5

The results and discussion of the experiment, summarize the entire research and discuss its limitations and future work.

Chapter 2

Literature Review and Related Works

2.1. Research on Stray Animals in China

Although the problem of stray animals in China is in serious situation, the research on stray animals is mainly focused on the legal, ethical, and moral aspects of stray animals and the comparative analysis of domestic and foreign control methods. For example, Zhong Chuihong studied the tort liability for damage caused by stray animals from a legal perspective and proposed the establishment of a social relief fund for damage caused by stray animals [14]. He Yuanyuan emphasizes animals' rights to survival from a sociological perspective and proposes to promote the protection of stray animals by strengthening legislation and management of animal protection organizations [15]. Many scholars such as Zhang and Yin analyzed the more mature experiences of foreign countries in rescuing stray animals, compared the shortcomings in the field of stray animal rescue in China, and suggested that China should develop a complete legal system, improve the procedures of pet registration, and increase government funding and publicity for stray animal rescue [16].

2.2. Research on Stray Animals in Other Countries

2.2.1 Rescue of stray dogs

Natasha Janke et al. studied the euthanasia of healthy stray animals due to lack of space in animal shelters and suggested that strategies should be developed to

reduce the time stray animals spend in animal shelters and increase the number of stray adoptions as a way to improve the welfare of stray animals and solve the problem of animal overpopulation [17].

Ricardo et al. investigated the size and spatial distribution of stray dogs and found that the main reason for the accumulation of stray dogs was the food distribution by school personnel, suggesting that people should systematically manage and regulate stray animals instead of numbly providing food and prohibiting pet abandonment [18].

In India, Sarah C. Totton et al. have used birth control to reduce the spread of disease and improve the health status of stray dogs [19].

Domenico Otranto et al. conducted a global study of zoonotic parasitic diseases in stray dogs and rescue shelters in terms of health and disease and advocated that government health departments should provide assistance and policies to reduce the risk of infection in humans and animals [20].

2.2.2 Factors of stray animal adoption

Katrina E. Holland’s research highlights multiple factors that may affect the decision-making of prospective dog owners when acquiring a pet dog and summarizes these factors into two categories, among which Human-related factors include those elements such as “prior dog experience, age, gender, ethnicity, income, education, household structure and social influences of the breed”; dog-related factors such as “dog’s appearance, such as dog’s breed, size, coat length and coat color [21], health and reproductive status— [22–25], age, temperament, behavior, source and breed health [26]”.

Studies have found that puppies are easier to be chosen to adopted [27–29], which is the same in China’s adoption market. Also, studies have found that dogs’ behavior and temperament are related to adoption decisions [30,31]. Many dog owners have stereotypes about the behavior of shelter dogs, which also prevent them from making adoption decisions and make them turn to purebred dogs [32]. Moreover, the preference for appearance [25] and people’s pursuit of breeds dogs may also prevent people from adopting mutts from the shelter [33]. So, how to break the stereotype of the relationship between breed, age, and behavior is the key problem to solve to lead people to consider adopting mutts from shelters.

2.3. Human-animal Interaction

The term “Human–animal Interaction (HAI)” is used not only for “pet ownership, therapeutic intervention”, but also for human-animal contact [3].

“The Human–Animal Interaction Scale” designed by Angela, Thomas, Elizabeth, and Ryan measured behavioral HAI as a construct [3]. It assesses and quantifies those observable interactions between humans and animals.

2.4. Related Works

In order to promote the adoption rate of stray dogs in rescue centers, there are different practices around the world to promote the connection between people and rescued stray animals. In addition to policy implementation, current practices aimed at improving the welfare of stray animals are as follows:

- Platform/App Design
- Shelter Design
- Adoption Information Poster
- Rescued Animal CAFÉ
- Adoption Events

2.4.1 Platform/App design

The current design for solving the stray animal problem mainly focuses on the design of the Internet platform and Apps. By building and optimizing the rescue public service system (Figure 2.1), and the stray animal rescue ecosystem [34], the service experience is increased, and a better information-sharing platform for rescue organizations and individuals is provided, which improves the rescue rate of stray animals.

2.4.2 Shelter design

The designs of the rescue centers are more focused on the design of the stray cat shelter. For example, Li Xue discussed the gap between Chinese and Western stray cat rescue ideas and theories and studied the gap between hardware and



(Source: Master Thesis of Ji Hao [35])

Figure 2.1 Public stray animals adoption service system

space design in rescue centers from the perspective of space design [36]. Baidu engineers use the technology of Baidu’s customized training and service platform EasyDL to design a shelter for a large number of stray cats - Baidu Smart Cattery (Figure 2.2). It is a shelter with AI and facial recognition for stray cats. Cameras inside the shelter can check cats’ health.



(Source:<http://en.people.cn/n3/2019/0130/c90000-9542619.html>)

Figure 2.2 Baidu Smart Cattery

2.4.3 Adoption information poster

Online

Adoption information is now released mainly through online social media. The advantage of this form is that it reaches a wide range of audiences, it has lower requirements for rescuers to release information, and it has established a good bridge between individual rescuers and the general audience. Moreover, Kristen Bell found that there is no preference when Twitter users promote dogs’ information [37]. Thus, it can be seen that using social media as a promotion platform for stray dog profiles is a fair and advantageous communication method.

Information on the rescue of stray animals in China is mainly concentrated on social media platforms such as Red Book, Weibo, and WeChat. Rescue organizations or independent rescuers can use videos, pictures, etc. with explanatory text or describe the tragic life of stray dogs to attract adopters (Figure 2.3).



(Source: Red Book)

Figure 2.3 Information of the stray dog to be adopted

Offline

The offline adoption information is reflected in some specific occasions, such as pet-friendly restaurants, where the store spontaneously arranges an area to display photos and information about the animals to be adopted to attract customers to adopt them (Figure 2.4). The adoption board in the pet-friendly Starbucks says "Adopt, Don't Shop" and shows photos and details of the dogs to be adopted.



(Source: Red Book)

Figure 2.4 Adoption board in Starbucks

2.4.4 Rescued animal CAFÉ

In many countries such as America and Japan, there are also rescued animals cafes for those potential owners to touch those abandoned animals (Figure 2.5). Although this form is mainly cat-based, its good effect is also suitable for dogs as the main part and to practice in China.



(Source:<https://www.neco-republic.jp/>)

Figure 2.5 Stray cat café in Japan

2.4.5 Adoption Events

Currently, offline adoption days are prevalent in China and are mainly organized by rescue organizations. Adoption days provide potential adopters with the opportunity to get closer to the animals they are interested in adopting, and through actual communication and contact, they can get to know their desired adopters better.

Individual-based adoption days

This type of adoption day is mostly a rescue organization that coordinates the venue and disseminates information, and individual rescuers bring their rescued stray dogs to the venue on the designated adoption day to display and interact to find adopters. In this form of adoption day, the range of activities for dogs is small and the form of interaction and communication is more limited and fixed (Figure 2.6).

Organization-based adoption days

This type of adoption day involves a rescue organization bringing all of its dogs for adoption to a designated area on a designated day. All dogs are often left free



(Source: Red Book)

Figure 2.6 Tianjin Pet Adoption Day held in Tianjin Bay Mall

to interact with people in an area (only a small number of puppies are confined to a certain area). In this kind of adoption event, the dogs have a larger range of activities and more freedom, and interaction with potential adopters can be more varied (Figure 2.7).



Figure 2.7 The adoption day held by THE SOMEONE in Shanghai

Chapter 3

Research Design

As seen above, the problem of stray dogs in China is becoming increasingly serious. Breed dogs are preferred to be chosen than mutts in the aspect of stray dog adoption in China, while mutts make up a large portion of stray dog rescues and have a greater demand for adoptions. Although rescue organizations are working hard to increase the adoption rate of stray dogs, current adoption days only create a platform between dog lovers and stray dogs. The lack of an interactive makes many potential adopters not know where to start to interact closely with rescue dogs, especially those new to dog raising. On the one hand, the lack of effective interaction will reduce the attractiveness of dogs to potential adopters, thereby reducing the adoption rate; on the other hand, to a certain extent, it will also cause mistakes in adoption decisions, leading to higher abandonment rates.

In order to better promote the effect of the adoption day, increase the adoption rate of stray dogs, reduce the burden of rescue shelters, and form a good cycle for stray dog rescue, the author proposes this action research to find whether certain interactions between prospective owners and rescued dogs would reduce the influence of pedigree on the selection of stray dogs, thus to increase the potential owners' attachments towards rescued dogs, as well as increase their willingness to adopt.

3.1. Design Concept

3.1.1 Attachments to animals

As researchers found, although the appearance may stimulate interest, the interaction between rescued dogs and humans is important for making adoption

decisions [26]. Protopopova also found whether dogs are responsive or willing to lie closer to adopters also impacts adoption decisions [38]. Moreover, direct interaction between adopters and rescued dogs is important to see whether they are choosing the right dogs [39].

Attachment is a “bond, affectional tie, or enduring relationship [40]”. Moreover, attachment behavior such as “eye contact”, “following”, and “touching” enhance the bond [41]. “The Companion Animal Bonding Scale” is a reliable and valid measure used to assess a human’s bond with the pet [4]. From this, we can see that the interaction between humans and animals can also manifest and enhance the bond between humans and animals. Hall et al. found through experiments that the emotional connections are stronger for Companion-animal owners [42], and a higher average Pet Bonding Scale score means the owners are happy to pet their pets [43]. So, the bond between people and pets is directly proportional to the attachment. Therefore, we deduce from it:

Hypothesis 1: The attachment between prospective adopters and rescued dogs can be enhanced by the interaction between people and stray dogs.

3.1.2 Willingness to adopt

It can be seen from the literature that although appearance and breed are very important for the selection of dogs, dogs’ temperament and behavior that potential adopters perceived during the interactions may also be important for adoption decision-making [30, 44, 45]. Therefore, the emotional bond generated through interactive behavior and the attachments it represents also play an important role in adoption decision-making, and it helps to build better satisfaction for owners when they “adopt a dog for companionship and affection” [46], that is, developing deeper emotional needs to adopted animals also have a positive effect on the adoption relationship. Therefore, we deduce from it:

Hypothesis 2: The improvement of the attachments between the prospective adopter and the rescued dog can enhance the adoption intention of the prospective adopter.

3.2. Research Process

This study first collects data and analyzes available information to provide a preliminary analysis and understanding of the stray dog adoption problem and to analyze and formulate hypotheses about the situation and adoption of stray dogs in the Chinese context.

Through questionnaires, the author further verifies the verbal information collected from the internet and rescue organizations and uses actual data to show that purebred dogs are more likely to be selected than mutts in China, and to explore the attitudes and psychology of potential adopters towards stray dogs.

Through interviews, ethnography, and field works, the author explores the psychology and needs of Chinese rescuers and potential adopters when adopting stray dogs.

Following the Input-Environment-Output Model, the interaction process is designed to provide a platform for the target users to communicate with the rescued stray dogs in depth. Feedback is received before and after the interaction and subsequent reviews to confirm that the design is effective and meets the needs.

3.3. Attitude towards Stray Dog Adoption in China

It is clear from the literature study in Chapter 2 that breed plays a key role in stray dog adoption in western countries. To verify whether this factor plays an influence in the field of stray dog adoption in China, the authors collected 110 questionnaires to understand people's preference for adopting stray dogs and the different emotions for adopting purebred or mutt.

3.3.1 Questionnaire setting

In addition to investigating Chinese people's preference for adopting purebred or mutts, questions were also included in the questionnaire to investigate the difference between people's feelings about these two types of stray dogs. For the identification of feelings, the scale used was Edmund R. Thompson's "Short-form of the Positive and Negative Affect Schedule (PANAS) [2]" (see Appendix A). It includes five positive affect and five negative affect and uses ten words translated

into Chinese by professional psychologists and English speakers [47]. However, because the word “Alert” has different meanings in different sociocultural contexts, it is only used for positive affect in the U.S. sample, while it covers negative affect in the Chinese context [48], the author replaces ‘Alert’ with ‘Excited’, a common positive emotion word in the adoption of stray dogs, to reduce the bias caused by the ambiguity of words in different cultural and social backgrounds. The final questionnaire is shown in Appendix B.

3.3.2 Analysis

After the questionnaire was released, 110 data were obtained, including 110 valid questionnaires. The questionnaires were filled out by 51 men, 58 women, and 1 LGBTQ. Age groups range from under 18 years old to over 50 years old. The main population is concentrated at 19-30 years old, a total of 87 people, accounting for 79.09% of the total. According to APA Institute: “China Pet Industry Blue Book”, it is also the mainstream group of people who keep pets in China.

Preference for purebred dogs

When choosing to adopt a stray dog, under the same conditions (age, size, gender, health status, etc.), the number of people who are willing to adopt purebred dogs is about twice that of mutts, accounting for 67.27%. This shows a huge difference in breed preference, which confirms that purebred dogs are more likely to be selected than mutts in China. Those who prefer to select purebred dogs mainly believe that purebred dogs are more noble, stable, and better looking. Those who prefer mutts mainly believe that mutts have fewer genetic diseases and are easier to raise.

Differences in affect for purebred and mutts

Although there is an innate preference for purebred dogs, there is no obvious difference between the positive and negative feelings of purebred or mutts (see Figure 3.2). This shows that people do not have an innate bias or negative attitude toward stray mutts. This also shows the feasibility of designing interactive activities to increase people’s willingness to adopt stray mutts.

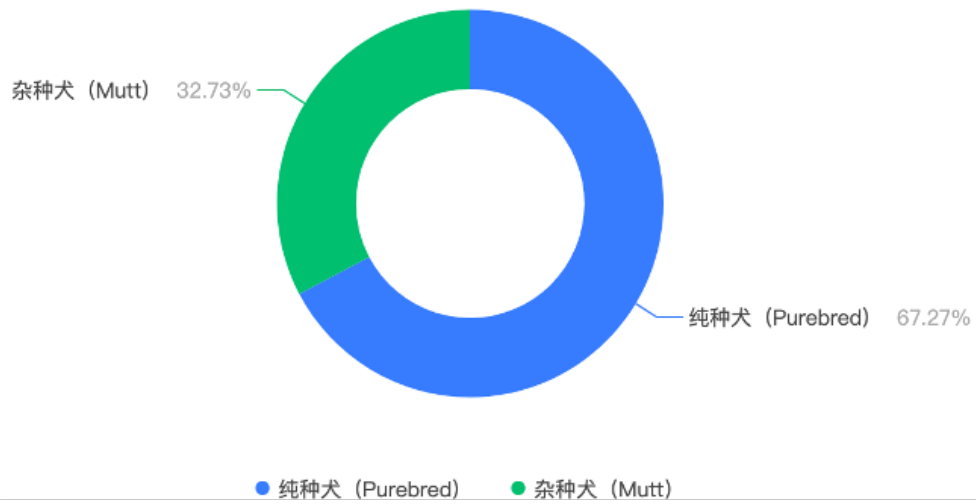


Figure 3.1 Preference for purebred dogs

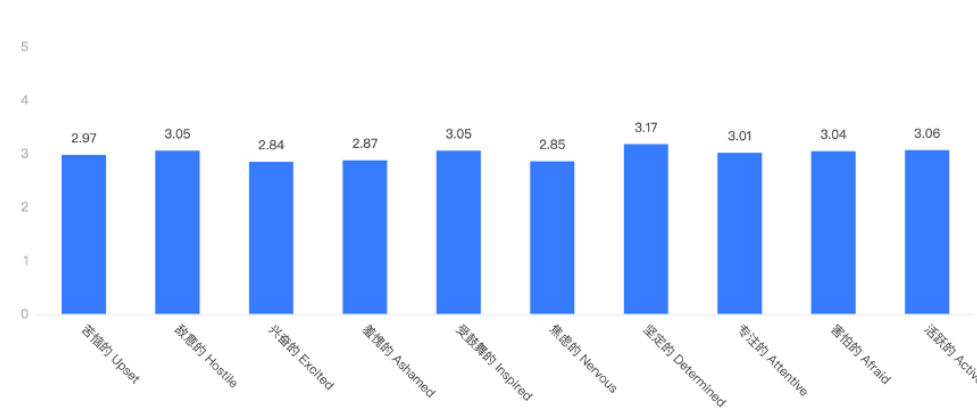


Figure 3.2 Positive and Negative affect for purebred and mutts

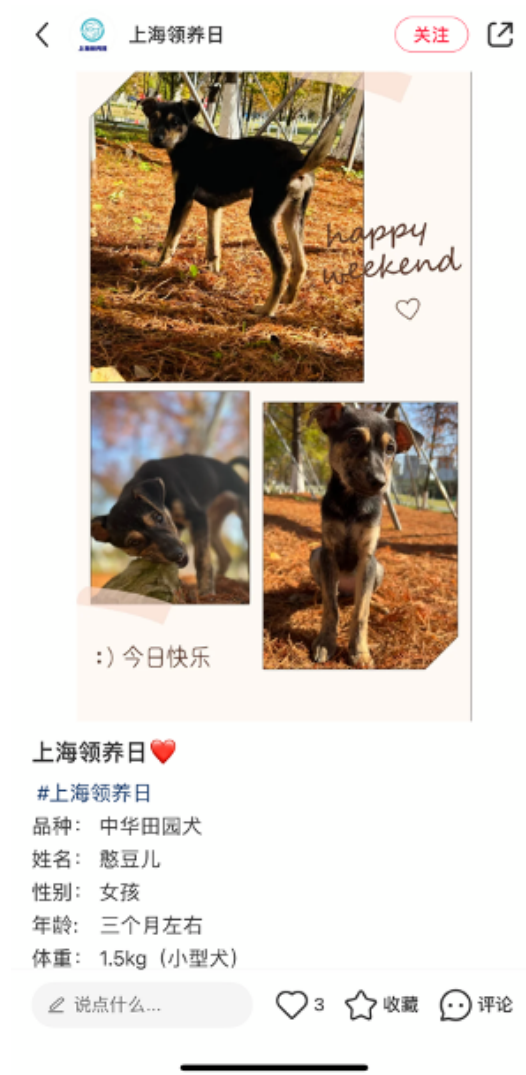
3.4. Ethnography

In order to better understand the situation of stray dog adoption in China, the author contacted individual rescuer and rescue organizations, observed and interviewed online and offline adoption activities, in order to better understand the psychology and needs of stray animal rescuers and adopters, thus to design an interactive service design suitable for offline scenarios.

3.4.1 Online adoption information

The online mode is mainly concentrated on social media platforms. Rescuers post rescued stray dog information and stories in private or rescue organization accounts (see Figure 3.3). People can chat privately with rescuers and make an appointment for offline meetings and adoption procedures. The advantage of this mode is that it has a wide range and reaches many potential audiences. The platform will show it to users who like animals (especially dogs) according to the algorithm.

However, this mode of adoption also has major disadvantages: first, the adoption information posted on the online platform is dominated by the visual aspect. As a result, the breed and appearance of the dog to be adopted play a greater role in whether or not it is selected. This characteristic also makes mutts less desirable for online adoption than purebred dogs. In addition, photos or videos and narrative text alone do not provide a true sense of the rescued dog's temperament and behavior, and the actual arrival at the rescue site and contact with the dog may not be what is expected, which increases the cost to potential adopters. Moreover, visual information is not as direct and profound as the information conveyed by multi-sensory stimulation such as vision, touch, smell, and hearing. Realistic interactive experiences not only allow potential adopters to better understand the dog and thus pick a dog that is more suitable for them, but also facilitate the communication of multi-sensory stimuli, making the connection between human and dog stronger and possibly increasing the willingness to adopt.



(Source: Red Book)

Figure 3.3 Rescued dog information on social media

3.4.2 Offline adoption events

As mentioned in Chapter 2, offline adoption events are mainly divided into two modes. Exclusive adoption days for individual rescuers or rescue organizations.

Individual rescuer

The mode is that one rescue organization is responsible for the implementation of the venue and the promotion of the event. Individual rescuers participate in the event and bring their rescued stray dogs to the site for display and interaction. A typical example is the Shanghai Adoption Day event, as shown in Figure 3.4. It allows one volunteer to manage a few dogs. However, the dogs have only a small range of activities, and the interaction with potential adopters is more limited. The temperament and behavior shown by the dogs in the narrow range may be largely different from their usual.



(Source: Red Book)

Figure 3.4 Shanghai Adoption Day

From interviews with individual rescuers on the adoption day event, it is learned

that most of these adoption days are temporary events in the business district. Sometimes adopters are attracted to adopt a dog on a whim while shopping, but in this case, it is mainly because of the appearance that attracts the adopter, and the lack of understanding of the dog's personality is not conducive to a long-term adoption relationship. Often, not many people come to inquire about the dog during an adoption day. Especially in the winter, outdoor adoption days can be challenging for both people and animals.

Through interviews with potential adopters, it is learned that this type of adoption activity will make people feel pressure, only when the willingness to adopt is high will they feel not embarrassed to understand and contact dogs. More open spaces and systematic interaction settings may allow people to do adoption decisions in their interactions with prospective dogs.

Rescue Organization

The main feature of a rescue organization's adoption day is that one organization is responsible to set up the venue and conduct the promotion of the event, and the dogs at the adoption day are provided by the organization. THE SOMEONE's adoption day is a typical example, as shown in Figure 3.5. However, since one rescue organization provides all the dogs, the number of dogs is too large and the number of staff is insufficient. There is a problem that potential adopters want to consult but do not know who to communicate with.

According to the interview with the person in charge of the rescue organization, we learned that breed, appearance, and age are important factors that attract people to decide to adopt. There are new puppies waiting for adoption almost every week. Among them, cute puppies are the most likely to be adopted. It made poor-looking mutts more difficult to be adopted when they are getting older and finally ended up stranded in the rescue shelter. Although many people come to participate in the events every week, many of them are just dog lovers, and the process of confirming adoption is relatively long. For the organization of adoption day events, the most important thing is to be able to attract the right people, make the promotion more effective and reach more target groups.

According to interviews with potential adopters who participated in the adoption day, they like this kind of free and relaxed mode and feel that this mode can



Figure 3.5 THE SOMEONE Adoption Day

better show the true temperaments of the dogs to be adopted. In addition, rescue organizations need to clean up the dogs, which can also improve the willingness to adopt from the senses. However, an overly open adoption day mode will also bring certain problems: first, the number of staff is too small compared to the number of dogs, which will lead to the inability to coordinate on-site after dogs defecate, and fall into chaos. The author heard some potential adopters say after seeing the mess: “Let’s get a cat, and it will take care of its own defecation”; secondly, many potential adopters said that they need a period of time to be alone with their favorite dog for contact and interaction. Some people worry that dogs will enter a state of stress when there are too many people. They think that one-on-one time can make dogs more relaxed so that they can truly feel the state and temperaments of dogs. Although many people expressed their desire to interact with dogs, their inexperience left them wondering where to start and how to approach those rescued dogs; moreover, the overly open mode also makes some potential adopters unable to find the staff when they want to inquire about dogs or adoption matters, so they fall into confusion. Therefore, it is extremely necessary to develop a definite interaction process to provide corresponding information in time.

3.5. Process

3.5.1 Research Subject

A study observed that owners’ experience with dogs is important for making adoption decisions [49]. A good impression of dogs is more likely to motivate people to choose adoption, so the interaction is not limited to adoption days but also includes pet-friendly stores, such as pet-friendly shopping malls or restaurants. These people who maintain a friendly attitude toward the dog are potential adopters of the rescued dog, i.e., the recipients of the service.

3.5.2 Interaction

The dog’s temperaments or behavior was the only character among various selection criteria with a better eventual satisfaction [46]. Therefore, understanding the

personality of a dog is more important to a long-term good adoption relationship than just considering the appearance or the breed. Through in-depth interaction with the dogs to be adopted, people can not only break the stereotype of breed and personality, but also feel the personality and behavior of the dogs to be adopted, thus enhancing the bonding between them, and increasing the potential adopters' attachments to the dogs to be adopted. Fournier, Berry, Letson, and Chanen developed "The Human-Animal Interaction Scale (HAIS)" (Appendix C) to measure the behaviors during interaction [3]. Based on HAIS and features of adoption events, combined with "The Companion Animal Bonding Scale" [4] (Appendix D), the interaction between the potential adopters and rescued stray dogs is designed. See Figure 3.6 for details.

	Item	Definition
Human	Watch the dog	Eyes directed toward the dog
	Spend time near the dog	Within arm's reach
	Pet the dog	Hand on the dog, move from one point to another
	Talk to the dog	Non-command verbal behavior toward the dog
	Play with the dog	Attempt to play
	Hold the dog	The dog is physically on person's body
	Hug the dog	Bring the dog close to heart in an embrace
	Kiss the dog	Lips on the dog, puckered
	Groom the dog	Brush, comb, wash, clip
	Offer food to the dog	Holds or places food in front of the dog
	Attempt tricks/training with the dog	Attempt tricks/obedience, verbal or physical commands
	Take pictures of or with the dog	Take pictures/video with phone or camera
+	Listen to the good behavior of the dog	Staff communicate the good behavior of dogs through language
	Dressing the dog	Put clothes on the dog
	Rest with the dog	Try to relax your mind and body with the dog
	Walk the dog	Take the dog for a walk

Figure 3.6 Interaction between potential adopters and rescued dogs

3.5.3 Interaction Process

The entire process begins when potential adopters enter the Adoption Day event area. The process includes guiding potential adopters to select dogs, guiding interactions, and assisting in follow-up adoption procedures.

First, after potential adopters enter the adoption day area, the author will guide potential adopters to rescued dogs, after viewing them from a distance for around five minutes, potential adopters will select stray dogs with their favorite characteristics or behaviors to have further interaction.

In the interaction stage, the author will guide potential adopters to interact with the selected rescue dog in turn according to the interactive content shown in Figure 3.6. The interaction will gradually go from shallow to deep. For the first minute, potential adopters will be allowed to observe the dogs from a distance. During this stage, the author will introduce the dog's temperament and good behavior. After the initial familiarization, potential adopters will be guided to touch the dog, and at the same time can engage in intimate contact such as petting, hugging, grooming, and kissing for 10 minutes. After this, potential adopters will be guided to have more in-depth interactions with the dogs for 10 more minutes, including training, walking the dogs, feeding, and dressing them. At this stage, potential adopters are able to obtain immediate responses from the dog to their actions and commands. The total interaction time will last approximately half an hour and the time arrangement can be adjusted according to the actual situation. Potential adopters can spontaneously take photos with the dogs throughout the interaction.

After the interaction, the author will ask about potential adopters' willingness to adopt and get timely feedback from them. For those who are willing to adopt, the members of rescue organizations will explain and follow up on the adoption procedures.

Chapter 4

Validation

The experiment consists of the following parts: 1. Attachment assessment, 2. Adoption willingness assessment, 3. Interaction with the dog to be adopted. Two research questions of this study were answered by assessing the effects before and after interactions:

1. Will the interaction between potential adopters and rescued dogs promote the attachment between them?

2. Will the increase in attachment after the interaction between potential adopters and rescued dogs promote the willingness to adopt?

The study proves the value of this service through quantitative and qualitative analysis, and the following sections describe the implementation and evaluation methods of the experiment in detail.

4.1. Experiments

4.1.1 Selected dog

In this experiment, a five-month-old female mutt weighing about 5kg was selected from THE SOMEONE rescue organization, named Ariel, as shown in Figure 4.1. Ariel stayed in the organization for three months and hasn't been adopted due to her breed and appearance. As she aged and matured in size and appearance, the rescuer found it increasingly difficult for her to be chosen to adopt.

The experiments were conducted in a safe and comfortable environment, i.e., in a warm environment with appropriate amounts of water and food for Ariel. In each case involving interaction with participants, Ariel was accompanied by the caretaker (the author) to ensure that no accidents occur. No animal abuse or health hazards occurred during the entire process.



Figure 4.1 Photo of Ariel

Furthermore, during the experiment, the authors acted as a transit home for Arie, ensuring that the emotional and health needs of a normal dog were met. In addition, to increase the likelihood of Ariel’s future adoption, the authors also attempted to train Ariel in simple skills such as sitting and shaking hands.

4.1.2 Participants

In order to find suitable participants for the experiment, i.e. people who like dogs or have the intention to adopt dogs as described in the above chapters, participants were recruited and experimented in the following places: 1. Pet-friendly restaurants, in this case, Shanghai Sur Restaurant and Pet-friendly Starbucks 2. THE SOMEONE Adoption Day event site, 3. Pet-friendly shopping malls –Shanghai AI PLAZA.

There were 25 Chinese participants in this experiment (10 men and 15 women), of whom 2 did not complete the survey due to time issues, and the remaining 23 completed all steps (see Table 4.1 for participant characteristics). The participants covered all age groups over 19 years old and were divided into two groups. The authors modified the scale based on feedback from the first group of participants (4 participants, 3 women, and 1 man, see Table 4.1 from No. 1 to 4) and applied it to the second group (19 participants, 12 women, and 9 men, see Table 4.1 from No. 5 to 25). All participants participated in the interactive experiment out of a voluntary factor after looking at Ariel’s picture or seeing it in person.

4.1.3 Attachment assessment

Lexington attachment scale

“The Lexington Attachment to Pets Scale (LAPS)”, (See Appendix E) developed by Johnson et al. [1] is the most common assessment for human attachments to pets [50]. It assesses through participants’ responses to the corresponding statements. There are three subscales in the assessment: “General Attachment”, “Animal Rights and Welfare” and “People Substituting” [51].

Scale iteration

The LAPS asks participants to rate their agreement to statements listed on the scale on a 4-point Likert scale, from strongly disagree, which is 0 points to strongly agree, which is 4 points. So higher scores mean stronger feelings towards the attachment. However, the context of this experiment was based on a situation where the potential adopters had not yet determined their intention to adopt. Therefore, the author has revised the LAPS statements by deleting the statement that cannot be measured at this stage, such as “My pet means more to me than any of my friends [1]”, and changing the tense to the future tense to fit the current situation.

In addition, after two experiments (first 4 participants), the authors learned from the interviews that the 4-point scale was not precise enough to describe the current stage of emotion. Therefore, in the later experiments, the scale was adjusted to a 6-point scale to obtain a more accurate measure of attachment. Furthermore, in order to avoid misunderstanding and to facilitate the analysis, the author changed the two statements in the scale that require reverse scores, that is “I am not very attached to my pet” and “I think my pet is just a pet” into negative statements, i.e. ”I am attached to Ariel” and “I think Ariel is not just a pet”. The specific measurement statements used in the experiment are shown in Figure 4.2.

4.1.4 Adoption willingness assessment

The willingness of potential adopters to adopt rescued mutts was verified in terms of willingness to foster and willingness to adopt. The specific questions are presented in Figure 4.3, where the willingness to foster and care for Ariel increases indicating more willingness to adopt.

4.1.5 Procedure

The experiment followed the common setting of adoption events, i.e., potential adopters may appear as individuals or may come to the event with their peers. Therefore, in the experiment, no intentional distinction was made between groups of participants, all experiments were conducted under natural group situations.

ITEM	STATEMENT
	General Attachment:
1	I would like to play with Ariel quite often.
2	Owning Ariel adds to my happiness.
3	Ariel and I have a close relationship
4	Ariel makes me feel happy.
5	I consider Ariel to be a great companion.
6	I am attached to Ariel.
7	Ariel knows when I am feeling bad.
8	I would like to often talk to other people about Ariel.
9	I consider Ariel to be my friend.
10	I believe that loving Ariel helps me stay healthy.
11	Ariel understands me.
	People Substituting:
12	I will love Ariel because she will never judge me.
13	I believe Ariel will be my best friend.
14	I would like to confide in Ariel.
15	I would like to show other people photos of Ariel.
	Animal Rights/Welfare:
16	Ariel deserves as much respect as humans do.
17	I believe that Ariel should have the same rights and privileges as family members.
18	I would like to accept Ariel as a part of my family.
19	I think Ariel is not just a pet.
20	I would do almost anything to take care of Ariel.

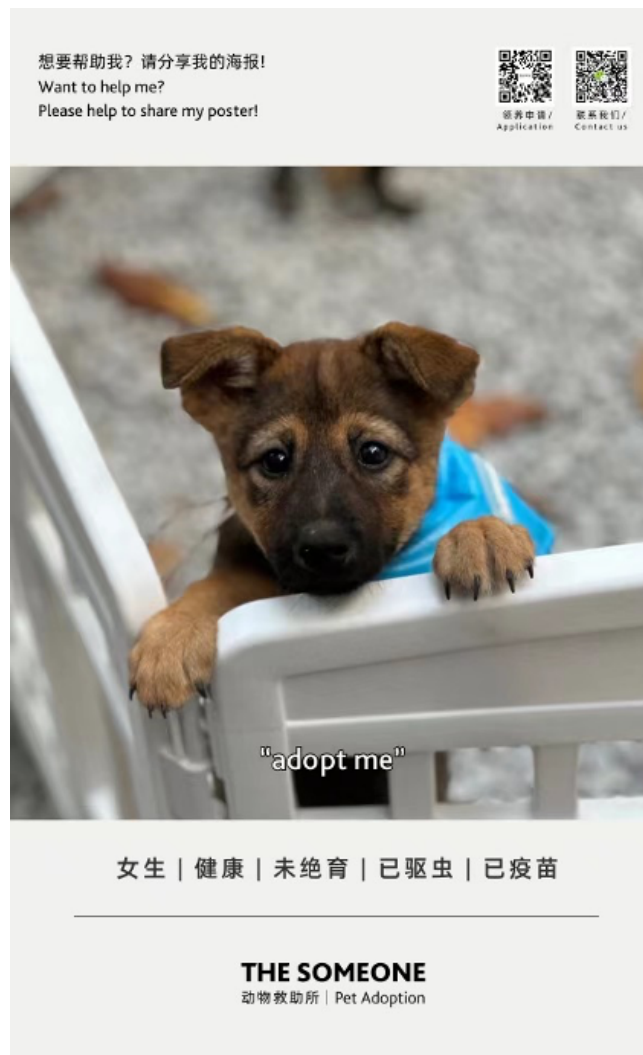
Figure 4.2 Attachment assessment of the experiment [1]

ITEM	QUESTION	ANSWER
1	My affection for Ariel.	From 0-4 points
2	I would like to be a transfer family to take care of Ariel.	Unwilling/ Short-term (1-2 weeks)/Medium-term (less than one year)/ Long-term (more than one year)/Other <input type="checkbox"/>
3	I would like to adopt Ariel.	From 0-4 point

Figure 4.3 Adoption willingness assessment of the experiment

The author asked participants to watch Ariel’s adoption posters and photos online before the experiment, see Figure 4.4-4.6, or just watch Ariel from a distance on the spot, and fill out the questionnaire improved for this research to obtain demographic data about age and gender, and to measure pre-experimental attachment and adoption willingness for Ariel.

The interaction setup during the experiment is described in the previous chapter, see Table 3.1. The authors made sure that all interactions were implemented as much as possible during the experiment. Before and after the interactions, all participants were asked to fill out the same questionnaire they had filled out before the experiment to measure their attachment and willingness to adopt Ariel after the interactions. In addition, after each set of experiments, the authors conducted in-depth interviews with each group of participants as qualitative data to understand their feelings and suggestions about the interactive experience.



(Source:THE SOMEONE Organization)

Figure 4.4 Ariel adoption poster



(Source:THE SOMEONE Organization)

Figure 4.5 Ariel's photo when she was a puppy



(Source:THE SOMEONE Organization)

Figure 4.6 Ariel's photo during the experiment period

Table 4.1 Experiment Participants Characteristics

No.	Age	Gender	Experimental Site	Participation Status
1	25-30	Male	Sur Restaurant	Completed
2	25-30	Female	Sur Restaurant	Completed
3	25-30	Female	Starbucks	Completed
4	25-30	Female	Starbucks	Completed
5	25-30	Female	THE SOMEONE Adoption Day	Completed
6	19-24	Female	THE SOMEONE Adoption Day	Completed
7	25-30	Female	THE SOMEONE Adoption Day	Completed
8	19-24	Female	THE SOMEONE Adoption Day	Completed
9	25-30	Male	THE SOMEONE Adoption Day	Completed
10	25-30	Female	THE SOMEONE Adoption Day	Completed
11	50+	Male	AI PLAZA	Completed
12	50+	Female	AI PLAZA	Completed
13	25-30	Male	AI PLAZA	Completed
14	31-40	Male	AI PLAZA	Completed
15	25-30	Female	AI PLAZA	Incompleted
16	25-30	Male	AI PLAZA	Incompleted
17	31-40	Female	AI PLAZA	Completed
18	31-40	Male	AI PLAZA	Completed
19	19-24	Male	AI PLAZA	Completed
20	19-24	Female	AI PLAZA	Completed
21	19-24	Female	AI PLAZA	Completed
22	19-24	Female	AI PLAZA	Completed
23	41-50	Male	AI PLAZA	Completed
24	31-40	Female	AI PLAZA	Completed
25	50+	Male	AI PLAZA	Completed

Chapter 5

Results and Discussion

5.1. Results

The hypotheses presented in the previous section was verified through experiment:

1. The attachment between the prospective adopters and rescued dogs can be enhanced by the interaction.
2. The improvement of the attachments between the prospective adopter and the rescued dog can enhance the adoption intention of the prospective adopter.

5.1.1 Attachment to the rescued dog

General attachment

Table 5.1 General Attachment Subscale Questions [1]

ITEM	QUESTIONS
Q1	I would like to play with Ariel quite often.
Q2	Owning Ariel adds to my happiness.
Q3	Ariel and I have a close relationship
Q4	Ariel makes me feel happy.
Q5	I consider Ariel to be a great companion.
Q6	I am attached to Ariel.
Q7	Ariel knows when I am feeling bad.
Q8	I would like to often talk to other people about Ariel.
Q9	I consider Ariel to be my friend.
Q10	I believe that loving Ariel helps me stay healthy.
Q11	Ariel understands me.

Q1-Q11 belongs to the category of the General Attachment subscale, and the

statements show the general relationship between the respondents and the dog. For specific statements, see Table 5.1.

The first batch of 4 participants (3 females and 1 male) was measured on the 4-point Likert scale, which was scored from 0 to 3 points. The overall average score for this part was about 1.52 before the experiment. For eleven questions, the overall score is low, which means the attachment to Ariel is low. After the experiment, the score increased largely, and the overall average score of this part has become about 2.36, and the overall attitude is positive.

The second batch of 21 participants, 19 of whom (11 females and 8 males) completed the experiment and were measured on the 6-point Likert scale, which was scored from 0 to 5 points. Before the experiment, the average score of this part was about 3.05. Participants basically held a relatively neutral attitude towards the statements of this part. After the experiment, the overall average score rose to about 4.04, which provides a substantial positive attitude toward Ariel, and the general attachment to Ariel was greatly enhanced.

It can be seen that whether it is the first batch or the second batch, the scores of each statement before and after the experiment have been improved, that is, the interaction with Ariel can lead to an increase in the general attachment of potential adopters.

People substituting

Table 5.2 People Substituting Subscale Questions [1]

ITEM	QUESTION
Q12	I will love Ariel because she will never judge me.
Q13	I believe Ariel will be my best friend.
Q14	I would like to confide in Ariel.
Q15	I would like to show other people photos of Ariel.

Q12-Q15 belong to the People Substituting subscale which "indicates how central the dog is to the respondent's life [51]", see Table 5.2 for specific statements.

Under the 4-point scale measurement of 0-3 points, the overall average score of the first batch of 4 participants towards the people substituting category before

the experiment is 1.125, which basically tends to be neutral or negative. After interacting with Ariel, the overall average score rose to about 2.3, which shows that the score has increased greatly and participants had a positive attitude to all the statements.

The average score of the second batch of 19 participants before and after the interaction rose from 3.235 to about 4.2, which is a very high score on the 6-point scale composed of 0-5 points, which shows that the participants' attitude towards these statements has been greatly improved through interaction.

It can be seen that through interaction, the importance of Ariel to the participants can be greatly increased, i.e., the attachment will become higher.

Animal right/animal welfare

Table 5.3 Animal Right/Animal Welfare Subscale Questions [1]

ITEM	QUESTION
Q16	Ariel deserves as much respect as humans do.
Q17	I believe that Ariel should have the same rights and privileges as family members.
Q18	I would like to accept Ariel as a part of my family.
Q19	I think Ariel is not just a pet.
Q20	I would do almost anything to take care of Ariel.

Q12-Q15 belong to the Animal Right/Animal Welfare subscale which indicates the dog's predicted status in the household after adoption, see Table 5.3 for specific statements.

Under the 4-point scale measurement of 0-3 points, the overall score of the attitudes of the first batch of 4 participants toward animal rights/welfare questions before the experiment is 1.3. After the experimental interaction, the average rose to about 2.05.

Under the 6-point scale measurement of 0-5 points, the overall average score of the second batch of 19 participants toward animal rights/welfare questions before the experiment is about 3.47. After the experimental interaction, the overall average rose to about 4.21.

In this part, participants had a more positive attitude before the experiment, especially on questions about animal rights such as Q16- "Ariel deserves as much

respect as humans do.” and Q17-“ I believe that Ariel should have the same rights and privileges as family members.”. The author believes that these two statements are related to the participants’ original sense of animal rights, and the participants who like animals, themselves have more positive views on such questions.

5.1.2 Adoption willingness

Q21-Q23 are designed to measure participants’ affection for Ariel and adoption willingness before and after the interaction. The before and after perceptions of the 23 participants on these questions are as follows:

For Q21 ‘My affection for Ariel’, a 5-point scale of 0-4 points was used. The average score of the 23 participants’ affection for Ariel before and after the interaction changed from 2.74 to 3.61, which is close to ‘Strongly like’. After the interaction, the people who chose 1 point, that is, ‘Dislike Ariel’, changed from 3 people to 0 people; the people who chose 2 points, that is, ‘Neither like nor dislike’, changed from 5 people to 1 person. Those who chose 3 points changed from 10 people to 7 people. Choose 4 points, that is, the number of people who strongly like Ariel has changed from 5 to 15, accounting for 65.22%, which means most of the participants like Ariel very much. Overall, the affection for Ariel was noticeably boosted by the interaction.

Q22 ‘I would like to be a transfer family to take care of Ariel’ judged the participants’ willingness to raise Ariel to some extent through the survey on the length of time they were willing to take care of Ariel. Before the interaction, 16 of the 23 participants were willing to take care of Ariel in the short term, and only 3 were willing to take care of it in the long term. Through interaction, more people are willing to take care of Ariel for a longer period of time. The number of people who are unwilling to take care of Ariel has changed from 2 to 1, and the number of people who are willing to take care of Ariel in the medium or long term has increased to 6. Although the majority (9 people) are still willing to take care of Ariel for a short period of time, their proportion is also smaller than that before the interaction. Overall, more people are willing to take care of Ariel for a longer period of time after the interaction.

Q23 used ‘I would like to adopt Ariel’ to directly ask participants about their willingness to adopt Ariel before and after the interaction. Before and after the

interactive experiment, the adoption intention for Ariel increased from an average of 1.74 to 2.65. The number of people who strongly disagree to adopt Ariel is reduced from 4 to 1. The number of people who chose 1 point, that is disagreed to adopt Ariel reduced from 5 to 2. The number of people who were neutral fell from 8 to 6. The number of people who are positive about adopting Ariel has increased greatly, and the number of people who are willing to adopt Ariel has risen from 5 to 9, accounting for the majority. The number of people who have a strong desire to adopt Ariel has risen from 1 to 5.

5.2. Discussion

In summary, the experiment revealed that participants' attachment to Ariel, measured in terms of "General Attachment", "People Substituting", and "Animal Rights/Animal Welfare" [1], improved greatly after the interaction. Before the experiment, participants' attitudes toward the various statements of Ariel were mostly neutral, while after the experiment, they became more positive. As for the Animal Rights/Animal Welfare questions, since these statements were related to the participants' own sense of animal rights, the original scores of these questions were high for animal lovers, and the interaction also led to higher scores for these statements. Therefore, the first hypothesis of this study was verified. The results of Q21-23 showed that participants' willingness to care for and adopt Ariel increased after the interaction, so the second hypothesis of this study was verified.

After each experiment, the author also interviewed the participants and asked them about their thoughts and overall changes in their feelings about the interaction, including 1. How you felt about Ariel throughout the interaction; 2. which part of the interaction touched you the most and increased your willingness to adopt; 3. which characteristics of the dog increased your willingness to adopt?

In response to the first question, participants said that the designed interactions gave them a more personal understanding of Ariel's temperament and behavior. Stray dogs inherently give the impression of being timid, fearful, and wary, making them difficult to approach, but through the interactions, the conventional stereotype of mutts was dispelled and Ariel's distinctive character was learned. She is quiet, and friendly but sensitive, evoking a sense of compassion from the

participants, and some even said, 'She is cute and well-behaved and will be a great company'.

For the second question, almost all participants indicated that direct physical contact (e.g., hugging), touched them the most (Figure 5.19, Figure 5.20). When hugging, one can feel a sense of closeness, as well as better feel Ariel's unique fur and experience a sense of happiness. Some participants also indicated that their attachment to Ariel was most enhanced during training interaction (Figure 5.21). The emotional connection between Ariel and Ariel was enhanced when Ariel responded to training and calling by name.



Figure 5.1 Participant1 hugged Ariel

For the third question, many people said that the most important thing is the temperament of the dog. Different participants had different needs for the dog's personality, some preferring the quiet ones and others the lively ones. Through interaction, the participants all said they could better perceive whether the personality of the interacting dogs fit with themselves. In addition to personality issues, there were also a number of people who said that if the dog had received some training would reduce feeding costs and would be more favored. Among all the participants, a girl who was willing to adopt a dog on the adoption day said that she had her own fixed preference for the dog to be adopted, which was long-haired and felt smooth and soft to the touch. Therefore, although the interaction



Figure 5.2 Participant5 hugged Ariel



Figure 5.3 Ariel was being trained

with the dog can make her discard the idea of choosing a purebred dog, she will follow this feature when choosing to adopt a mutt.

During the experiment, Ariel was finally adopted by a pair of sisters after the interaction.

5.3. Conclusion

In conclusion, this study shows that interactions with the dogs to be adopted, especially those that involve actual physical contact or responses from the dogs, such as hugging and training, are effective in increasing attachment between potential adopters and the dogs and increasing willingness to adopt. Therefore, when organizing adoption events, rescuers can increase their staff and set up regular interaction sessions. More time can be allocated to hugging and training during interaction service process so that the rescued dogs can impress potential adopters and be adopted more quickly.

In addition, rescue organizations should not only clean and care for the dogs well to improve the overall appearance of the dogs, but also touch potential adopters by showing the changes in the dogs before and after adoption and accordingly teach some dog-raising experience to people who are new to stray mutts, so as to improve the acceptance of raising mutts and also give potential adopters a reference and warning to reduce the probability of abandonment in the future.

5.4. Limitation

Due to the venue and other reasons, very few of the participants had thought of adopting a stray dog before the experiment. Even on the adoption day, many people came simply to play with the dogs or just to have a look, rather than having a clear intention to adopt a stray dog. Therefore, if we can make more efforts to promote the concept of “Adopt, Don’t Shop” and to promote the adoption day, there would be more people who have the thought of adoption. By attracting more participants who are willing to adopt, more effective feedback may be able to be collected.

Due to the conditions, only one dog, Ariel, was used in this experiment. Although it is the most difficult one to adopt from the rescue center, some participants said Ariel was too cute. In fact, many of the local stray mutts in China are particularly cute, but there is still a stereotype in people's minds that mutts are unattractive, and this also shows that there is room for effort in the promotion of local stray mutts.

5.5. Future Work

This research initially explored human behavior in the field of dog adoption, and further exploration can be made into the human-animal interaction in the field of adoption. In future research, the interaction categories can be further subdivided. Introducing the HAIS scale to measure the actual interaction data to analyze which interaction is the most effective. Refining the interaction information to find out how long the interactions can significantly increase the adoption intention. In addition, studies on this topic could introduce more types of mutts to analyze the differences between mutts with different physical characteristics.

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Appendices

A. The International Positive and Negative Affect Schedule Short Form

The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF) Question, Measure, and Item Order
Question: Thinking about yourself and how you normally feel, to what extent do you generally feel: Items in order: Upset Hostile Alert Ashamed Inspired Nervous Determined Attentive Afraid Active Interval measure: <i>never 1 2 3 4 5 always</i>

Figure A.1 I-PANAS-SF [2]

B. Questionnaire

犬只领养态度调查
Dog Adoption Attitude Survey

您好，非常感谢您参与本次问卷调查。此次调查为匿名制，不会透露您的隐私。整个问卷调查的题目均无对错之分，请根据自己的实际情况填写，谢谢合作与支持！
Hello, Thank you very much for participating in this survey. This questionnaire is anonymous and your privacy will not be disclosed. There is no right or wrong answer in the entire questionnaire, please fill in according to your actual situation. Your cooperation and support are highly appreciated.

***1. 您的性别**
Your Gender

男 Male
 女 Female
 其他 Other

***2. 您的年龄**
Your Age

≤18
 19~24
 25~30
 31~40
 41~50
 >50

***3. 同等条件（年龄、大小、性别、健康状况等）下，您更倾向于领养纯种犬还是杂种犬？并请说明原因。**
Under the same conditions (age; size; gender; health, etc.), do you prefer to adopt a purebred dog or a mutt? Please specify the reason.

纯种犬 (Purebred)
 杂种犬 (Mutt)

Figure B.1 Questionnaire 1

4. 寒潮来袭，若您被选为志愿者，成为流浪狗的寄养家庭，您认为哪种犬类更容易带给您以下感受？

The cold wave is coming, if you are selected as a volunteer and become a foster family for stray dogs, which kind of dog do you think is more likely to bring you the following feelings?

请从“纯种犬 (1) ”到“杂种犬 (5) ”中，选出最能带给您此感受的犬种，“3”表示都差不多。
Please choose the breed that best conveys this feeling to you; from "Purebred (1) "to "Mutt (5)", ("3" means they are almost the same).

	纯种犬(Purebred)			杂种犬(Mutt)	
苦恼的 Upset	1	2	3	4	5
敌意的 Hostile	1	2	3	4	5
兴奋的 Excited	1	2	3	4	5
羞愧的 Ashamed	1	2	3	4	5
受鼓舞的 Inspired	1	2	3	4	5
焦虑的 Nervous	1	2	3	4	5
坚定的 Determined	1	2	3	4	5
专注的 Attentive	1	2	3	4	5
害怕的 Afraid	1	2	3	4	5
活跃的 Active	1	2	3	4	5

Figure B.2 Questionnaire 2

C. Operational Definitions for HAIS Items

	Item	Definition
<i>Human</i>	Watch animal(s)	Eyes directed toward the animal
	Spend time near animal(s)	Within arm's reach
	Pet animal(s)	Hand on animal, move from one point to another
	Talk to animal(s)	Non-command verbal behavior toward animal
	Play with animal(s)	Attempt to play
	Hold animal(s)	Animal is physically on person's body
	Hug animal(s)	Bring animal close to heart in an embrace
	Kiss animal(s)	Lips on animal, puckered
	Groom animal(s)	Brush, comb, wash, clip
	Offer food to animal(s)	Holds or places food in front of animal
	Attempt tricks/training with animal(s)	Attempt tricks/obedience, verbal or physical commands
	Take pictures of or with animal(s)	Take pictures/video with phone or camera
	Decline interaction with animal(s)	Move away from, push away verbally or physically
	Behave aggressively toward animal(s)	Verbal or physical behavior intended to harm
<i>Animal</i>	Initiate interaction with you	Approach, touch, gesture toward human
	Make friendly sounds	Pant, purr, bark, friendly wine
	Accept food from you	Eat food human puts in front of them
	Obey tricks/training	Obey command given, verbal or physical
	Sniff you	Sniff or smell on or in direction of human
	Lick you	Tongue on person in friendly way
	Decline interaction with you	Move away from, avoid, hide
	Make unfriendly sounds	Bark, growl, screech, howl
	Make a mess or inconvenience you	Urinate, defecate, knock things over, spill, chew objects
Behave aggressively toward you	Bite, claw, jump on, lunge at, kick	

Figure C.1 “Operational Definitions for HAIS Items [3]”

D. The Companion Animal Bonding Scale

THE COMPANION ANIMAL BONDING SCALE (PORESKY, HENDRIX, MOSIER AND SAMUELSON 1987)

1. How often were you responsible for your companion animal?
 Always Generally Often Rarely Never
 2. How often did you clean up after your companion animal?
 Always Generally Often Rarely Never
 3. How often did you hold, stroke, or pet your companion animal?
 Always Generally Often Rarely Never
 4. How often did your companion animal sleep with you?
 Always Generally Often Rarely Never
 5. How often did you feel that your companion animal was responsive to you?
 Always Generally Often Rarely Never
 6. How often did you feel that you had a close relationship with your companion animal?
 Always Generally Often Rarely Never
 7. How often did you travel with your companion animal?
 Always Generally Often Rarely Never
 8. How often did you sleep near your companion animal?
 Always Generally Often Rarely Never
-

Figure D.1 “The Companion Animal Bonding Scale [4]”

E. Lexington Attachment to Pets Scale (LAPS)

Lexington Attachment to Pets Scale

Items introduced by the following statement in the original telephonic survey:
I'd like to ask you whether you agree or disagree with some very brief statements about your favorite pet. For each statement, please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

Items introduced by the following statement in this e-Research:
I'd like to ask you whether you agree or disagree with some very brief statements about the dog you identified. For each statement, please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

Response set:

0 = strongly disagree 1 = somewhat disagree 2 = somewhat agree 3 = strongly agree

GENERAL ATTACHMENT:

- q. I play with my pet quite often.
- v. Owning a pet adds to my happiness.
- o. My pet and I have a very close relationship.
- s. My pet makes me feel happy.
- r. I consider my pet to be a great companion.
- *u. I am not very attached to my pet.
- j. My pet knows when I'm feeling bad.
- k. I often talk to other people about my pet.
- w. I consider my pet to be a friend.
- m. I believe that loving my pet helps me stay healthy.
- l. My pet understands me.

PEOPLE SUBSTITUTING:

- f. I love my pet because he/she is more loyal to me than most of the people in my life.
- a. My pet means more to me than *any* of my friends.
- i. I love my pet because it never judges me.
- e. Quite often, my feelings toward people are affected by the way they react to my pet.
- d. I believe my pet is my best friend.
- b. Quite often I confide in my pet.
- g. I enjoy showing other people pictures of my pet.

ANIMAL RIGHTS/ANIMAL WELFARE:

- n. Pets deserve as much respect as humans do.
- c. I believe that pets should have the same rights and privileges as family members.
- t. I feel that my pet is a part of my family.
- *h. I think my pet is just a pet.
- p. I would do almost anything to take care of my pet.

*reverse score (for two items)

Figure E.1 “Lexington Attachment to Pets Scale (LAPS) [1]”