ANTAL LOVAS KISS – JÓZSEF TOPÁL – ERIKA KÖBÖL

ANIMAL-ASSISTED INTERVENTIONS WITH DOGS IN THE 21ST CENTURY

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Foreword

The growing significance of animal-assisted interventions is greatly influenced by recent scientific advances over the past decades. Thanks to our continuously expanding knowledge, the sociocultural perception of dogs is evolving. As a result of dogs' changing social roles, the use of animal-assisted activities is becoming increasingly popular. Animal-assisted interventions consciously build on the beneficial effects of human-animal bonds. During their application – through targeted and deliberate guidance – the animal acts as a sort of mediator, engaging participants in tasks with the aim of healing, educating, developing, or improving quality of life. Animal-assisted activities can take many forms, with the animal serving as a subject, helper, or motivator in the sessions. Therapeutic animals are living, interactive partners that make the application situation more engaging, but animal-assisted interventions are not a universal cure-all. While it can be determined which areas and roles animals are effective in, individual client characteristics can always override these general findings.

The use of therapy dogs exploits the psychological effects of dogs on humans. This can be an important socialisation factor, especially for children, as it has a positive impact on their social and emotional development. It can increase the effectiveness of educational activities, because children work without feeling task-oriented, have higher motivation levels, a greater sense of achievement and become more confident. The educational use of animal-assisted activities is therefore becoming increasingly popular. As a result of the growing interest in experience-oriented pedagogy, more and more educational institutions exploring new possibilities in teaching and upbringing are examining the potential involvement of therapeutic dogs. With the increasing importance of inclusive and experience-oriented learning, therapeutic dogs are appearing more frequently in the motivation of children in both preschool and school settings. It is

evident that animal-assisted activities hold numerous new possibilities; however, progress is hindered by the fact that animal-assisted interventions have so far been absent from teacher training programs. As a result, educators lack experience, knowledge about the available effects, methods of application, and regulations regarding these interventions. They do not know what and how therapy dogs can be used. Even if educators have some ideas, they often do not know where to find therapy dog handlers for their classes or sessions. Moreover, even if they do find a handler, the lack of knowledge about animal-assisted interventions means they are unable to assess the handler's professional performance. Some of the enthusiastic and interested teachers try to educate themselves in a self-taught way, but this leads to fragmented knowledge. This is why we felt it was our task at the Faculty of Pedagogy and Child Education of the University of Debrecen to introduce our students to the basics of animal assisted activities and to provide training for teachers with experience. In 2021, a four-semester specialisation in *Animal Assisted Pedagogical Development* began, and due to the great interest in the *field,* a two-semester *specialisation in Animal Assisted Supporting Activity Coordinator* was launched the following year, the first in the country to be offered to students with qualifications in psychology, health and social work. Experience in recent years has shown that the initial enthusiasm for animal assisted interventions has not waned.

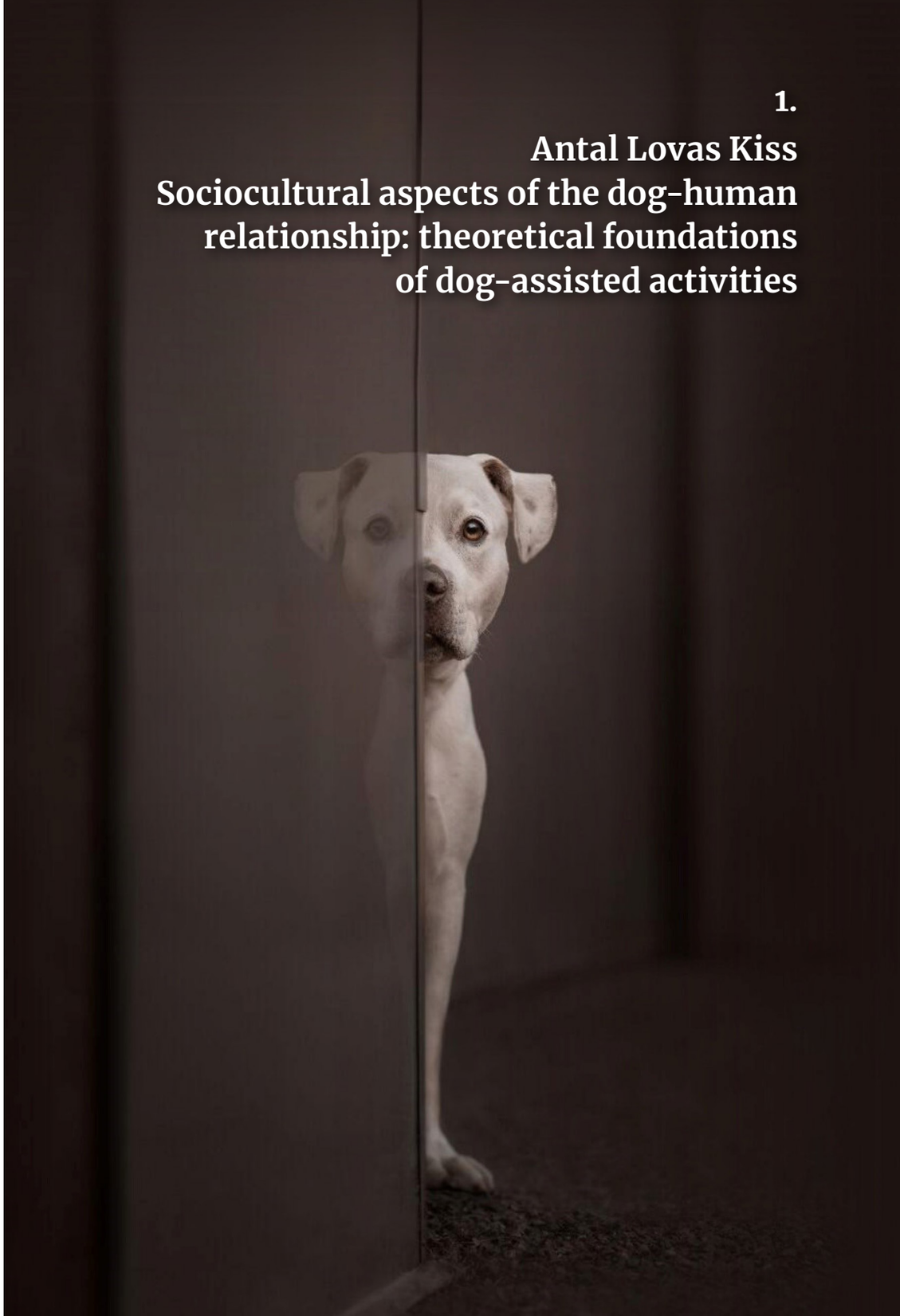
This book was written primarily as an aid for animal-assisted training courses at the University of Debrecen's Faculty of Pedagogy and Child Education, but it is also a useful read for anyone interested in dogs and animal assisted interventions.

The volume significantly differs from other writings on animal-assisted interventions because it integrates knowledge from various scientific fields with the attributes of animal-assisted interventions, based on a holistic and interdisciplinary approach. The three authors of the monograph review the characteristics of human-canine relationship from the fields of social, natural and educational sciences and address the problem of dog-assisted activities from the perspective of their disciplines. The first chapter of this volume presents a novel approach by Antal Lovas Kiss, who explores the role of dogs in our culture and the cultural aspects of dog-human relationship to interpret the work of animal assisted activities. In his chapter, from an anthropological perspective, he essentially describes the contemporary socio-cultural milieu in which animal assisted activities can take place. The second main part of this volume, authored by József Topál, delves into the abilities of dogs as a biological species that can be harnessed in animal-assisted interventions. It explores the cognitive-ethological aspects of communication between dogs and humans, as well as fundamental behavioural science knowledge about dogs crucial for professionals in the field. The author of the third part, Erika Köböl, offers a pedagogical perspective on the relationship between environmental education and dog-assisted pedagogical activities, and the possibilities of using animal-assisted practices for pedagogical purposes. The different forms and stages of these are illustrated by film clips.

This book brings together theoretical insights, but we felt it necessary to reflect the practice-oriented nature of our training, and therefore, taking advantage of the possibilities offered by technology, the book uses over fifty film clips to show the process and characteristics of animal assisted intervention with pre-school children, primary school children and young adults with disabilities. The film excerpts, which can be viewed using QR codes, were made during previous sessions of our own practical training with the help of Lajos Nagy and Edit Siti, the leaders of the AURA Assistance Dog Foundation, the trainers of our practical training, and Edina Sipos and Barbara Végh, volunteers of the foundation. The volume is richly illustrated to help interpret the descriptions and ensure that it is easy to follow and practical. In view of the international interest, the book is also available in English and as an open access e-book.

1.

Antal Lovas Kiss
Sociocultural aspects of the dog-human relationship: theoretical foundations of dog-assisted activities



1.1. Dogs and cultural anthropology

It is perhaps unusual that a book on animal assisted living should have a strong social dimension, but to be more effective in dog-assisted activities, we need to understand the social context in which the animal assisted method is applied, because the relationship between humans and animals is greatly influenced by the way a culture relates to particular species, which species it allows close to it – perhaps humanises – and which it shuns. (picture 1)

Picture 1: Shepherd boy feeding his dog cow's milk

This chapter examines the relationship between dogs and humans from the perspective and with the tools of cultural anthropology.[1] The domestic dog is the most widely distributed species in the world, found almost everywhere humans live because it is more adaptable than human culture. Although dogs are found alongside humans in all cultures, cultural anthropology has hardly examined the relationship between humans and dogs because they have not been able to define their position, it has not been clear whether they should be seen as belonging to nature or as culturally shaped beings (Cummins 2013). New findings in natural science have contributed greatly to resolving this dilemma, as researchers from the Department of Ethology at Eötvös Lóránt University of Sciences and Humanities, as a result of their research between 1994 and 2006, have accepted with the international scientific community that the natural habitat of the dog is the social (and physical) environment of humans (Miklósi et al. 2004; Miklósi – Kubinyi 2006).

1 Cultural anthropology is often seen as the science of learning about foreign cultures, but anthropologists studying their own culture have already made significant contributions to the field since the early 20th century. In this chapter of the book, I myself take up the study of home culture and concentrate on domestic processes, but this does not exclude the use of insights to understand phenomena.

As a cultural anthropologist, I will – perhaps unsurprisingly – argue for the cultural determination of the dog-human relationship. I will start from the premise that dogs can relate to humans in a variety of ways through their biological characteristics, but that human expectations – and thus the form of the relationship – are determined by culture. In almost every society there are dogs, and as many cultures as there are ways of relating to them and expectations of adaptation. In our European culture, we do not eat dogs, but we demand a wide variety of social services from them in return for some care. In societies as complex as ours, even within the culture, there are significant differences, with many different attitudes to dog ownership. The social status of dog owners greatly influences the way they use their animals and the position of their dogs in the human environment. The picture is further complicated by one of the most characteristic features of our culture, the constant change, which in our society is most evident in the relationship between dogs and humans, where dogs are increasingly seen as companion animals. This is a significant change, because increasingly we are not keeping dogs for economic reasons, but for social and emotional reasons. (picture 2)

Picture 2: Poppy gets a kiss from her owner Tamara at the 2007 World's Ugliest Dog competition

1.1.1. A glimpse into the present of the animal-human relationship

Before we look at the social processes that influence dog-human relations in Europe today, and in our own country, it is worth reviewing the scientific paradigm shift that has had a significant impact on the evolution of human-animal relations in recent decades, which American historian Harriet Ritvo has called the animal turn in the humanities and social sciences (2007). This new approach not only reassesses the animal-human relationship, but also seeks to redefine the relationship between humans and nature (Mamzer 2019). But why has it become important today to redefine these seemingly well-established concepts? The need for change arises because, in a world drifting towards an ecological crisis, it is becoming increasingly clear that we need to reassess our relationship with our environment, to move beyond a human-centredness in our thinking and to strive to exploit less and less other living beings (Lányi 2020). This is helped by the posthumanist ideology that emerged in the second half of the 20th century, which seeks to deconstruct the concept of man inherited from the humanist tradition and assumes that the human perspective is not the fundamental and defining one, because we see ourselves as different from other beings only along an imaginary hierarchy. In other words, posthuman thinking represents an empirical philosophy that turns towards the most widely found ways of being and assumes that humans are not the apex of beings, but rather part of a network of many nodes, similar to a mushroom cloud (Horváth – Lovász – Nemes 2019). Posthumanism sees man in the context of networks and relationships, intertwined with all forms of life, and does not replace the concept of man with a new central concept, but seeks to include in the field of thought those elements that the classical concept of man excludes – even the concept of machines (Kiss 2018). The posthuman view is that, as a result of technological progress, the traditional concept of man is no longer tenable, that the boundaries of man are no longer as firm as we used to think of him, and that even animals or machines can supplement human activity (Haraway 1985). We can replace our damaged or weak body parts with technical devices ranging from dentures to pacemakers.) We must therefore learn to think of non-human beings as partners, and we need to collaborate, to 'kinship' with other non-human life forms (Haraway 2016). Although cultural anthropology is declared to be a science concerned with human beings, if, as we have seen, society can be thought of as a network of human and non-human actors, then it is not necessarily only the relations between human beings that can be studied in cultural anthropology. It becomes necessary to replace human-centred anthropology by a posthuman anthropology (Tsing 2015) in which the world is full of flowing agentialities shared between humans and non-humans.

The posthuman reassesses not only the concept of man, but also the definition of the animal. In Anglo-Saxon Christian culture, the understanding of animality has never been consistent, but animal life has always been separated from human life in various ways. Animal life was subordinated to, dominated and controlled by the human. The impact of

Picture 3: Similarities between species

this approach on our culture is such that, in fact, when we talk about posthumanism, we are criticising the Anglo-Saxon conceptions of animal and human. (picture 3) When we talk about animals and humans, we do not interpret them as biological categories (Calarco 2020), just as the boundary between humans and animals is not drawn on the basis of biological species, but is also defined by culture. In other words, the physical, biological definition of animals has much less influence on their cultural status and treatment than their symbolic and social role.

Among the many cultures with different ideologies, the global culture, often carrying the legacy of Western culture, tries to shift the animal-human relationship towards a kind of humanity inherited from the humanities, because it may seem threatening to reassess the boundaries and differences between humans and animals and to rethink human and non-human networks. One important result of the animal turn is to recognise the limitations of Western thinking and to point out that there are many cultures in the world in which the animal-human relationship is based on quite different foundations. Margo DeMello believes that an important part of the human-animal bond is the diversity of ways in which people in different cultures view the world in relation to animals (DeMello 2021).

In this chapter, I try to interpret our relationship to and ideas about companion dogs in consumer society, especially in the post-industrial urban environment, and it seems useful to define the concept of companion animal. The concept of companion animal is approached from different perspectives in different disciplines. In their study, Péter Pongrácz and Petra Dobos, drawing on a very comprehensive international reference apparatus, have created a framework to help define companion animals in ethology. In this scientifically oriented paper, the behaviour of the animal and the factors influencing it are considered crucial in defining the concept of companion animal. Thus, animals are considered companion animals if, on the one hand, they are evolutionarily adapted to tolerate human proximity, on the other hand, they

can interact with humans in a positive, mutually enjoyable way, and thirdly, they stay with humans without coercion (Pongrácz – Dobos 2023). While this definition is an appropriate starting point for us, from the point of view of cultural anthropology, we should add that culture is the determining factor for people's interpretation of certain animal behaviours, and therefore the same animal species can be enemies to be destroyed or even ancestors considered as relatives, even in different periods within a single culture or among different social groups. Especially in a species as widespread as the dog, we see a wide range of attitudes. As a species, the dog can be either a companion animal or a farm animal in our own culture, its status being determined by the owner. They can be used as pets or as guard dogs within the same household, even if they belong to the same owner. However, if we do not start from our own – Western – culture, the concept of companion animal may even be called into question. For example, in the mountain villages of Kenya, where many dogs live around people, their presence is considered useful, yet in their language there is not even a word for the category of animals we call pets or companion animals (Herzog 2019). (picture 4)

Picture 4: Masai woman with puppy

Cultural anthropology is fundamentally a field-oriented discipline, and as such, it takes into account that each field has its own specific problems and approaches. It is not easy to provide a comprehensive picture of people keeping pets in the complex metropolitan context of global societies, and the specific situation and circumstances required the use of a combination of quantitative and qualitative methods. Part of the data comes from two unpublished, not representative, but large-item online questionnaire surveys. In the surveys,

which involved students at the University of Debrecen, 7500 respondents reported on their dog ownership habits. In the following, I will refer to the data from these surveys under the titles "The Dog Ownership Survey 2020" and "The Dog Ownership Survey 2021". In my paper, I have combined the results of several qualitative research methods, investigating the mental map of dog walking and dog walking groups using autoethnography, and using interviews to investigate the characteristics of dog ownership, naming, visual representation and symbolic manifestations of adopting dogs into the family (Lovas Kiss 2018; 2020).

1.2. Western dog population trends and implications

Dogs are associated with human societies, but the vast majority of dogs in the world do not live directly in human habitats. There are an estimated one billion dogs in the world, four-fifths of which – or 800 million animals – are ownerless, mostly abandoned, living on the periphery of human habitat or roaming freely in urban environments as pariah dogs, street or village dogs. (picture 5) For these animals, human

Picture 5: Stray dogs outside a metro station in Moscow

culture is a food source because they rely on humans for food. But human "food support" does not necessarily mean feeding, it can also be access to human waste (Pierce – Bekoff 2021). This shows that the dog ownership associated with dog ownership, which is common in Western societies, is only a minority perspective in the world. Of course, the number of owner-owned dogs, which account for a fifth of all dogs, is still huge, with a survey in 2022 estimated at 105.35 million in the European Union alone (Shahbandeh 2024). (Figure 1) The number of dogs in developed market economies is growing very rapidly, with the reported population increasing by more than 32 million between 2010 and 2022 (Bedford 2022; Shahbandeh 2024).

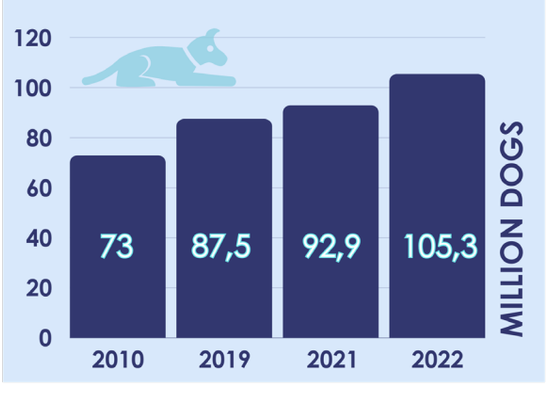


Figure 1: Estimated dog population in the European Union

It is legitimate to ask why so many people want to own a dog. Perhaps few people realise that the consumer society in which we live is behind the development of our pet-owning habits and the rapid growth in dog ownership. Consumer culture, as a cultural segment of globalisation, extends the logic of consumption to all areas of life and thus also determines our relationship with our pets (Simányi 2005). It has the potential to create a possessive desire in people for pets. Under capitalist economic conditions, companion animal keeping is also a specific form of consumption,[2] which includes material goods and services. Consumer society essentially exploits our emotional attachment to animals.

The production of pet food and pet-related accessories is an area of increasing economic profitability for the industry. The US population spent $7 billion on pet food in 1996 and

2 Their entrenched position in capitalist societies is characterised by the fact that their fast-moving consumer goods include data on pets and their care.

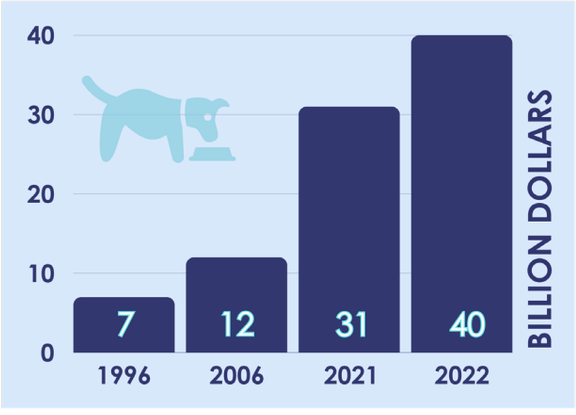


Figure 2: Billion dollars spent on pet food in the US

more than $40 billion in 2022.[3] (Figure 2)

According to the American Pet Products Association's (APPA) 2021 survey, pet spending in the United States has been steadily increasing over the past decade, with people spending a total of $103.6 billion on pets in 2020.[4] Globally, the European pet food industry is even more prominent, with Europe being the world's largest pet food producing region in 2022, with a production volume of 11.78 million tonnes, just ahead of North America's 11.2 million tonnes. Breaking down the data by company, we see that Germany's Fressnapf, Europe's leading pet food and pet equipment company, had an annual turnover of more than €2.1 billion in 2019. Fressnapf's competitors in Europe include prominent pet supply retailers such as UK-based Pets at Home[5], Belgian company Aveve and German company Futterhaus, among others. Europe's largest pet food producer, Spain's Agrolimen SA, had annual revenues of approximately USD 900 million in 2020 (Bedford 2022). The data presented here seek to show that in consumer societies, there is a significant market for pet related production and trade, suggesting that the growing pet ownership is not so much driven by romantic attitudes towards pets rather by market-driven needs.

The figures show that the focus is not only on dogs, but also on other pets in urban environments, such as ornamental birds (canaries, parrots) and small mammals (mice, hamsters, guinea pigs or rabbits). The number of pet-owning households in Europe is growing steadily, with an estimated 20 million more households between 2010 and 2021. In 2022, it was estimated that 91 million European households had at least one pet (Shahbandeh 2024). These trends are also characteristic of consumer societies overseas, for example, the American Pet Products Association's 2021-2022 survey found that 70% of US households own a pet, up 3% from the 2019-2020 survey.[6]

Cats are the most popular pet in the European Union, rather than dogs, and although we don't see them as often as dogs, there are still 11 million more of them. In Europe, the number of cats has shown an increasing trend similar to that of dogs over the last decade. In 2010, there were about 85 million cats in Europe, by 2021 this number had risen to over 127 million (Shahbandeh 2024).

Pet ownership also has a national character, for example in Germany, France and Italy there were more cats than dogs in 2022, while in Spain, Poland or Portugal, for example, there were more dogs at that time. Germany had the largest pet dog population in the European Union in 2022, with 10.6 million dogs. In that year, Spain was second with a dog population of 9.3 million. However, other EU Member States, such as Greece and Denmark, had lower dog ownership, with around 657,000 and 617,000 registered respectively.[7] However, looking at the proportion of dog-owning households, Poland[8] had the highest proportion of dog-owning households in the EU in 2022, with 49%, almost half of the population owning at least one dog, while in Germany, which has the highest number of dogs, only 21% of German households owned a dog in the same year.

3 2021-2022 American Pet Products Association (APPA) https://www.americanpetproducts.org/docs/default-source/uploadedfiles/npos/21-22-businessandfinance

4 American Pet Products Association (APPA) 2021-2022 National Pet Owners Survey, https://www.americanpetproducts.org/press_industrytrends.asp

5 Pets at Home is the largest pet retailer in the UK, with annual revenues of over £1.32 billion in 2022 (Shahbandeh 2024.)

6 American Pet Products Association (APPA) 2021-2022 National Pet Owners Survey https://www.americanpetproducts.org/docs/default-source/uploadedfiles/npos/21-22-businessandfinance

7 The data presented are not accurate because the censuses do not include data on stray animals that are not owned.

8 In 2022, there were 8.019 million dogs in Poland (Shahbandeh 2024) https://www.statista.com/statistics/414956/dog-population-european-union-eu-by-country/)

Similar trends can be observed in cat ownership. The two countries with the largest populations in the EU, Germany (15.2 million) and France (14.9 million), top the list of cat owners. Compared to the cat populations in Germany and France, countries such as Latvia (410,000), Ireland (355,000) and Estonia (290,000) had low cat populations. However, the proportion of households with cats appears to be high in Eastern European countries. When looking at the proportion of households owning at least one cat in the EU, it can be seen that the proportion of cat owners relative to the size of the population is highest in Romania, with almost half (48%) of Romanian households owning a cat.

As we have seen, Germany has the highest overall number of cats and dogs in the European Union, and statistics show that there are more cats (Shahbandeh 2024).[9] And in the European Union, there are more dogs and cats in Eastern European households than in the West. While only 20% of the population in Germany has contact with dogs, in Poland this proportion is almost half of the population. However, although there are no data, it is conceivable that dogs kept as watchdogs are more common in Poland, so we cannot assume that half of the human population has a social relationship with a dog.

Following the regime changes in the post-socialist countries in the 1990s, including Hungary, societies that switched to a capitalist economy experienced a rapid and intense expansion of consumption habits. This was also reflected in the change in the way we fed our pets, which until then had been mainly kitchen scraps or low-value meat that was considered industrial waste, but the beginning of the transition from a scarcity economy was marked by the emergence of products (food, accessories and equipment) to care for our pets, and today we can see the spread of services (e.g. dog grooming, dog food, dog biscuits). The impact of the increased interest in companion animals can be measured in both trade and

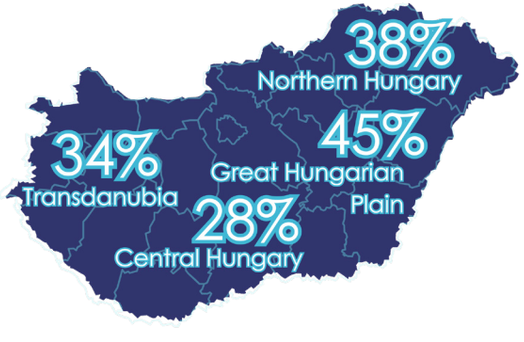
9 Number of cats in the European Union in 2023, by country. https://www.statista.com/statistics/515410/cat-population-european-union-eu-by-country/

services. For example, in 2021, nearly 500,000 tonnes of dog and cat food were sold in Hungary, two and a half times more than 10 years earlier (Varga – Gyuris – Kubinyi 2023: 662-663). In the field of services, the change in the hospitality sector is illustrated by the fact that one of the largest Hungarian booking sites, szállás.hu, advertised 9,400 dog-friendly accommodation units in March 2021, while in October 2023 this number had risen to 16,713.

Although the data on the dog population in Hungary is sometimes contradictory and probably inaccurate, it does show that, like European trends, the number of dogs is growing rapidly in Hungary. In terms of population, Hungary ranks highly among EU countries in terms of dog ownership, with 2.172 million dogs in 2022, while a study published in 2022 by[10] estimates that the total dog population could well exceed 3 million. According to the authors' assumption, if the estimated number of individuals not included in the data collection is added to the registered population, then every second household in Hungary has a dog (Vetter – Vizi – Ózsvári 2022). Whereas, according to Enikő Kubinyi's and György Varga's calculations, 30% of adults live in a household that keeps a dog (Kubinyi – Varga 2023).[11]

A shortcoming of the data series for the EU countries is that they do not show the territorial distribution of dogs and their purpose of use. Medián conducted a representative questionnaire survey in 2018 among the adult population and shelter managers, focusing on the spatial distribution of dog ownership. The survey revealed that 45% of

Figure 3: Spatial distribution of dog ownership



10 Number of dogs in the European Union in 2023, by country. https://www.statista.com/statistics/414956/dog-population-european-union-eu-by-country/

11 The number of households in Hungary was 3,789,909 in 2011. (https://www.ksh.hu/docs/hun/xtabla/haztfogy/tablhf10_02_01.html)

individuals in the Great Plain live in household with a dog, 38% in Northern Hungary, 34% in Transdanubia, and 28% in Central Hungary. (Figure 3) At the time of the survey, almost half of the dogs (49%) lived in villages, i.e. almost every second rural household had a dog.

A significant proportion of them continued to be kept in a traditional role as watchdogs, but more and more families followed urban patterns, so pets also appeared. In the 1990s, with the urbanisation of villages, purebred dogs, which symbolised urban fashion, became more common and were often kept as status symbols (Kapitány – Kapitány 2000). The collapse of backyard farming after the regime change in 1989 led many people to experiment with new forms of farming instead of traditional domestic livestock farming, including dog breeding, which is often seen as more of a dog breeding activity (see later in subsection 1.5).

According to Medián data, only one in three (33%) households in cities and one in four (22%) in the capital had a dog. (Figure 4) This proportion in Budapest in 2018 shows a decline compared to the dog cult that emerged from the second half of the 19th century with the spread of modern urban bourgeois life, when half to one third of middle-class households had at least one dog (Gyáni 2012). The number of dogs kept in the capital rose rapidly, especially between 1932 and 1937, when the population in Budapest increased by almost one and a half. During World War II, the number of dogs decreased significantly. Although their numbers started to increase rapidly again after the war, dog ownership in the inner city declined compared to the 1930s (Varga 2023).

Figure 4: Proportion of households with dogs in each type of municipality

As we have seen above, global capitalism also uses animals to increase consumption, but it is by no means certain that increasing companion animal husbandry is the right way to change our relationship with animals. Our pets are becoming an increasing burden on the environment and the question arises as to whether the growing number of dogs is sustainable in the long term.

Do people really need pets? In their rather provocative book, *Time to Eat the Dog: A Real Guide to Sustainable Living*, Brenda and Robert Vale try to dissuade people from owning dogs and suggest more 'environmentally friendly' companion animals. Because carnivores have a large ecological footprint, they recommend herbivores such as goldfish, hamsters, chickens and rabbits (2009). They encourage readers to consider the ecological costs of their daily activities. In the interests of sustainability, the Vales also suggest recycling the bodies of dead pets as pet food. These suggestions – and the ecological footprint of our pets in general – are difficult to face because of the emotional need in our culture to keep companion animals. However, in a world drifting towards ecological crisis, a change in attitude is inevitable and, depending on education, will probably happen within a generation or two. More and more people are urging us, for example, not to fly, to eat less meat and to use our cars less often. It is also increasingly being suggested that we should keep fewer animals, but in better conditions, and that does not mean we should spend more on them. Presumably, large breeds of dog will become more expensive to maintain and therefore more and more people will get smaller dogs. More people already have cats than dogs and this trend will continue towards small herbivores.

A change of mindset is needed:

- Don't keep a 40 kg dog, just a 10 kg one!
- Don't keep four dogs, just two!
- Don't keep a dog, a cat or a rat will do!

In their book, the Vale couple illustrate the ecological footprint of companion animals[12] when they compare them with technical tools (Figure 5), according to their calculations:

- the ecological cost of feeding a medium-sized dog is the same as driving a large SUV ten thousand kilometres a year.
- a German shepherd needs 1.1 hectares of land to produce a year's worth of food – while the ecological cost of a small SUV is just 0.41 hectares.
- the cat's ecological footprint is 0.15 hectares, roughly the size of a Volkswagen Golf.
- the ecological cost of a hamster is 0.014 hectares, which is half the environmental cost of a plasma TV.

The ecological footprint of people is also quite different:

- the ecological footprint of people living in consumer societies is about 6 hectares.
- The ecological footprint of people living in "developing countries" is 1.6 hectares.

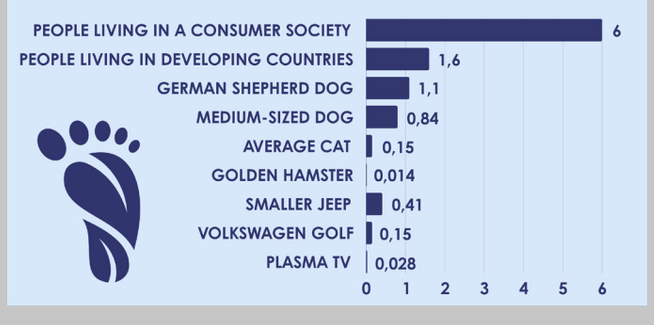


Figure 5: Ecological footprint of different people, animals and object

12 The ecological footprint is determined by calculating the amount of land needed to produce the food needed by an animal or human.

1.3. What do we know and what don't we know about dogs?

Dogs are very common companion animals in urban environments. Along with cats, we have a reciprocal, interdependent relationship with them, and they are the closest to us in our living environment (Haraway 2008). Since we have the opportunity to observe companion dogs in the course of living together, we might assume that we have a nuanced knowledge of this species. In contrast, everyday experience shows that a significant proportion of dog owners know little about their dog as a biological species, and those who do not have a dog often have even less knowledge. This lack of knowledge is also reflected in the fact that many misconceptions, misinformation and beliefs about dogs are still held by word of mouth.

Some misconceptions about dogs that are still common today:

- "a dog fed raw meat will be wilder";
- "dogs don't belong in flats";
- "mixed breeds are smarter than purebreds";
- "a female dog must give birth at least once to be healthy";
- "the cougar goes mad in its old age"
- "a dog acquired as an adult will not be as loyal as one you have raised yourself"

The lack of real knowledge can also be explained by the fact that in the Hungarian peasant society of the 19th and 20th centuries, dogs kept as watchdogs were not thought to require any knowledge. They relied on the instincts of the territorial guardian and the relationship between dog and master was usually not close enough to require more nuanced interactions. Because of the hierarchical relationship, the dog was the "culprit" if it did not do what the human wanted it to do. Dogs' behaviour was not to be understood, but to be guided in the direction the owner wanted, even at

the cost of corporal punishment. Many people have been socialised in this way, and even when they now have a dog as a companion animal, it never occurs to them that some kind of training should precede dog ownership. They instinctively seek to develop a relationship with their pet. However, lack of knowledge does not mean lack of information, because with the spread of companion animals, the number of books and specialist books on the keeping, education and training of dogs has increased since the second half of the 20th century, and with the advent of the Internet, the task is no longer to obtain information, but to sort through the vast amount of knowledge, often contradictory. At the same time, the lack of clear points of reference and knowledge about animal husbandry makes it difficult to obtain information. There is no ideal dog-keeping culture to which dog owners can adhere and which objectively defines appropriate pet-keeping behaviour (responsible pet ownership is discussed in subsection 1.7.) Although there is an officially prescribed set of rules and expectations, the regulations and legislation cannot provide a clear definition of pet ownership in everyday practice, because they are intended to set the framework. (picture 6)

Picture 6: Walking in the park

In the complex social milieus of our country, too, many different life management models are present at the same time, and thus we cannot speak about dog owners in general, because they are characterised by diversity and very different knowledge and ideological backgrounds. Consequently, there are also extremely heterogeneous explanations of animal needs and ways of satisfying them, and alternatives for action, which result in a myriad of individual variations in the way and ideology of dog ownership. Almost all dog-keeping ideas take different, even contradictory, forms. The extent to which the owner is influenced by knowledge and advice from acquaintances, books, the internet, or the experiences of previous generations in rural or urban areas varies from case to case. Ideologies of dog ownership are a mixture of accurate ethological, biological or training knowledge and totally misleading misconceptions or outdated beliefs (Douglas – Isherwood 2003). Thus, neither a comprehensive description of global consumer societies nor a comprehensive description of domestic dog ownership is likely to be successful. Nevertheless, it is possible to identify the characteristics that define our individual images of dogs and dog ownership. If we are looking for answers to the question of where our knowledge of dogs and dog ownership comes from, it is worth looking at the effects of the following four areas:

1. animal husbandry skills and attitudes to animals inherited from ancestors;
2. information obtained through different media channels;
3. the individual's own practical experience of animal husbandry;
4. the small-group flow of information through the network of contacts.

Each of these is complex and individually different, and here I will present some of the characteristics of each area, without wishing to be exhaustive.

1.3.1 Animal husbandry knowledge and attitudes to animals inherited from ancestors

For everyone, the family is the primary socialisation level, and its socio-cultural characteristics affect all aspects of life, including the relationship with animals. In Hungary, two distinctly different approaches can be distinguished, the bourgeois and the peasant way of dog ownership. These are no longer pure models, and the social changes of the second half of the 20th century in particular have led to a significant mixing of attitudes.

Ethnographic collections from the 19th and 20th centuries suggest that peasant animal husbandry was characterised

by a work-based mentality, i.e. the value of both people and animals was determined by their roles and tasks. All animals – including dogs – were worth what they were worth in terms of economic gain. In terms of economic value, the peasant perception of domestic animals was different: animals kept for milk, meat, and yoghurt were more valuable than guard dogs, which played a mostly peripheral role as watchdogs and signal dogs, whose existence was mostly related to pragmatic and functional aspects, so that their food and care did not require extra expenditure for the household. The guard dogs were not allowed to enter human living spaces, they were mostly given kitchen scraps, they lived their lives locked in the farmyard or on chains, in better cases they were released at night, and they tried to cure their illnesses with domestic practices (even rabies). Of course, we cannot generalise here either, there were differences between the different ways of keeping animals, depending on the region, the economic tasks and the individual perceptions. 'There is no farm without a doghouse', wrote the ethnographer Gyula Nagy about the Vásárhelyi plain (1975). But other descriptions report that doghouses were not always built for dogs. According to a collection from Kunmadaras: 'In winter, the dog

Picture 7: Shepherd dog and a stove made of dried manure

used to be outside the house, lying on a worn-out coat and not moving from it in the cold' (Fazekas 1979: 128). (picture 7) A trained dog doing special work, such as a herding dog, was

better off, especially if it did its job well. (picture 8) According to the shepherds, 'a good Pouli was worth more than a man', but if it harmed the animals entrusted to it, it was considered a pest to be destroyed, and dogs that choked or nipped the sheep were often beaten to death (Szekeres 1994). Shepherds and ghouls usually fed their dogs better, they were allowed milk and whey, and large herding dogs were also fed by meat, and they usually got the dead animals (Szabadfalvi 2001). According to the shepherds of Hajdúböszörmény, the dogs ate what they ate: 'I do not say that if bread or bacon was the breakfast, the dog got bacon, but bread did' (Szekeres 1994). 'In the summer, the shepherd would find a place for himself in the straw and sleep outside, because it was believed that dogs sleeping in the open were more alert.' (Bereczki 1981) In winter, the communal herdsman's or shepherd's dog was chained to the house and in most cases a kennel was built for him. "The fit dog was outside in winter, even in the coldest weather." But in most places he was let into the stable or the barn in very cold weather (Bereczki 1981).

Picture 8: Shepherd Máté Lajos plays on a „tárogató" (hungarian instrument), in the company of his herding dogs

The role and husbandry of pets differed considerably from the conditions under which dogs were kept as livestock. The 'democratisation' of dog ownership coincided with the establishment and gradual social expansion of the modern urban bourgeois lifestyle, which was accompanied by an incredible increase in the number of dogs kept as pets. Whether in early modern Germany, Victorian England or mid- to late 19th-century Paris, they were a common feature of the modern urban citizenry. Pets were not a product of the 19th century, but in many ways their status changed during this period. In their book, Jane Hamlett and Julie-Marie Strange

Picture 9: A girl and her dog in the 1860s-1870s

put it bluntly, there was a 'pet revolution' in Victorian Britain (Hamlett – Strange 2023). The spread of industrialisation brought a new value to the family environment, and this included dogs, which became increasingly intertwined with family life. Emotional attachment became an essential element in the relationship between people and their pets, and dogs were increasingly seen as faithful companions. It was during this period that people of means began to care for their pets in ways that had been unusual until then. (pictures 9-10) It was the time of the emergence of pet food, pet sematary and the growing extension of veterinary care from farm animals to dogs, cats and other small animals. In Victorian England, dogs were seen as embodying the moral values of the age, and were thus endowed with qualities of steadfastness, loyalty and courage. The image and expectations of dogs often reflected the values and worldview of an emerging capitalist society. Purebred dogs conveyed a message of class and status, and their breeding took off at this time (Hamlett – Strange 2023).

At the turn of the 19th and 20th centuries, there must have been tens of thousands of domestic dogs kept for luxury in Budapest. It is estimated that at the beginning of the 20th century, half to one third of the middle class households in Budapest had at least one dog (Gyáni 2012). Pet dogs, which were meticulously groomed and cared for, not only fulfilled the role of companion animals but also served as instruments of public representation. The display of dog ownership was most prominently showcased at dog beauty contests and dog shows, but this did not include walking dogs on the street, which at that time was more the task of servants (Gyáni 2016: 23). (picture 11) The authorities also distinguished pet dogs from those kept in courtyards for guard duty. Budapest's 'dog keeping regulations' issued in 1878 imposed a much higher

Picture 10: Briton Rivière: Compulsory education (1887)

Picture 11: Dogs being weighed at the first Westminster Kennel Club dog show at Gilmore's Garden in New York City on May 8, 1877.

tax on owners of house dogs compared to those who kept dogs for utility purposes (Gyáni 2012). Keeping dogs in apartments and the pollution and behavior they left behind while walking on public streets were already causing problems in the 19th century (Varga 2023).

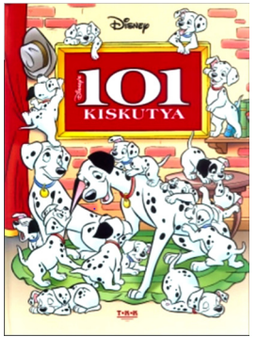
From the second half of the 20th century onwards, many people moved from rural to urban environments, bringing with them the peasant model of dog keeping that was socialized in the village. Those who had not previously encountered middle-class dog-keeping habits often resented the idea of letting dogs into their homes, and in the towns of the Great Hungarian Plain with their essentially peasant norms, it was not uncommon for locals to make comments about people walking their dogs. Those who moved from villages to towns and cities were able to pass on the peasant model of dog keeping to future generations without owning dogs. The differences between the different rural and urban perspectives are still present today and can often be identified in conflict situations. At the same time, the urban environment is not exclusively a space for companion animal keeping. Saule Bekova and Marat Makenov studied the nature of dog ownership practices in Omsk in 2014. Based on a two-stage survey in a city of over one million inhabitants, they point out that urban dog keeping cannot be described by a single model. The number of dogs and the way they are kept varies considerably in different parts of the city. They found that 71.5% of households in the suburban areas with gardens had dogs, while only 10.8% of households in the housing estates and city centre had dogs. Not only the number of dogs, but also the dog-keeping practices differed in these areas. Owners living in residential areas with detached houses had a predominantly utilitarian or functional approach to their dogs, and this influenced the sex, size, breed and frequency of medical care of the animals. These dogs were mostly kept outside the home. Dog owners living in housing estates and in the inner city tended to regard their dogs as companion animals and to have more affectionate feelings towards them, which was reflected in both the choice and care of the animals. The proportion of registered dogs was higher, they received better healthcare, and their owners often surprised their pets with gifts (Bekova – Makenov 2018). These data also warn that defining the nature of dog keeping according to the settlement hierarchy can have pitfalls.

1.3.2. Information obtained through different media channels

We get our knowledge and information from different areas, using online and offline content in different proportions for each individual. Through different information channels, we are exposed to a wide range of real and unreal knowledge about dogs. These give us an indirect picture of the role of dog owners, who owns dogs and what is typical of their behaviour. Those who do not own a dog may see people walking their dogs on the street, may have friends who are dog owners from whom they can get information, but most of us are exposed to the consumerist forms constructed by the media on television or the internet. From the ferocious beast, to the lovable 'cutie', to the super-animal that can see through complex human relationships, dogs come in many guises. These representations are mostly culturally constructed and focus on the effect on the viewer rather than the realistic characteristics of the animals. The representation of dog keeping is often idealised, consumerist and capable of creating a possessive desire in people.

The film industry prefers to feature dogs in feature films

because their appearance on screen is almost asure recipe for success. The fairly popular Hollywood feature film industry exploits and objectifies animal characters for entertainment and emotional appeal (Berger 1990). In this respect, dogs are perhaps the most exposed, as popular American family films make extensive use of pets. (picture 12) They are used to represent human concepts, vocabulary and emotions such as friendship, loyalty and unconditional love. Filmic techniques such as close-ups, whereby the camera focuses on the 'puppy-dog eyes' of the protagonist dog to captivate the viewer, are often used to amplify the effect (László 2023: 145-146). But even so, dogs cannot be completely locked into the filmic constructions that exploit them; in fact, they are always present on the screen in a dual status, as both 'flesh and blood creatures and markers, bodies and words, stories and worlds' (Haraway 2003).



Picture 12: Posters for films about dogs. One Hundred and One Dalmatians; Paw Patrol; Lessie Comes Home

Advertisements often try to capture stereotypes about dogs that are prevalent in the public mind, such as dog loyalty, reliability, or even the dog-cat "friendship", thus reinforcing stereotypes (Nagy – Papp-Váry 2003: 26). They prefer to build on the external characteristics of dogs because this is the parallel that consumers can most easily associate. In the case of washing powder advertisements, for example, it is obvious that the stain-removing effect is perceived as being achieved by spotted dogs. And dogs with loose skin seem to be ideal for advertising anti-wrinkle creams. As dog owners tend to compare the dogs in dog food advertisements with their own dogs, the dogs in these advertisements need to look particularly nice and healthy, so advertisers try to advertise with agile, shiny-haired breeds, mostly avoiding the difficult-to-photograph and film all-black specimens in commercials. At the same time, animal shelter advertisements often feature animals that appear to be in distress in order to elicit sympathy (Nagy – Papp-Váry 2003: 26). Alongside the families featured in advertisements and movies, the family dog often appears as well. (picture 13) Dog keeping is often used as a motif to represent the happy and well-balanced middle class. The dogs in the advertisements never relieve themselves, and when they go for a walk, they are mostly running happily along a sunny forest path or flowery meadow, or looking happily at the camera on the immaculate lawn of a garden. Children can cuddle the 'advertisement dogs', who are the centre of the family even off-leash. (picture 14) Even if their fur falls out or their feet get muddy, it can be cleaned up perfectly with the right products and household appliances, so the depiction of dog keeping not only generates consumption directly related to the dog, but also allows for a secondary way of showing a wide range of options for consumption, from cleaning to transport. (picture 15)

Picture 13: Family dog in advertisements

Picture 14: Children with dogs in idyllic surroundings

The internet and social media also give us an idea of what

Picture 15: Dog ownership generates a wide range of consumption needs, from cleaning to transportation

kind of dogs famous people and politicians have. The love of animals makes celebrities more attractive to most people and this is often exploited by public figures. In the mostly static images, the dogs' almost sole characteristic is that they belong to a celebrity, which arouses the fans' interest in the dog or the breed. As a social media actor, the animal is often a consciously used social media tool, often a status symbol, a fashion accessory, a colour-coordinated accessory to its owner's outfit on the web. (picture 16)

Picture 16: The dog as fashion acsessory

Although most viewers are aware of the fictional nature of films and advertisements, what they see in the media about dogs often feels authentic because they approach it from an emotional rather than a conscious perspective.

1.3.3. The individual's own practical experience of animal husbandry

While consumer society creates the demand for dogs, a lot of real and not so real information is flowing to potential buyers to create a desire for ownership. The fulfillment of the desire for dogs is often followed by disappointment because the owner does not get what he or she expected. Especially for first-time dog owners, it is a difficult time until the difference between the idealised concept and the real animal gradually becomes apparent to them during their daily life with their new pet. If the new owners are not aware of the real needs of the animal, they often perceive the discrepancy as a unique problem that has only happened to them, and depending on their personality, they look for the reason in the dog or in their own lack of skills, and from there the strategies for solving the problem branch out in many directions. The most

Picture 17: The dog was returned to the shelter with his bed and toys

extreme alternative is to treat the dog as an object, get rid of it as soon as you realise that you have not got the "product" you wanted and then look for new self-representational consumption options. Consumer society creates the need for the desired objects, and if the desires do not coincide with the expectations, the consumer will stop consuming the product. 28% of the animals that end up in shelters are unwanted dogs resulting from irresponsible choices, which are surrendered by their own owners. [13] (picture 17)

Owners develop their own identity as dog keepers through the process of dog keeping, and they confront their own identity as pet owners in the practice of everyday life. We become a dog owner through owning a dog, but 'dog identity' is more a result of, rather than a prerequisite for, acquiring a dog (Miller et al. 1998). However, the very nature of dog ownership is constantly evolving. In our 2020 survey, 82.3% of respondents had a dog at home as a child, and of these, 50.1% keep their dog differently from their parents. (Figure 6-7) According to the responses to the questionnaire, the most common change nowadays is that fewer people are chaining their dogs and many are feeding them with dogfood instead of kitchen scraps. A change in the purpose of keeping dogs is

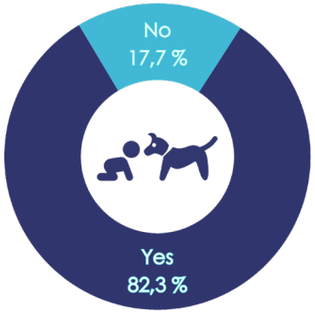


Figure 6: Did your family have a dog when you were a child?

13 Cofidis – Dog's eye. The situation of dogs in Hungary. National representative survey on the number of households with dogs in Hungary.

indicated by the fact that some of the respondents no longer consider their dog as a guard dog but as a pet and therefore let it into the house. The consumer mentality has led to the spread of services, which has also led to the increasing use of dog training as a new pattern of behaviour. Keeping dogs as companion animals often involves learning new skills and experiences.

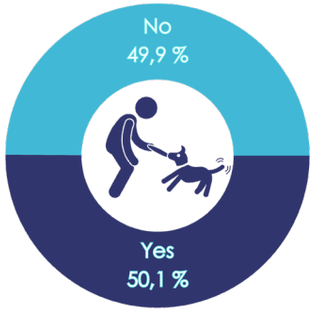


Figure 7: Do you keep your dog differently from what you have seen in your family before?

1.3.4. Small group information flows through the network of contacts

One of the characteristics of a consumer society is that everyday activities revolve around satisfying consumer desires. The ownership of companion animals also generates a number of specific consumer needs linked to dog keeping, which, in addition to being a means of acquiring material goods, services, or an option to spend leisure time, can also become a form of self-expression. In recent years, dog sports have emerged as a number of recreational activities, but dog owners can also connect and position themselves through other dog activities, NGO animal welfare or support activities. The symbolic capital that manifests itself in this way is much more indicative of an individual's social status than a notion of social class based on categories of education, occupation or income (Hradil 1993). It allows the individual to step outside the network of relationships that follows from his or her class position and to join subcultural groups according to his or her values, opinions and outlook on life. Maffesoli (1996) calls this flexible belonging to small groups, which is coming to the fore in our consumer society, the 'new tribalism'. Different dog-owner groups also offer the possibility of a small community interpretation of the needs of dogs and a collective formulation of right and wrong interactions with them. For example, people who walk their dogs together in an urban environment often formulate together what is expected of a dog or what are the right and wrong behaviours to adopt. An opinion-forming group can also be a group of dog

keepers taking part in trainings, but in these cases it is usually the trainer's ideas that determine the group's perspective. What these organisations have in common is that they all interpret the dog-human relationship from a human perspective, based on perceived or real knowledge, and in this interpretation the role of the dog is passive.

1.3.5. Capitalisation of professional knowledge

The care of companion animals also generates consumption and satisfying these extensive needs is also a source of work for many professionals. As pet dog care has expanded, the care that professionals can provide has become more diverse and fragmented along the lines of activity, specialising in a more sophisticated way. Breeders, doctors, trainers and owners all see dogs and dog keeping from slightly different perspectives. They all approach it from different experiences, motivations, qualifications and prejudices. At the same time, on the consumer society ground, this also means that all professionals – quite understandably – want to make a living from their knowledge of dogs, so caring for a dog is a source of income for professionals. Only the owner of the dog does not earn an income from the relationship with his dog, but is motivated by the emotional relationship.

1.3.6. Institutional knowledge transfer

In many cultures, well-defined educational practices shape the emotions and personality of children as cultural beings. However, in the complex cultural milieu of consumer societies, there are multiple overlapping interpretations, and thus the primary setting for upbringing, the family—even within a single culture-conveys even fundamental norms, such as attitudes toward animals, in different ways. Perhaps this is also the reason for the different animal husbandry practices seen above. When we are trying to redefine animal-human relationship today, it seems obvious that a change of attitude is needed, starting with the next generation. Institutional education is the best way of ensuring that companion animals are kept and cared for professionally and that younger generations learn to treat them humanely. The legislative practice responded to this need when it stipulated within the framework of Act XXVIII of 1998 on the protection and humane treatment of animals that education on understanding animals, appropriate behavior towards animals, and their care must be incorporated into general education, vocational training, and public education efforts. It requires state and local authorities and educational establishments to promote the implementation of these tasks. In practice, however, the bodies concerned have only started to take action after a delay of almost twenty years and their effectiveness is yet to be seen. Their declared vision is to achieve their goals through legislation, awareness-raising and the provision of financial resources.

In spite of the legal provision, public education still neglects or does not address the issue of humane animal behaviour and responsible animal husbandry.[14] In recent years, thanks in part to the efforts of teachers who are receptive to the subject and in part to NGOs, it has become increasingly

Picture 18: Some of the animal welfare NGOs have already developed an education programme

14 Government Decree No 363/2012 (XII.17.) on the National Basic Programme for Kindergarten Education, Annex 1.
§§ 1-2 of Government Decree 110/2012 (VI. 4.) on the publication, introduction and application of the National Core Curriculum

common for members of animal protection NGOs to hold lectures and workshops on responsible animal husbandry in kindergartens and schools, and some animal protection NGOs have even developed educational programmes. (oktatas@orszagosallatvedorseg.hu) NGO activity has been revitalised since the 1989 regime change, and grassroots NGOs play a significant role in activities related to animals (often dogs). As we will see later, they not only play a major role in educating people about animal welfare and responsible animal husbandry, but also play a key role in the care of abandoned animals in distress and in animal-assisted activities. (pictures 18)

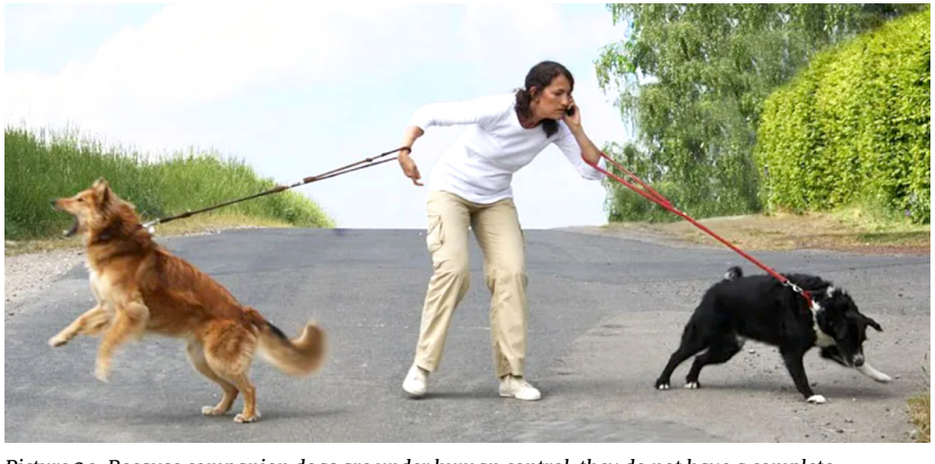
1.4. Socialisation and humanisation of dogs

In the early 2000s, the ethologists at ELTE had to fight their way through the resistance of the professional public to accept the statement that the dog's habitat was the human environment. This interpretation is a very important and far-reaching insight in our Western culture, but in Japanese art, for example, where animals are traditionally depicted in their natural environment, dogs have been traditionally represented in human environments for centuries. (pictures 19) Dogs are seen as the link between nature and culture, writes Aaron Herald in his book Skabelund *Empire of Dogs* (2011).

Picture 19: Dog illustration in Japanese art

Does this idea also influence our civilisations? As a biophilic species, are we attracted to dogs because they bring us closer to nature in a metropolitan environment, as representatives of the animal kingdom (Kellert – Wilson 1995)? Probably not, because the evolutionary process that accompanied the domestication of the dog has greatly modified the behaviour of this species. Breed selection over a period of at least 12,000 years has transformed the dog into a kind of 'artificial' animal. Therefore, we should think of dogs as culturally shaped rather than natural creatures.

There are few animal species that cannot find their way around their habitat, which is essential for their survival. In contrast, in the consumer societies of the developed world, where dogs are mostly connected to human households as companion animals, we assume that they can no longer – or only for a short time – survive independently in the urban environment of man. Dogs kept as companion animals in Western societies are becoming more and more integrated into the urban environment, while being subject to increasing control over their lives. Because they are always under human control, they have no way of fully knowing their own environment (Fox – Gee 2019). (picture 20) Therefore, if they lose human control, they can easily fall victim to urban traffic, and if they are captured as stray dogs and end up at the dog pound, they can be 'put down' after a while. But if they leave the urban environment, they are not safe there either, where they can be shot by hunters. Dogs seem to need human help to cope with the urban conditions of the western world, and this makes them vulnerable. Human responses to their vulnerability can be seen as dog keeping. These responses are



Picture 20: Because companion dogs are under human control, they do not have a complete understanding of their environment

not fed by the animal's situation and needs, but by the ideas of the human who cares for it, a manifestation of the human perspective on the animal. The positioning of animals is based on human perceptions and human interpretations of animal behaviour. (Haraway 2008) As the dog-human relationship is interpreted and defined from a human perspective, it might seem as if a person is doing the dog a favor by taking it into their family, and as if the dog needs the person, but the situation is much more nuanced. Very often dogs are seen as emotional servants and in return we give them rights that do not follow from their own animality. It is a symbiosis in which we take advantage of the dogs' ambiguous position (Haraway 2008). What is this contradictory situation? We regard companion dogs as persons and members of the family, but not all dogs come into such close contact with their owners, many guard dogs and signal dogs are merely farm animals. Not only do owners treat their pets differently, but legislation also creates a different picture of dogs. While many people see their pets as family members, reading the legislation one might think of dogs as contagious, dangerous creatures that require constant restraint.

1.4.1. Overriding emotions

Knowledge about dogs is not necessarily the most typical factor of relationship between man and dog. As we have seen above, consumer culture can generate consumption by influencing emotions. Even when purchasing hobby dogs, it is common for an emotion-driven consumer mentality to override awareness. More often than not, the prospective dog owner decides to own a dog based on emotional considerations, following the patterns they see. Very often the choice of breed is also based on emotion. (video 1.) We do not choose from the full repertoire of dog breeds, but only from those that we see in films, advertisements, on the internet or when walking on the street. These are mostly the fashionable breeds that we see in everyday life. The impact of fashion-driven choices is mostly not consciously felt, for example, none of my interviewees said that they chose a breed due to fashion. But even in a representative survey conducted by Ágnes Sátori in 2000, only 3% of respondents cited fashion as a reason for keeping a dog (Sátori 2006). However, it is hard to imagine that suddenly many more people like huskies, beagles or border collies than other breeds. Often the choice of a particular dog is an emotional decision, whether the prospective dog owner is standing in front of a breeding kennel or the cages of a dog shelter.

Video 1: Buying a dog https://youtu.be/I4JAnT-810s

In 2022, Enikő Kubinyi and György Varga conducted a nationally representative survey of 1023 people on companion animal husbandry. In their study evaluating the results of the data collection, they draw attention, among other things, to the answers to their questions on the role of companion animals: the data show that 3% of the respondents are fanatical fans, they love dogs more than anyone else, and 9% tended to agree with the statement that dogs are more important to them than any human (Kubinyi – Varga 2023). This indicates that 12% of the adult population in Hungary (more than one million people) have a very strong affinity for this species. At the same time, it can be assumed that many people in Hungarian society have a positive attitude towards dogs, even if they do not place them above their fellow human beings. It is worth reviewing both sides of the

dog-human relationship. What motivates human emotions towards dogs and how they are expressed, and what drives the attraction of dogs towards humans. In the following, we will look at the cultural determinants of humans, and in the ethology chapter, József Topál will present the attachment mechanisms of dogs (in subsections 2.1.1 and 2.1.2).

1.4.2. Symbolization of the expression of emotions

Ethological research has been investigating for years what makes the dog particularly suited to the position of companion species. These studies show that dogs are the result of a specific behavioural evolutionary process, whereby the need to adapt to human social relationships has produced an animal with "functionally human-analog" sociocognitive abilities (Miklósi – Topál 2012). One of the main characteristics of the dog's social skills is its willingness to join human groups and they show a distinct ability to fit in and behave according to social expectations. This is one of the reasons why we tend to think of dogs as 'children' (Topál – Gácsi 2012). Ethological research on dog behaviour has now made it clear that dogs have a regulatory mechanism that is characteristic of 1-2-year-old human children. They possess a number of social-communicative abilities that are manifested in an infant-like manner during interactions with humans. This toddler-like behaviour ensures that dogs integrate organically into human communities (Topál et al. 1998; Gácsi 2006). Humans do not seem to be satisfied with the child-like behaviour of dogs and try to adapt their appearance to it, which is why many people are looking for breeds that resemble toddlers. The ethologist Konrad Lorenz was the first to discuss the Kinderschema, i.e. that certain physical features such as the large head, round face, high forehead, small nose and mouth, and large eyes, which are characteristics of the face of a baby, are attractive, cute and activate a caring behaviour motivation in adults (Kiss – Leizer 2017). (Figure 8)

Figure 8: We find animals cute when they show the same characteristics as babies

It can also make an animal cute to humans. This attraction explains the very strong demand for short-nosed, round-headed breeds. In essence, these breeds are characterised by neoteny[15] , they do not grow up, they look and behave like a human baby all their lives, like a toddler. These animals can be more easily anthropomorphised, projected with desires and cared for (Gulliver 2022). The dog-like nature of toddler-like behaviour is matched by a kind of cultural response to the symbolic adoption of the dog into the family in close dog-owner relationships. Pet owners who live in the same household as their dogs, experience behaviours similar to human attachment patterns, and this gives them a strong urge to see them as loving companions. The first step in this process is to disassociate the dog from its animal nature, which may be manifested in a number of symbolic actions, such as living with people, being personified, having a name, or even being dressed. The aim is to get as far away as possible from the position of food source and as close as possible to the human. We do exactly the opposite with our pets compared to animals intended for consumption, where we strive to make them resemble slaughtered creatures as little as possible and to be as far from human as possible. [16]

15 Retention of traits that are characteristic of a species only at a young age, both phenotypically and behaviourally, in later life.

16 In most cultures, cannibalism is strongly discouraged, so we unconsciously prefer to eat foods such as steak that do not resemble the animal that was killed, while offal that is named after human organs (kidney, liver, heart) is less popular.

Owners often position their pets through the symbolic means and actions used in human relationships to express their bond with their dogs.

1.4.2.1. Naming

The use of names is a universal element of all cultures, essentially an anthropological universal, which is certainly not restricted to humans (Szépe 1970). From ethnographic descriptions of the 20th century we know that naming of animals is a common feature of livestock farming of previous centuries. Animals of economic importance (horses, cattle, possibly pigs) were given names, unlike animals kept in larger numbers (poultry, sheep), which were not. In the first half of the 20th century, the use of magical names was still common in many regions, and shepherds often named their dogs after rivers (Danube, Sajó, Tisza) to protect them from rabies (Madarassy 1912). Naming an animal implies its personality and is an important symbolic act of belonging to the owner, as well as a manifestation of the exercise of power, a symbol of ownership and acceptance of the animal. Animal names can be any expressions, they are not based on linguistic criteria, not bound by formal rules, and therefore it gives room for linguistic creativity (Tolcsvai Nagy 1997; Tóth 2014). Naming of dogs kept as companion animals often had symbolic meanings and in many respects it was similar to naming of human persons. The importance of the name is demonstrated by the fact that there was always an explanation and a story behind the circumstances of the naming and the name, which the owners were keen to use to justify the naming of their dogs.

"I gave the name VAT tom y dog because I can tell my clients I am busy with VAT at weekends and they think I'm working." (N.G., a 24-year-old man)

"When we were coming home on the motorway and we figured we needed a dog, an ambulance came right in front of us and because of the Doppler effect...we called our dog Doppler..." (I.L. 27-year-old male.)

As naming is one of the first actions at the beginning of a relationship with a dog, the name can have little to do with the animal's qualities,which we can experience later. The names that are most closely related to the characteristics of dogs are those that describe external features (Cuki, Kicsi, Kormos, Folti). In my experience[17] , naming is also often related to breed choice. Owners buying a purebred dog usually have knowledge of the appearance and temperament of their prospective dog from breed descriptions and try to choose a name that "suits the breed". It is also common for prestige to play a significant role in the use of socio-culturally related naming models (Caesar, Zeus, Hector). Naming is linked to the social prestige associated with owning a breed and symbolises the social status that is hoped to be achieved by acquiring a dog.

"My other two dogs are Dame and Baron, so we definitely wanted a noble name. The plan was Lord, but when we bought him he was so helpless that he had to be called Little Prince, and he adapted to his name because he's the little prince of the group." (P.K. 28-year-old female)

Naming is often a joint family action and decision. Despite the fact that the family is behind the choice of a new favourite name, the naming act is not actually a collective one, but is the result of the creativity of one family member and only becomes a real name if it is accepted by the family members (N. Fodor 2012: 39). At family level, intergenerational differences may also be reflected in naming.

"At first it was Rozi, but it didn't really fit so my daughters renamed her Lola, based on a dog calendar on the internet." (N. P. 34 years old male)

When we try to understand why the name Lola is more appropriate for a dog than Rozi, we basically turn to the basic function of personal names as identity markers and see that the name characterizes the person who names the dog much more than the person named (Hoffmann 2008: 8). The conceptual and semantic nature of the name is influenced by the cognitive influence of the individual who creates the name (Hoffmann 2012: 9-12). The nature of dog names is determined by the mental attitude of owners, in essence, the names of dogs reflect their owners' perspective of the world, knowledge and identity (Slíz 2012: 286).

17 In my 2017 research, based on empirical data collection, I conducted structured interviews with 12 dog owners in Debrecen.

"I wanted a name that he would hear often, so that in the next incarnation, if he could be born in, say, a state of consciousness, it would ring a bell and he could relate it to Buddhist teachings." (S.E. 38-year-old male. Dog's name is Dharma)[18]

We can also talk about a naming trend for dogs. Nowadays, the formerly common dog names (Buksi, Rex) are being pushed into the background, and pets are often given fashionable names used to name human children (Keve, Bence), emphasising the role of dogs as children (Gulliver 2022).

1.4.2.2. Is the dog a member of the family?

In recent years, both quantitative and qualitative methods have been used to investigate this question. For two consecutive years, our questionnaire surveys showed almost the same proportion, with 96.1% of respondents in 2020 saying they considered their dog a member of the family, and 94% of respondents in 2021 considering their dog a member of the family.[19] The results of the questionnaire survey indicate trends rather than realities, because in recent years, as the number of dogs kept as companion animals has increased, it has become increasingly fashionable in public discourse to consider dogs as family members, regardless of how they are kept. Thus, the definitions are more about expressing the emotional relationship with the family dog than defining the actual relationship. Consequently, the interpretation of dog-owner relationships is quite relative, with each interviewee presumably conceptualising the notion of family member slightly differently. In the wake of current consumer trends, many people consider their dogs as family members, while keeping them in the yard or on the run, excluding them from family space. For example, 96.1% of dog owners who completed the 2020 questionnaire said they consider their dog to be part of the family, while 48.6% keep their dog in a garden or yard, or in a kennel, so the isolation means there is little chance of a close and intimate relationship between the human family and the dog.

In a field survey, when asked if they considered their dog a member of the family, most dog owners also said yes. However, in response to interview questions, several reported that they treated their dog as a human but considered it an animal. My conversation partners emphasized three key aspects of the dog's position: the hierarchical relationship, the shared activities, and the dog's belonging to the family group.

"I see them (their dogs) as equals, but I know that their needs are completely different. He is my equal in that I help him in any way I can. I try to find things that are equally enjoyable for me and for him, like sleeping on the sofa... and then we do them together... and then I treat them as equals." (P. K. 28–year-old female)

"Part of the family. When we organise a programme, we take him into account, whether he can come, whether he can't come, what to do, how to do it. He's obviously part of our life and part of the family, but at the lowest level." (O. E. 17-year-old female)

"A dog is a very good companion, but not an equal. It is not treated as a human, but in its own environment. Even if I buy him a silk blanket, it doesn't mean anything to him, he doesn't need it, but if I call him to me and stroke him when I see that he needs it, I increase his comfort zone." (I. L. 27 years old male)

Dog owners who live in the same household as their dogs, experience behaviours similar to human attachment patterns, and this gives them a strong urge to see them as a loving companion. The specific artificial-relationship with dogs is a uniquely human one, which dogs are able to fulfil because they are able to evoke in their owners a tendency to cooperate, a sense of belonging, a sense of interconnectedness. "Even though dogs cannot understand human culture, they express an emotional attachment to humans. They are capable of socializing because they are able to cooperate, communicate and subordinate their self-interest to the interests of the group, but they do not understand and recognize the complex and abstract family relationships due to their lack of abstraction" (Csányi 2011).

18 The word means: the Buddha's teaching, the doctrine. Dharma (in small initials) is a constituent, a phenomenon, a part of consciousness, an element that constructs reality.

19 This ratio is not low even if we focus not only on dog owners. From a nationally representative sample, it was found that 66% of the respondents fully or partially agree that the dog is a family member (Kubinyi – Varga 2023)

Positioning dogs as family members is essentially an emotion-driven symbolic action. Owners bring their pets into the closest bonds between people to express their close kinship. The concept of family is essentially a socio-cultural construct, regulated by different means in different societies (Sahlins 2013). Since the pluralism of contemporary societies does not provide a traditional (common) framework of meaning, each individual must develop his or her own personal interpretation. If one starts from the assumption that one has a close emotional relationship with their family members, it is logical to conclude that the being with whom one has a close emotional relationship is a family member.

1.4.2.3 Celebrating and giving presents to dogs

Dogs kept as companion animals are not only defined by their owners as family members with a companion or child status, but also celebrations are organised for them following a human pattern. (Lovas Kiss 2018) Dog celebrations mostly copy human celebration customs or rituals manifested in gift giving. Rituals around the dog in the family mostly celebrate the dog's birthday or involve the animal in people's celebrations. In our survey, repeated two years in a row, we also asked dog owners if they celebrate their dogs' birthdays. In 2020., 48.6% of respondents said they celebrate their pet's birthday, and 47.6% in 2021. So, almost half of the dog owners surveyed organise celebrations that look reminiscent of celebrating and giving presents to young children on their birthday. These events also emphasise the "child" position of the animal in the family. The act of celebration itself focuses on two important elements, the greeting and the presentation of food or gifts that the dog likes. (picture 21) Dogs are most likely to receive a special cake or toy, but the nature of the celebration is also influenced by whether they tolerate wearing various party accessories or situations that mimic human behaviour (such as sitting at a table). The event lasts until the animal has eaten the food or played with the toy, so the celebrations are often shorter than the preparation process. The food presented often has the appearance of a birthday cake, but the composition of the food is a delicious treat for the dog.

Picture 21: Birthday greetings made of dog food eyes

"I always get a cake, I usually get a custom, handmade cake. I pick and choose the ones she likes every year. I give her something delicious, whether it's roast meat, or she likes eggs, for example, or she really likes liver paste. Then I pick all sorts of things, she likes these stinky dried beef gullets and things that are really disgusting... and then we put a number on top of it, just like with humans." (Female, 23 years old.)

The owners interviewed were divided on what their dogs would get out of the celebrations:

"Let's just say that for a few good bites, we'll make fools of them. They're not going through it as much, I don't think." (H. I. 37-year-old male)

"...well, I think he senses it, because he learned at school (dog training school) what the expression yours means, he senses happiness." (T. K. 21-year-old female)

Giving a dog a gift demonstrates that you belong to the family and it can happen at any other occasion when family members give each other gifts. In these events, the active party is the host who creates the ritual, and the events with the celebrated animal at the centre simply happen. Although the dogs do not understand the abstract content of the celebration rite, they do perceive the attention that is directed towards them. For the owners interviewed, this is often enough. Because they expect their pet not to understand the meaning and purpose of the celebration, the

giver does not expect conscious reactions and gratitude from the dog, contenting themselves with witnessing the recipient enjoying, consuming or playing with the gift.

"For Every important family celebration they get something, not a big thing, but always. At Christmas it's a toy, even a more expensive toy. At Easter, something small." (Ny. Á. 23-year-old female)

Celebrations organized for the dog are often also for the people. At family and community levels, it can also represent a kind of "dog togetherness". The people who know the celebrated dog, typically from the owner's family and friends, as well as dog owners who share similar emotional bonds with their dogs, can use this form of celebration to express their love for animals." *The family get together and we present the cake. Or last year, when he turned seven,* we celebrated with a long weekend dedicated to the dog. *And then everyone gathered around with their dogs and I gave Caesar his cake and we all celebrated together."* (Female, 23 years old.)

Celebrations created for animals cannot be considered an element of the generally accepted human-animal relationship in mainstream society. However, research experiences show that those who organize elaborate festivities for their dogs embrace this practice and often aim to document the events and share them on the internet. At the same time, the narratives about dog birthdays often contained self-ironic and distancing elements.

"It's pretty infantile to wish a dog Merry Christmas and give him a present." (H.I., 37-year-old man) – said with a laugh, a dog owner who admits to giving his dogs presents at Christmas.

"We celebrated his (the dog's) first birthday this April by going to the high street and having ice cream. I bought sugar free ice cream and He (the dog) also got an ice cream. My friends and I took him. He was so happy to be the only boy in a girl gang and he even got ice cream, it was a birthday celebration. I told him happy birthday, but just for fun, and we took a picture with him. This photo is shared on Facebook." (P.K. 28-year-old female)

In the former example, the anthropomorphization of the dog is particularly emphasized, the owner essentially projects his own human emotions onto his dog when he tries to interpret the animal's emotions. The purpose of these events is manifold. On the one hand, they are inclusive rituals expressing belonging to the family bond, designating a child-like position. , and on the other hand, they are specific manifestations of the hierarchical human-dog relationship as an action directed by the master. In these more or less ritualised acts, dog owners can express their love for their own dog and the position of the dog in their coexistence.

1.4.2.4 Visual representation of the celebration of dogs

During the qualitative research, I was able to learn about the process of celebration itself through the owners' narratives. From these narratives, the emic perspective of the dog owners who organized the events emerged, highlighting what they wanted to showcase to the outside world about their "dog celebrations." It was also clear from what was said that an important element of these celebrations is the visual and cinematic documentation created by the owner or a member of the family.

Documenting the festive event is almost essential, because it is through the capture that the visceral situation is preserved. The resulting images focus on the essence of the event. In terms of representation, the challenge is how to visualise the festive situation in case of a dog. The solution is mostly to use the props of human celebration. According to my conversation partners, a picture of a "dog celebration" is considered good if it includes the event's attributes, which help to identify the theme. In addition to the Christmas tree, festive table settings or birthday cakes, paper mache party props often appear in the pictures. These props are intended to play the role of the "festive dress", and their use in the photographs makes the situation of the celebration clear. The pictures typically showcase the dog in its special role for the celebration, the gifts, and the moment of gift-giving. (picture 22) The dog sitting at the table in front of the birthday cake, which appears on social media, is essentially

Picture 22: Dogs „celebrating" a birthday

a representation of a symbolic situation, which in most cases is only a single staged moment of the festive situation. But its purpose is to summarise the whole event in a single image. In cinematography, poses are less common, and video makers mostly try to capture the process of the celebration, focusing on gift-giving, the use or consumption of the gift.

Sharing events that we feel important on the web is a global trend. Posting pictures and videos of a dog's birthday celebration is both a way to showcase an event and a symbolic expression of love for animals in a broad sense. By humanising companion animals, the images seek to symbolise and demonstrate the human-animal bond. The way in which the captured moments is published on social networking sites varies from individual to individual. Some people share photos of their pets only with their immediate circle of friends (often "dog friends"), but many people also make photos documenting the "doggy" celebration available to a wider audience. The event, which is usually celebrated in a narrow circle offline, becomes transparent and responsive through sharing it online. Many of the interviewees reported that the positive reactions, likes and comments to the first publication inspired them to create more similar events. The visual representation of dogs is not limited to the web, the vast majority of the pictures of my interviewees stored on their phones also captured their dogs. However, only a few of them reported having photos of their pet displayed in their homes.

The emotionally saturated nature of dog-human relationships, manifested in symbolic acts, is expressed in many other areas of life, from the objects bought for pets, to the funeral of a beloved animal, to the preservation of its memory. The world of rites between dogs and their owners is essentially a meeting of biological responses of dogs and cultural responses of humans. In order to survive around humans, dogs have developed a behavioural repertoire and skill set that simulates human social skills (Topál – Kiss 2017) and to this behaviour, humans provide culturally encoded responses. Owners make human abstractions, culturally dictated symbolic gestures intended for humans, in which dogs are not actually partners, but merely actors. Dogs are able to meet the unilaterally human demands of kinship because they are able to evoke in dog owners a tendency to cooperate, a sense of belonging, a sense of interconnectedness.

1.5. How much is a dog worth? – Cultural links between dog breeding and value

The value of dogs is defined by the duality of their biological and material existence. They are consumer goods, objects of prestige, objects of our emotional attachment and sovereign creatures with needs of their own at the same time. In Barthesian sense, they are both markers and markees, whom we 'humanize' while treating them as objects (Barthes 1999). Our consumer culture determines their symbolic and market exchange value. (video 2.) Dogs are both in short supply and in high demand, while there is also an incredible oversupply.

Valuing dogs is fundamentally an anthropocentric attitude that shapes values among dogs from a human perspective, through dog breeding to meet human needs. Dog breeding reflects a capitalist conception of value. Breeding was popularised by the rising middle classes in the capitalising societies of the 19th century. The new financial elite valued their own pedigree and this familytree focus was reflected in breeding of dogs. Many hoped to find prominent ancestors in their own genealogy, but were also keen to boast of their dogs' famous ancestors.

Video 2: How much does a dog cost? https://youtu.be/mxFJhfrvrsk

At the beginning of the 21st century, it is not uncommon for breed enthusiasts to believe that they have found some sort of ancestral lineage that proves that the breed is much older and therefore more valuable than previously thought. The Aksaray Malaklisi is the largest of the Anatolian Sheepdogs. It is also known as the Turkish Mastiff or the Anatolian Lion. (picture 23) According to the Aksaray Malaklisi Breed Development Association (Turkish breeders' association), this dog used as a shepherd and guard dog today is one of the oldest breeds, dating back 3,500 years. They base their opinion on the fact that the breed's appearance is reminiscent of dog depictions on Mesopotamian reliefs. (pictures 24-25) However, as far as we know, breeding for looks spread from Western Europe much later, in the 1800s. In earlier times, the breeding was determined by the purpose of use, so that it cannot be said that the Aksaray Malaklisi's lineage is continuous with the dogs in the Mesopotamian depictions, based on appearance alone.

Picture 23: Photo of Aksaray Malaklisi

Picture 24: Wall relief of hunting dogs

Picture 25: Mesopotamian war dog depiction

In the Victorian era – and even in the early modern era – the identity of dogs became a subject of human interest. After thousands of years of work-based domestication, dogs were sorted into appearance-oriented pedigrees and named as breeds. In other words, skill-based selection was replaced by appearance-based selection. Once a breed was defined, the bloodline was closed. A dog's value was determined by its pedigree and it was only purebred if its parents were listed in the stud book and the owner could prove this with a pedigree (Gulliver 2022).

It is precisely because of their unknown pedigree, and therefore their uncontrolled origin, that mongrel dogs have become a worthless counterpoint to purebreds of pedigree, of selected ancestry and therefore of value. The classification of dogs as purebreds and mongrels still represents what we thought of pedigree in the Victorian era. While there is an increasing demand for pedigree purebred puppies, both at home and abroad, there is no price for mongrel dogs, and as there is no price, there is no real market value. If you want a dog, you can get one for free or for a small amount of money, but these are the animals that are most vulnerable and most often end up on the streets. 90% of the animals in dog shelters

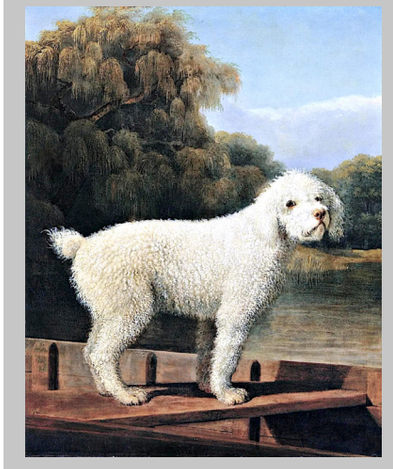
are mixed breeds.[20] At the same time, in social classes where work-based husbandry conditions persisted, such as in the pastoral culture of late 20th century rural societies, there was a reluctance to use purebred dogs, as it was considered that if a dog was made up of several 'purebreds', it could 'have a tendency to go in all directions'. Of course, mixing could not be at the expense of breed character (Szekeres 1994).

Two hundred years have seen the evolution of dogs take off, and since the 19th century, nearly 400 new breeds of dog have emerged. Today, the hierarchy of values between breeds is mostly determined by fashion rather than function or utility (Ghirlanda et al. 2013).

The choice of species is a cultural message from the owners. They indicate their class, preferences and personality by the dog they choose as a pet. "If I hear that someone has a pit bull, I assume something quite different from them as if they had a Yorkshire terrier" (Gulliver 2022). Breeds have become brands in terms of consumer preferences. Owning a fashionable breed sends the message that you are both trendy and can afford a luxury item. As we have seen in the previous chapter, not only the choice of breed, but also the way we treat, communicate with and name our dogs carries symbolic content and sends a message to the rest of society about what dogs mean to us (Gulliver 2022).

Breeds have accumulated associations from their presence in popular culture, to their phenotype, to their familiarity in everyday life. These prestigious, registered dogs, from renowned breeders and award-winning parents, depending on how fashionable their breed is at the time, sell for considerable sums and are in demand both at home and abroad. These animals are often given to their owners as a means of social status. Owning a dog is an exercise in expressing one's cultural preferences, because the 'furry totem' reflects them to the world (Gulliver 2022). The most valuable dogs are usually owned by the economic elite or specialists (dog breeders).

20 MEDIÁN (2018): public perception and actual operation of dog parks: https://www.cofidis.hu/media/median-kutatas-prezentacio-1002.pdf (downloaded 2023).



Picture 26: George Stubbs: White Poodle in a Boat (1780)

Picture 27: Print based on Gambier Bolton's photograph of Dexter, a poodle with a black string (19th century)

One of the most spectacular cases of fashion influencing dog breeding is what happened to the Poodle as a breed in the second half of the 20th century (Ghirlanda et al. 2013). Few other dogs have changed their appearance as much as the Poodle. Depictions from the 18th century show dogs with thick, curly and woolly coats, sometimes with braids. (pictures 26-27) With the advent of electric clippers, the clipped poodle has become so widespread that its silhouette is now emblematic and easily recognizable. (picture 28)

Originally bred to be hunting dogs, the poodle is not the only breed of dog to have developed genetic problems as a result of inbreeding. In a process of very close breeding called 'line-breeding', father-daughter and mother-son crosses were often made to reinforce desirable traits. (https://www.dogenes.com/poodle/wycliffe/michael.html) The result was a large number of highly inbred animals with multiplied genetic problems. In 1949, there were 2,165 pedigree poodles all over the world, but as the breed grew in popularity, this number jumped to 58,000 in 1959. Kennels were pouring in puppies to meet the demand.

The genetic bottleneck in the breed can be traced back to a champion dog named Annsown Sir Gay, who achieved several show wins. Several kennels competed for the 1949-born dog's offspring and 'luckily' Sir Gay was prolific, siring 21 litters. His offspring also did very well, with one of his sons, Gay Knight, siring a litter at Wycliffe Kennels in 1959 that produced five show-winning dogs. The genes from the Wycliffe litter can still be found around the world in

Picture 28: Poodle silhouette

the UK, USA and Australia (Armstrong 1997). By the 1990s, over 40% of pedigree poodles and up to 50% of black poodles could share this heritage. With the demand for poodles continuing unabated, to date more than 250,000 poodles are registered each year in the United States alone (after Gulliver 2022).

The 1955 cartoon Susi and the Trickster is a classic tale of a girl of elite birth and a boy of dubious origins who fall in love.

The family trees created by breeding dogs reflect human relations (the social distance between the nobility and the peasantry). This is even more emphasized in the original title: Lady and the Tramp. (picture 29)

Picture 29:
Lady and the Tramp (1955)

As we have seen above, the number of dogs per capita in Hungary is high by European standards and one would assume that dog breeding is thriving in the country. The fact that anyone can breed dogs in Hungary, without any prior studies, and that one can become a breeder if one's dogs are certified as suitable for breeding at a breeders' show organised by the National Association of Hungarian Dog Breeders, also seems to be a positive possibility. In comparison, the proportion of dogs in the dog population created by registered breeders linked to kennel clubs is between 7 and 20%. For instance, the number of newly registered dogs in 2019 was only 8.2% of the number of dogs registered for chip implantation in the same year (Varga – Gyuris – Kubinyi 2023).[21] The low number of registered dogs is explained by the very high prices compared to the solvent demand. The price of a puppy from a better breeding kennel has ranged between approximately 300 and 500 thousand HUF during the last decade, but depending on the breed, the price of a puppy could reach the order of a million HUF. (For example, a pedigree Pomeranian dwarf spitz puppy could cost up to 1 million HUF.) However, in 2018, a nationally representative survey by Cofidis Credit Monitor showed that Hungarians spend an average of HUF 34.6 thousand on buying a dog. In fact, more than half of the respondents would not have paid even that much for a dog, 35% would have spent between 10-20 thousand HUF, and 20% would have spent up to 10 thousand HUF.[22] Given the emotional attachment to dogs – discussed in the previous chapter – these figures are surprising even if we consider that the representative data set includes not only dogs kept as companion animals with a human connection, but also as watchdogs. Therefore, in our questionnaires on dog ownership habits in 2020 and 2021, we have sought to collect more nuanced information on dog buying habits of owners. To explore the correlations, we asked not only about the purchase price but also about the place of purchase.

In the 2021 questionnaire, we also offered the option of not paying for a dog and found that 20% of respondents chose this option.[23] 15% of the respondents indicated an amount of less than 20,000 HUF and 53.3%, i.e. more than half of the respondents, would spend between 20,000 and 160,000 HUF on a dog.[24] Only 3.5% of the 7512 dog owners who completed the questionnaire would have paid the market price for a dog at the time of filling in the questionnaire. (Figure 9) It is

21 György Varga's own calculation based on MEOESZ 2022 and data provided by NÉBIH on 13 May 2020 in response to an individual data request.

22 MEDIÁN (2018): public perception and actual operation of dog parks: https://www.cofidis.hu/media/median-kutatas-prezentacio-1002.pdf (downloaded 2023.)

23 The response did not indicate whether the respondent would regret spending money to buy a dog or, for example, whether they were committed to adoption and would not buy a dog.

24 Although the trends are similar, our measurements probably differ significantly from Cofidis' 2018 survey because we did not focus on the whole Hungarian society, only on dog owners.

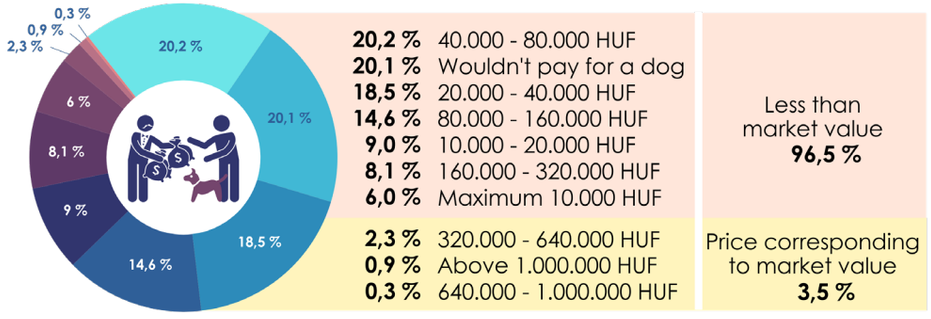


Figure 9: How much money would you spend on a dog?

legitimate to ask why dogs have no value in our country and if they are not bought from breeders, where do they get their dogs from? We asked about sources of supply in different ways in 2020 and 2021. The questionnaire on dog ownership habits in 2020 was completed by 6,600 people, giving data on around 8300 dogs.

In the evaluation, it became clear that almost half of the respondents (42%) mobilised their social capital when they obtained a dog through friends, relatives or acquaintances (Coleman, 1988). However, it remains unclear whether these interactions mean gifts or purchases. (picture 30) It also became clear during the evaluation that respondents had different understandings of the term 'dog breeder'. 35% of respondents said that they had acquired their dog from a breeder, but there is some discrepancy in that only 29.8% reported that they had a pedigree. (Figure 10) In order to obtain more accurate information, our questionnaire on dog ownership in 2021 offered more nuanced response options. This showed that nearly half (47%) of the 7,512 dog owners who responded had got their dog for free or very cheaply. One third (31%) received their dog as a gift, and 10% adopted their dog from shelters and

Picture 30: „A few seconds before happiness"

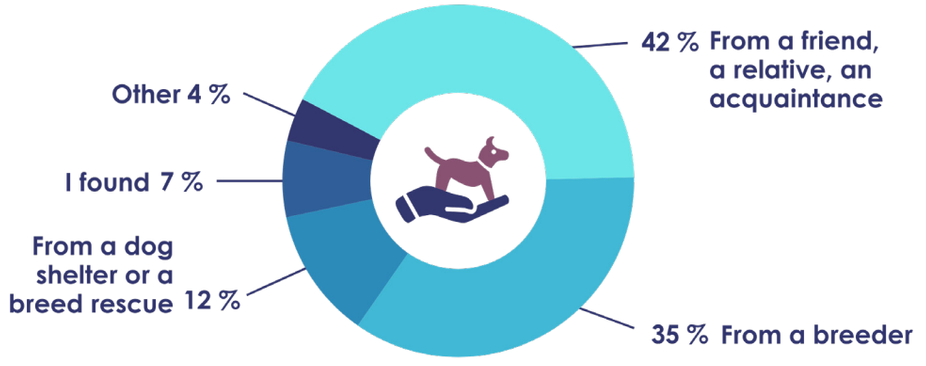


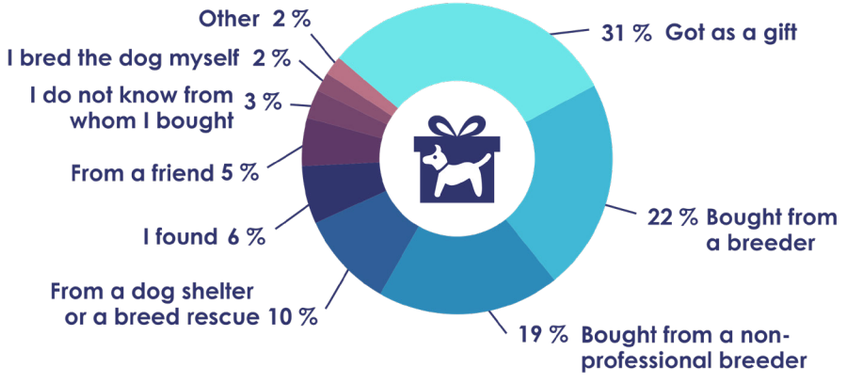
Figure 10: Where do the owners' dogs come from?

breed shelters (shelters usually charge for vaccinations and compulsory chipping, which costs around 10-40 thousand HUF).

The 2020 survey already showed that the concept of a breeder in the public mind is rather subjective. Therefore, for the 2021 survey, we created two categories and offered the option of "informal breeder" in addition to "breeder". The proportion of respondents who chose between the two options was similar, with 22% buying from a breeder and 19% from an unofficial breeder. (Figure 11) In the evaluation of the questionnaire, it was not clear whether the informal breeder was understood to mean an owner who only mates their dogs a few times or a dog breeder.

Based on the collected data, it appears that we do not like to spend money on dogs, or if we do, we try to acquire them

Figure 11: Where do you get your dog?



for much cheaper than the market price. This is due to the fact that our culture has both remnants of the values of peasant society and capitalist consumerism. This mix of factors also plays a role in acquiring dogs.

Since 2004, following Hungary's accession to the European Union, the demand for relatively cheap registered dogs in Hungary has increased abroad, and this has also increased the prices, which are now too high for many Hungarian consumers. Nowadays, many families are experiencing a crisis of impoverishment due to Hungary's economic decline. In dealing with the crisis of the present, strategies are often based on past experiences (Masco 2017). Cutting back on consumption – as a traditional saving tactic – dictates in our case that if something can be obtained for free or cheaply, significant amounts of money should not be spent on it.

From ethnographic collections from the 19th and 20th centuries, we know that in peasant society, money was rarely paid for dogs. Guard dogs and watchdogs did not produce monetary profit, so money, which represents universal exchange value, was not wasted on acquiring them.

Dogs kept around the house did not represent significant value; their loss did not constitute a major loss. The uncontrolled natural offspring generally provided enough for friends, relatives, and neighbors who needed a dog, so any shortage could be quickly replenished through the network of relationships. Only reputable working dogs or their offspring were exchanged for compensation, but these transactions were barter deals, paid in produce or livestock. According to data from the early 20th century, a reputable shepherd puppy could be exchanged for as much as a quintal of wheat or a sheep. (Szabadfalvi 2001). Although the status of dogs has changed a lot in modern times, paying money for dogs is still a foreign phenomenon in peasant society or among their descendants. The collected data is presumably distorted because animals obtained or exchanged through social capital cannot be classified into the price categories defined by the questionnaires. These mechanisms become clearest in the interview situations. The impact of consumerism is reflected in the fact that many people have a desire to own a fashionable breed but are unable or unwilling to pay a lot of money for a dog. They sustain the "second line of breeding," from which individuals that resemble the desired breed's phenotype and possess breed characteristics but lack pedigree can be obtained cheaply. Essentially, the acquisition of expensive, pedigreed purebred dogs is handled through well-established practices in an informal manner. Dogs sold cheaply and advertised as specific breeds but without pedigree typically come from breeders or amateur breeders. In our country, there is a tradition of "home" dog breeding. Essentially, careless female dog owners who face unwanted litters from their uncontrolled and unspayed dogs also count as traditional home breeders. Depending on the conditions, this situation can frequently arise in villages or in suburban areas of cities, particularly with dogs that are allowed to roam freely at night or are prone to escaping. As a solution, the destruction or gifting of the puppies is a common practice. (picture 31) Additionally, those who are inexperienced in dog breeding but are motivated by widespread beliefs to breed their own dogs can also be considered home breeders. Some people believe that their female dog will stay healthy if she has at least one litter in her lifetime. Others believe that their beloved dog's puppies will be just like the parent, and thus they can ensure the next dog they have. It is particularly common among owners of unregistered dogs that resemble a particular breed to seek a purebred mate for their dog, which they consider very beautiful. They might feel it would be a missed opportunity if their dog could not breed or sire litters. Home breeders are typically not driven by financial gain; these owners are usually content with organizing just one or two litters during their dog's lifetime. But lack of knowledge also means that unsuccessful

Picture 31: Dogs from unwanted breeding are not easy to get rid of

attempts are common. The puppies from successful matings are usually sought to be sold or given away within the owner's circle of acquaintances, which is not always an easy task. In both rural and urban areas, it is common to see simple ads stating "Puppies available for free." The significance of home breeding in our country is considerable, as evidenced by our 2020 survey on dog acquisition, where a significant proportion (40.2%) of dogs were obtained through social connections from friends, relatives, or acquaintances.

The activities of dog breeders are fueled by the popularity of various dog breeds. For the purpose of making a living, they mate individuals of a fashionable breed without any form of control, registration, oversight, or breeding program. They seek maximum profit with minimum investment and therefore aim to 'breed' and sell large numbers of puppies. Excess or unsellable puppies are either destroyed or discarded. Breeders can sell puppies cheaper than responsible breeders because they minimize expenses. They cut costs on housing and breeding conditions, the animals do not receive proper nutrition or veterinary care. (picture 32) Puppies do not undergo health screenings, do not receive necessary vaccinations, lack pedigrees, and often have hidden genetic issues. Many genetically compromised dogs end up with owners who learn the hard way about the difference between a responsible breeder and a breeder of poor quality. As a result of irresponsible breeding, the health of the dog population in Hungary continues to deteriorate.

Picture 32: Puppy mill

1.6. Homeless dogs and shelters

As we have seen above, for many people in our country dog ownership is not a matter of conscious choice and responsibility, but often the result of emotion-driven decisions. Dog ownership and breeding are often influenced by misconceptions and beliefs. This lack of awareness and knowledge is perhaps reflected in the fact that, according to some estimates, there are approximately 300,000 stray dogs in our country. The question may arise as to why we consider this situation in Hungary an animal welfare and public health crisis, when there are many more stray dogs in the world than owned ones. As I have already shown, 800 million of the one billion dogs in the world are ownerless (Pierce – Bekoff 2021). It seems that stray dogs are not a problem to the east of us—indeed, in Turkey, there was social resistance to the government's attempt to capture and eliminate the proliferating street dogs. However, moving westward, encounters with wandering dogs become increasingly rare.

Street dogs and the westernizing Turkish society

Stray dogs are part of the history of Istanbul. According to Kimberly Hart, an anthropologist at SUNY Buffalo State College, they are part of the city's intangible cultural heritage. They were probably present in the city in large numbers as early as the Byzantine period, but historical sources from the Ottoman period show that they played a varied role. They served as guardians of the neighbourhood, ate the garbage, thus improving the hygiene of the

Picture 33: Stray dog in Istanbul

settlement, and barked to warn the inhabitants if there was a fire, which was often the case in the past. (pictures 33-34)

Locals traditionally consider caring for cats and dogs living freely in the city to be a good deed. During the Ottoman era, water troughs were set up for animals in mosques, and today, residents continue to provide for the housing and feeding of street animals. "People see dignity in the dogs, viewing them as fellow citizens, part of their streets and communities," stated Elizabeth Lo, the filmmaker who created the documentary Stray about the dogs living freely in Istanbul.

Although dogs have been a flexible presence in Istanbul for centuries, they too are vulnerable. There have been several attempts to remove or exterminate Istanbul's dog population due to the authorities' "Westernizing" efforts since the early 19th century. The most horrific attempt occurred in 1910 when 80,000 dogs were exiled to the island of Sivriada, one of the Princes' Islands off the city's coast. With no food or water on the rocky, uninhabited island, the dogs died slowly and painfully, and their cries were reportedly heard across the Sea of Marmara to the mainland. According to local history, many saw the city's devastating fire in 1911 and the outbreak of World War I, which led to the occupation of Istanbul, as divine punishment for the killing of the dogs.

Turkey's drive to join the European Union led to the adoption of the country's first animal protection law in 2004, which requires municipalities to take care of stray animals and keep them in their neighbourhoods, and banned the killing of street animals. In 2012, animal advocates protested en masse against amendments that would have allowed the removal of animals from central Istanbul. In 2024, the Turkish government's plan to collect the proliferating stray dogs also sparked intense controversy. According to the proposed legislation, captured animals would be taken to shelters, where they would be euthanized if not adopted within a month. However, local animal rights activists argue that this is unfeasible due to the need to temporarily house millions of animals. It seems that those in power do not see a place for dogs in the modernizing Istanbul. Urbanization processes, modeled on Western examples, are dismantling the traditional neighborhoods where dogs had their place in the social fabric, with alleys, butcher shops, and people who looked after them (Hattam 2021).

Picture 34: Stray dog in Istanbul

Dogs can interact with humans in many ways due to their biological characteristics, but the form of contact is determined by culture. In Turkey, for example, dogs traditionally live on the streets and are considered by locals to belong to the community, whereas in Westernised cultures, such as ours, dogs are attached to owners, meaning

that dog keeping follows a possessive approach. Every dog must have an owner. This means not only a subordinate-above-ordinate relationship, but also that people in Western cultures do not think of their dogs as born free, and some of them are assumed to be incapable of independent living because we have changed their genetics and living conditions (Lányi 2020).

As illustrated by the Turkish example in the box text, it is not possible to sharply differentiate between cultures that prefer "owned" and "stray" dog management; the situation is more nuanced. In Hungary, there are also marginalized and subordinated social groups living on the periphery of society where the dog ownership norms accepted by the majority are not necessarily followed. In segregated communities, it is common for the animals living there to lack identifiable owners, with no one to care for them or take responsibility for them. Even among owned dogs, their lifestyles are not always controlled; in rural areas, it is not uncommon for dogs to roam freely, either continuously or only at night. These examples indicate that dog selection does not affect the entire society; it primarily concerns the middle class, as the poor are not interested in this issue, lacking the funds for spaying or neutering their dogs, and sometimes even for the dogs themselves. The upper class, on the other hand, acquires their often pedigree dogs from expensive breeding establishments and can ensure their secure housing. It is worth delving into why stray dogs pose a problem in our culture. In Western capitalist societies, dogs kept as companion animals—though they may play a peripheral role—enter society alongside humans, becoming part of a regulated cosmos (Kiss 2009). When a dog loses its owner, it also loses its legal status, thus being excluded from the community of political beings and reduced to merely a biological entity (O'Donoghue 2015). Because dogs are accounted for in society through their human owners, without an owner, a dog transitions from a qualified life form (bios) to merely a biological existence (zoē). Despite not being human, a dog can become, in Agamben's sense, a *homo sacer*[25] because, since the Victorian era, capitalist societies have increasingly integrated dogs into the family unit. This process, beginning in the 1980s in the USA, has led to companion dogs being considered family members in the global capitalist society (Agamben 1998).

In Western-style cultures, including Hungary, societal power regulates and keeps track of animals through their owners, and therefore only owned dogs can be controlled. The owner essentially exercises power over the animal, appropriating its body, time, space, and entire life. This mirrors how societal power acts upon individuals, providing care and exercising supervision (Foucault 1992: 119–123). Stray dogs cannot be tracked; they fall outside statistical systems, and this lack of control constitutes the crisis itself. The fear of stray dogs is a socially constructed phenomenon, generated by our own culture (Kalkman 2019; Estes 1983). The issue of dogs becoming stray fundamentally raises the responsibility of the owner, whether the owner decides they no longer wish or are unable to keep the animal, or if the dog strays from its owner. Consequently, government measures under the guise of animal protection are often more about regulating and controlling dog owners than about genuinely helping the animals in distress.

The 2013 regulation requiring individual microchipping of dogs essentially establishes a national database for tracking, verifying ownership, and facilitating the return of lost dogs to their owners, while also enabling accountability of the owner for the dog's actions. However, most stray dogs are the result of uncontrolled breeding, have never seen a veterinarian, and their ownership is indeterminate or nonexistent, placing them outside the individual identification system. Although animal protection laws apply to both owned and stray animals, they primarily offer protection to owned animals. Because stray dogs cannot be tracked, their destruction was previously considered a solution, while currently, rehoming

25 An outcast state in Roman law. The homo sacer was excluded from the religious community and from all areas of political life, he could not participate in the rites of his community, and he could not perform legally valid acts. His existence was limited to mere life, he was deprived of all his rights by the fact that basically anyone could kill him without committing murder: "you can kill him, but you can't sacrifice him" (Kiss 2009: 25).

them is seen as the solution to the problem. As we will see, it is largely thanks to civil organizations that losing an owner or being stray does not necessarily mean the animal's death.

1.6.1. Alternatives to caring for stray dogs

The 1998 Animal Protection Act made it a mandatory duty for local municipalities to capture stray animals within their jurisdiction. Captured animals can be taken to a pound (dog control facility), which is funded by public money from the local government. A captured stray animal becomes the property of the state, and if its owner is not identified within 15 days, the animal remains in state ownership and may be put up for adoption. After 45 days, the captured dog's life can be ended if the owner remains unknown, if no one adopts the dog, if it is not taken in by an animal shelter, or if the dog is aggressive, has behavioral issues, or has low chances of survival (Government Decree 785/2021 (27.XII.) § 5, 16)[26]. These definitions provide a basis for somewhat fluid and subjective interpretations. For instance, the regulations do not clarify what specifically constitutes a dog as aggressive or having behavioral issues. It is questionable whether a captured and transported animal can be expected to exhibit calm and composed behavior. According to the regulations, the life of a captured stray animal can be ended immediately if its continued existence would result in unavoidable or unrelenting suffering and recovery is not expected.[27] Captured animals are also taken to pounds, including those temporarily under observation, animals confiscated due to severe health hazards in their living conditions, and dogs surrendered by their owners. Although the regulations offer various options for finding new homes for these animals, it highlights the issue of what happens when a dog cannot be placed under human responsibility. While animal registration and transfer are well-regulated in Hungary, a significant number of animals fall outside of this system in everyday life. Estimates suggest that 30% of domestic

26 Government Decree No 785/2021 (XII. 27.) on the detailed rules for the performance of tasks related to the capture, transfer of ownership and placement of stray animals (*Hungarian Gazette* 2021, No 242, 12075-12081)

27 Animal Protection Act 45. § (1)

dogs do not have individual identification. This creates an opportunity for a specific practice of dog ownership, which might be termed "grey keeping," as the animals are not kept in secret but are untraceable, often with no identifiable owner. In this scenario, biopolitical racism is at play, as the authorities must decide whom to support and whom to let die or destroy (Foucault 1992: 121). Well-controlled owned dogs are deemed worthy of support, while those not linked to any owner—after a short period—are to be euthanized.

As I mentioned above, there are so many different dog-keeping practices in our culture that we cannot talk about dog ownership in general without the risk of stereotyping. In what follows, however, I will try to balance on the edge of generalisation when exploring the social context of ownerlessness. If we take today's social conditions as a starting point for interpreting the above legislation, we can conclude that the legislator is starting from the middle class mentality of companion animal owners based on emotions. It assumes that the pet owner wants to get back his or her pet, which has strayed due to some unforeseen event, trauma or his or her own negligence, even in return for financial compensation, and has the financial means to do so. However, the above regulations offer very slim chances of survival for most dogs that end up in shelters. This is often because these dogs come from low-income families, where the relationship with the animal is quite loose. People in such circumstances may view the dog not as a companion animal but rather as a guard or watchdog for the property. In many cases, dog ownership is not a deliberate activity but rather a situation where the dog is merely tolerated or accepted by the residents, without investing in the animal's care. These dogs are often not taken to a veterinarian, and their food is

Picture 35: Dog kept in cruel conditions in Kocsér

typically sourced from household leftovers. (picture 35) Most of these people do not have good housing conditions either, many of them do not have a fence to keep the animal in. However, from January 1, 2016, a modification to Government Decree 41/2010. (II. 26.) on the keeping and trading of pets stipulates that animals cannot be kept tied up, as this would incur a 15,000 HUF animal welfare fine. For families living in poverty, such a fine would be unaffordableThis often results in situations where, lacking any control or training,

Picture 36: A dog looking for food in the rubbish accumulated at the Széles road gypsy camp in Tiszavasvári

the animals roam freely around the settlement until they are captured by animal control officers. (picture 36) The Animal Protection Act states that "if the owner of a stray animal becomes known, they are required to reclaim the animal and cover the costs associated with its capture and maintenance. If the owner is unable or unwilling to reclaim the animal, or if the animal cannot be returned to the owner due to conditions that severely threaten its health, the animal protection authority, in addition to obliging the owner to reimburse the costs, will confiscate the animal and arrange for the transfer of ownership" (Animal Protection Act, §48/A). In essence, the owner might financially benefit by not revealing their identity (as under "grey ownership" conditions the dog lacks identification that could lead to the owner), and instead obtaining a new dog for free through family or friends.

The legislator's aim is that no one should start owning a dog if the right conditions are not in place to meet the legitimate needs of the animal and the environment. However, in the absence of education, this is almost impossible, because many members of the social groups in question treat their animals irresponsibly, not out of malice but due to lack of information. (picture 37) Their lack of knowledge is not only detectable in the area of animal husbandry, but also in many areas of their lifestyles. In such circumstances, even if the right sensitisation strategies were found by policy makers, it would be a multi-generational process to change current attitudes. In subordinate social situations, the behavioral strategy in response to power regulations is typically not to cease dog ownership but rather to acquire or take in another dog to replace the captured one. This is possible because, particularly in segregated areas, uncontrolled breeding ensures a steady supply of replacements. Thus, among the social strata living in poverty, the chances of the owner replacing the animal he has taken in are low. At the same time, the cumbersome process of adoption is undertaken by far fewer people than the number of animals in need of an owner. In Hungary, the steady increase in the dog population and the economic downturn in recent years has put more and more families in financial crisis, and as a result the number of animals in shelters has increased significantly. Compared to 2012, the number of abandoned dogs has tripled by 2019, even though the number of dogs destroyed in animal shelters and shot (officially defined as "disposed") in the countryside is approximately 165,000 dogs per year.[28] While a 2018 survey showed that the biggest problem for shelters was not lack of space, by 2022 it is estimated that there will be four times as

Picture 37: The socialisation environment determines the nature of the treatment of animals

28 https://kutyabarat.hu/hasznos_tanacsok/74729/a_magyarorszagon_elo_kutyak_szama/

many animals in shelters as their capacity allows. Thus, it is not expected that other organizations will take over the dogs accumulated at the pound. Therefore, the pounds can only manage the overcrowding issues by periodically euthanizing some of the collected animals, and it cannot be considered a substantial solution that they keep the collected dogs alive for another month and a half before that. At the same time, it is becoming increasingly common for local municipalities to enter into agreements with various organizations – and sometimes individuals – to carry out the pound and animal control duties. The tasks related to capturing, guarding, housing, and possibly rehoming the animals are largely defined by the internal regulations of these organizations. Consequently, the duties of the pound keepers can vary from municipality to municipality and from pound to pound. Animal shelters are an alternative to caring for abandoned animals, where dogs can be housed, with the exception of dogs that have been confiscated or are temporarily under observation. Volunteers at animal shelters catch stray animals in the same way as lawnmasters, but animals are only euthanised as a last resort, usually for health reasons. However, at animal shelters, not only are the captured dogs provided with medical treatment, neutered, and given individual identification, but efforts are also made to find them new homes. In Hungary today, it is the civil society that takes on the substantial task of helping, accommodating, and rehoming stray dogs, also considering the interests of the adopted animals as an important aspect. In 2018, there were 200 animal welfare organizations and groups in Hungary. New organizations continue to form to meet the needs, but even so, they can only care for a fraction of the stray animals, and there are not enough potential adopters to match the number of animals born each year.

Animal shelters are not run by public funds, they are run by NGOs and therefore usually find it difficult to raise the funds, equipment and other resources needed to run them. Most shelters in Hungary do not have enough funds for modernisation and development, most of them have a lack of space, little money for the health care of dogs and no money to pay staff and carers. According to a representative survey from 2018, referred to several times above, support for shelters caring for stray animals is divided between a few large donor groups. They receive the most support from the general public (84%) and NGOs (72%), 11% of the total population has already provided assistance to shelters, but companies (40%) and municipalities (36%) are also significant donors. Assisting shelters reinforces the practice of civil society in Hungary, which might explain why this form of aid receives minimal support from the state, amounting to only 2%. [29]

As a counterpoint to the consumer society that treats dogs as commodities, and as an implicit critique of capitalism, a trend has emerged in Hungary suggesting that adopting a companion animal from a shelter is more virtuous than

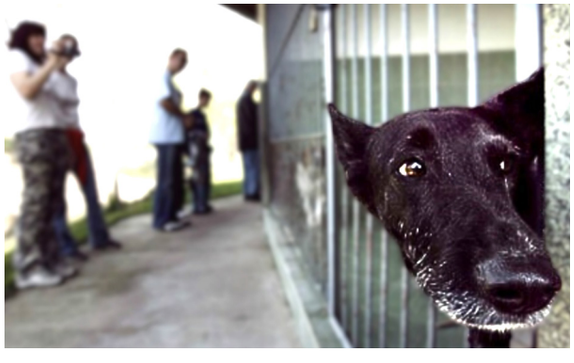
Picture 38: Adoption

buying one from a breeder. (picture 38) Following Western examples, this altruistic form of dog buying has spread among young urban intellectuals and is now popular with nearly a fifth of the population, especially among 18-29 year-olds, graduates and people living in Budapest. According to Cora Diamond's (1978) theory, our ethical relationship with animals is not understood in terms of principles, obligations or rights, but in the direct relationship we share with them in our lives (cited in Nemes 2023: 8). The prestige of responsible animal husbandry seems to be enhanced not by government propaganda for animal protection, but by civic initiatives.

29 Public perception and actual operation of dog parks. Median 2018. https://www.cofidis.hu/media/median-kutatas-prezentacio-1002.pdf

Today, as many people adopt shelter dogs as many buy from breeders, and just over half (60%) of potential dog owners are open to adoption. Apparently, people are morally disturbed by dogs becoming ownerless. 91% of those surveyed see adoption as a way to help a vulnerable animal and 82% think it is a way to do something about the problem of stray dogs.[30] The new trend has redefined the strategy for dealing with a crisis situation, as the aim is no longer to destroy, but to rehome and adopt. In the adoption of dogs, it is important to ensure that responsible pet owners take in the dogs they have adopted, so that as few of them as possible end up back in the shelters. (picture 39) Therefore, adopters must prove that they can provide suitable conditions for their prospective dog. It is not uncommon for there to be residence checks, reference requests, or requirements for prospective adopters to prove that they have the financial means to support the dog's care. At the same time, research conducted on shelters in 2018 highlighted that prejudiced and racist criteria for animal placement are not uncommon.. The survey found that one in ten shelters refused to give dogs to elderly people or people of Roma origin. In most cases, the various dog rescue organisations charge money for the dogs they rehome, and the adopter has to pay part of the costs of caring for the dog – including neutering, compulsory vaccinations and possibly maintenance costs.

Picture 39: In a shelter



Another factor that makes it difficult to find a new owner for adopted animals is that abandoned dogs do not congregate where there is interest from adopters. The number of dogs collected in shelters also varies considerably across the EU. While dog shelters in Hungary are struggling with space problems, the number of animals entering

30 Public perception and actual operation of dog parks. Median 2018. https://www.cofidis.hu/media/median-kutatas-prezentacio-1002.pdf

shelters in many countries in Western Europe has fallen significantly thanks to the 'adopt, don't buy' movement, effective neutering programmes and the promotion of responsible pet ownership. Alongside this, gifting dogs has become less common, as unwanted litters have become rarer and moral trends have shifted. Nowadays, it is considered inappropriate to unexpectedly gift a dog. So nowadays, more people want to bring a dog from a shelter than there are animals on the premises. The solution to the shortage is for people in wealthier EU countries to get rescued dogs from Romania, Cyprus or Hungary. (picture 40) Several NGOs in Hungary are sending stray dogs to owners in Western Europe. The increased international movement of animals within the European Union also benefits animal breeders, as some rescuers – especially breed-specific rescuers – even buy dogs cheaply from breeders and these are then sold as "rescued" dogs to new owners.[31] These grey economy methods are difficult to research and little is known about them, so we do not know their prevalence. In any case, they are driving up the price of dogs for adoption and encouraging more people to breed. In these cases, which are still poorly understood, animal rescuers act as intermediaries between the owner and the breeder. This procedure seems to benefit the dog owner, who gets the breed he wants through a special

Picture 40: A trunk full of rescued puppies

31 This statement is emphatically not true of all animal rescuers, and even those who are, are very unlikely to be doing any real animal rescue work.

rescue service and can even pretend to be the dog's saviour, not knowing that he has bought from a puppy mill. Katrina Gulliver puts it bluntly: after the closure of puppy mills and pet shops, the rich West simply outsourced production to poorer nations with looser laws. Similar to other industries, people desire end-user goods but dislike the manufacturing process, so they shift this process to other parts of the world. (Gulliver 2022).

1.7. Understanding the problems of responsible dog ownership

The position of dogs in our culture is peculiar, they are objects with rights, because as sentient beings they are entitled to legal protection, but at the same time they are "things" that can be given away, as regulated by the Civil Code, and their possession is decided by people. The current legislation considers animals to be sentient beings capable of feeling, suffering and joy, but does not mention their position in relation to humans. As we have seen in the previous chapter, in Western cultures dogs are not thought of as born free, and until the end of the 20th century (and in some ways until today) the words of St Thomas Aquinas, written in the 1200s, that animals are for the benefit of man, are still valid. Following the change of regime in 1989 and Hungary's accession to the European Union, there are undoubtedly many provisions protecting animals, including dogs, which are significant steps forward, but cultural practices are slow to adapt to the law. The legal framework available does not in itself eliminate racism that exists in our culture. Legal protection alone is not a guarantee: in isolated circumstances, a dog owner can torture or destroy the animal in his possession, but they must be careful not to be witnessed, because no one will be held accountable for the existence or death of a dog. As with domestic violence, dog abuse remains mostly hidden. At the same time, the fact that publicised cases of abuse always provoke anger from many sectors of society is a sign of the changing attitude towards animal life. The owner who mistreats their animal (beating it, chaining it up, not taking care of it) is increasingly becoming a condemned social figure in the public mind, and the torture or destruction of dogs always arouses heightened emotion, often even from those who eat other animals without any problem.

In early 21st century Europe, there are many different dog keeping trends and even more dog ownership practices, but in increasingly cramped urban spaces, pet ownership is no longer an individual action, but a public matter. In addition to dog owners, other social actors are also shaping opinions on pet keeping issues such as: whether dogs should be kept in the home or garden; whether dogs can be beaten as a punishment; whether dogs can be left alone for days in the garden of a family home; whether dogs should be kept with children. There are also differences of opinion between social expectations and the will of the authorities on: whether there should be a dog run; whether or not there should be a leash; whether dogs should be banned in certain places; and how severely animal abusers should be dealt with. The development of a sense of responsibility for animals is taking place to different degrees and in different forms among different groups in society, the right of animals to moral status is not universally perceived as a necessity, and the increasingly nuanced biological and ethological knowledge of dogs is only slowly shaping public thinking and the views of legislators.

The increase in the number of dogs, especially in urban environments, can also be a source of increasing conflict. Problems to be addressed by local authorities are the proliferation of stray dogs, the increase in dog attacks, the rise in cases of animal cruelty or the proliferation of dog messes on city streets. These problems, which make social coexistence difficult, have so far been tackled primarily by means of central regulation, but in democratising and individualising societies, it is not legislation but the assertive and responsible behaviour of the population that is coming to the fore. Although legislation is still dominant, the key to solving the problems of coexistence with dogs is seen by policy makers as being more about responsible ownership. The concept of responsible dog ownership is a response to

the recognition that in modern Western societies, regulation of the lifestyles of populations with diverse lifestyles is less effective than self-regulation at the discretion of the individual. The use of the term "responsible dog owner" is reminiscent of the term "responsible citizen" and implies a law-abiding attitude. In essence, the expectations seek to steer dog owners towards socially accepted or legally defined behavioural practices. This approach fits in with the previously discussed practice of controlling dogs through the owner. In Western democratic societies, the issue of responsible dog ownership has become increasingly prominent. The introduction of the concept seeks to shape a multifaceted social phenomenon – dog ownership – by embedding it in the use of codes (Do this; Don't do that) (Brown – Dilley 2012). Although the concept of 'responsible dog ownership' has considerable appeal, its definition is not easy, it is often used, but in everyday life it is more a matter of listing the components of responsible dog ownership than defining it. The characterisation of responsible dog ownership usually includes control over the animal, proper feeding and exercise of the dog, removal of its faeces from public places, neutering, individual identification and care for the health and welfare of the dog. Such descriptions do not make it clear what the responsible dog owner should do in concrete terms. It is not made clear what is meant by, for example, "feeding and exercising the dog properly" or what is meant by "looking after the health and welfare of the dog". As a result of subjective definitions, some parts of the concept of responsible dog ownership have become trite, others have been given a vague interpretative framework or simplified into key words such as responsibility, love, feeding, exercise needs, health, offspring, environment. These words, often used in the context of responsible pet ownership, are an attempt to describe some form of good dog ownership.

As the dog-human relationship takes different forms in everyday life, everyone has their own interpretation of what they mean by caring for dogs. The framework of responsible dog ownership can presumably accommodate a wide range of dog ownership alternatives, because owners who keep dogs in often very different ways claim to be

responsible owners (Fox – Gee 2019; Howell 2012). They define their responsibility based on their own set of norms and perspectives, so simply saying that owners should 'be responsible' is not a very effective message (Westgarth et al. 2019). The moral responsibility placed on owners is emphasised in advice on dog care and training, which sees dogs as the result of their owners' upbringing (Nelson 2016) and their behaviour as the responsibility of the owner (Rajecki et al. 1998; Rajecki et al. 1999; Sanders 1994). However, owners do not automatically feel responsibility for their animals; responsibility is a relationship formed through actions, through which entities, subjects and objects are created (Haraway 2008). It is not uncommon for owners to try to distance themselves from personal responsibility for their animal when it exhibits antisocial behaviour (Ben – Michael 2005; Sanders 1990). It is common to encounter owners who, for example, see the cause of their dog's aggressive behaviour solely in the dog's personality, or some who believe that their dog is not performing basic training tasks because of a problem with its cognitive abilities, despite numerous attempts. Responsibility requires knowledge and problem recognition, as well as the ability of the owner to control the dog's behaviour (Brown – Dilley 2012). Most 'irresponsible' dog-owner behaviour is not caused by a malicious problem-seeking mentality, but by misguided individual beliefs and motivations resulting from a lack of knowledge (Jenkinson 2011). Dog owners are likely to be more tolerant of negative actions by their dogs than social actors outside the dog-owner relationship. The emotional connection that the owner has with the dog often overrides the negative aspects of dog ownership. For example, the task of cleaning up dirt, hair and droppings is perceived by most dog owners as a mere inconvenience, offset by the values and benefits derived from the relationship (Campbell et al. 2016). But individuals who do not benefit from the relationship are likely to be less tolerant of the dog and the consequences of its presence, especially if their emotional affect towards the dog in question or dogs in general is low. This may explain why some owners perceive themselves as

responsible dog owners, while their environment does not (Westgard et al. 2019). Responsible relationships are based on a specific dog-human relationship (Haraway 2008; Hens 2009). It is therefore worth examining why dog owners feel responsible and how they interpret and practice responsible dog ownership.

With the introduction of dogs into human homes, the notion of family is also broadening – as discussed in subsection 1.4 – with owners often considering their dogs as family members, a kind of kin (Charles 2016; Riggs – Peel 2016). Owners' sense of responsibility towards their dogs is built through kinship-like interactions with them. Emotions play a central role in the development of a sense of responsibility (Lerner – Goldberg – Tetlock 1998; Nichols – Knobe 2007). In their responses to interview questions, the dog owners interviewed spoke much less about 'obligation' and more about 'responsibility' for their dogs, framing their motivations as an inner drive (Lim – Rhodes 2016). Carri Westgarth and her research team's studies on dog walking also showed that owners primarily used the term 'responsibility' when talking about decisions about the care of their dogs. They believed that their responsibility was to the dog, rather than to others who might be affected by their dog. Consequently, they wanted to act in the way they thought was best for their dog. Consideration of the needs of others was seen as secondary, although all respondents considered cleaning up dog messes to be important (Westgarth et al. 2019). Research findings suggest that people's moral obligations to dogs are often at the forefront (Hens 2009), but less attention is paid to how obligations to dogs extend beyond responsibility to animals and extend to wider society. Responsibility can be directed as much from the owner to the dog as from the dog owner and his dog to the outside world, and can therefore be both a social and an animal welfare responsibility (it can be as much about avoiding animal suffering as about the safety of people who come into the dog's presence).

1.7.1 Two examples of critical approaches to the rules

1.7.1.1. The use of the leash

Animal husbandry practices that have been traditionally formulated at the societal level, based on humane criteria, may not be beneficial for the animals. Dog owners who consider themselves to be responsible keepers sometimes find themselves in a difficult situation if they want to meet both societal expectations and the needs of their pets. The expectations may seem to contradict each other, and this can create doubts in the mind of the owner. Am I a more responsible pet owner if I keep my dog on a lead in the city, in accordance with the rules, or if, in order to meet the dog's need for exercise, I occasionally take it off the lead and let it run around in the park? György Varga, in his 2023 study of Budapest's past, writes that in the early 20th century, dogs in urban environments were required by law to wear muzzles and leashes, and this became a badge of the well-cared-for dog and responsible owner (Varga 2023). Over time, muzzles increasingly became an expression of the animal's senseless restraint, an unnecessary hindrance to dogs socialised in a human environment. Where this has been recognised by policy makers, regulations now require its use only where justified (Howell 2015). The leash has remained and is now required in all public spaces, but it is clear that this rule is a restriction on the biological needs of dogs, and that the exercise needs of many dog species cannot be met. It is the responsibility of the dog owner to ensure that his dog has freedom of movement, but if the leash is constantly in control, the dog has no chance to explore its environment,

Picture 41: On a leash

to release its instincts and this is what can make it aggressive. (picture 41) The role of the leash is to give the dog control, but it does not solve the deficiencies in the dog-owner relationship, it merely avoids the need to solve them. (picture 42) This is why many people do not follow the rules for the sake of their dog. Renegade dog owners take responsibility by recognising and meeting their dog's needs and putting them above social expectations, even at the cost of possible punishment. It is by ignoring regulations that do not take account of animal needs that they feel responsible dog owners. All of this highlights the fact that responsible pet ownership today does not necessarily mean compliance with rules and regulations.

Picture 42: The leash is a seat belt, not a handlebar

The situation of dog walking is when a dog owner and their dog appear in the urban public space, essentially representing the human-dog relationship. It is a common sight in the city's landscape to see people walking dogs in parks and public spaces. (picture 43) Dog walking is a unique way of valuing and using the space. In a consumer society, dog walking in public spaces with facilities and services is also a form of consumption of space. The dog and its owner may also use landscaped areas, a network of built paths, street lighting and litter bins. However, they are also expected not to endanger their environment and to clean up their dogs' mess in public spaces. It is legitimate to ask whether, if dog owners have expectations of dog owners, dog walkers should also have expectations of public spaces and, if so, how an informal group (dog owners) can articulate their interests. Is dog walking a function of public spaces and, if so, how? Two urban management concepts seem to be emerging: the construction of enclosed dog runs where dogs are separated, and the creation of multifunctional, integrated urban public spaces where dogs can be walked freely. Dog runs are, in fact, a way of separating dogs from the city's inhabitants,

Picture 43: Dog walkers

and the often small spaces are easily a source of conflict between dogs and their owners. Consequently, there are dogs for whom these segregated spaces are a particular source of stress (Nelson 2005; Ottenheimer et al. 2013). Today, it is even more common for city leaders to see dog runs as a solution, but as the ideas of responsible housing continue to evolve, it is expected that in the long term, rule makers will recognise that restricting the movement of dogs causes significant frustration for the animals (Fox – Gee 2019). Although this is not always reflected in the regulations, it is already becoming clear that the solution is not to separate dogs, but to control dogs through training. (pictures 44-45) Gábor Korom, the founder of the Hungarian community of Mirror Dog Schools, proposes the introduction of an urban dog exam that measures the dog-owner relationship, testing whether the owner can maintain control in extreme situations. The complex test was developed in collaboration with the Department of Ethology at ELTE and the Ministry of Rural Development was open to the idea of a city dog test, but it has not been introduced for more than ten years.[32] It is evident that today we have animal behavior and training knowledge that can render the use of a leash unnecessary for truly responsible dog owners who have established a significant relationship with

Picture 44: A farmer walking his dog in the City Park

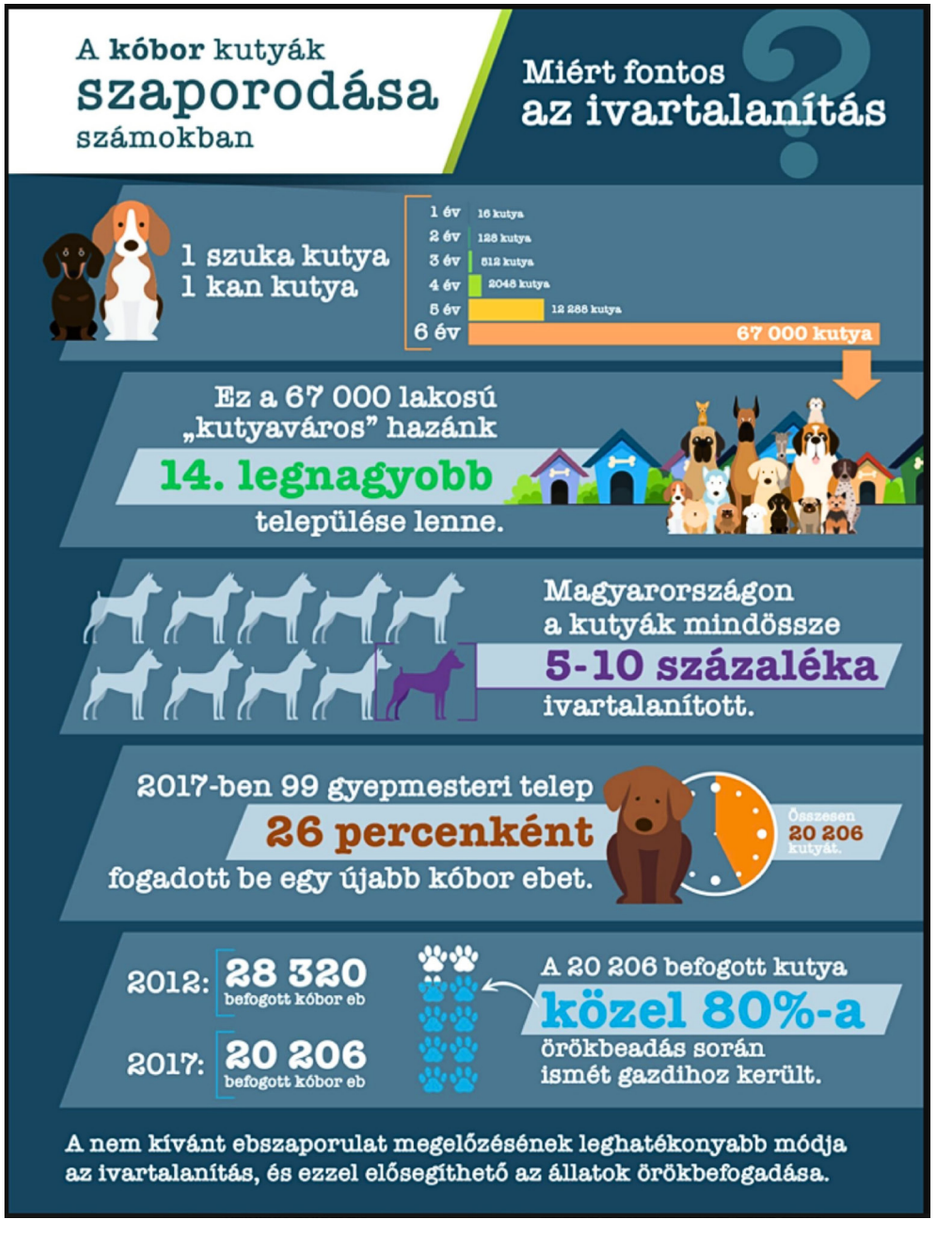
32 https://index.hu/belfold/2013/10/29/kutyavizsga_valthatna_ki_a_porazt/?

Picture 45: Dog run

their dog through dedicated effort. Understanding of responsible dog ownership cannot be a rigid and fixed structure, it must be constantly changing as mindsets, animal husbandry trends and knowledge about dogs' change (Howell 2012). The standard of responsible dog ownership, what constitutes ideal husbandry practice, will continue to evolve as dogs become more humanised and integrated into the human environment.

1.7.1.2. Different perspectives on neutering

In Hungary, a large part of stray dog population is the result of uncontrolled breeding. Most of these animals end up in shelters or in dog pounds, and are often destined for early death. The destruction of dogs is a moral burden on our cultural platform and it is important to prevent unwanted breeding. The most effective method of prevention known today is neutering. (picture 46) It is common practice to spay or neuter abandoned dogs in shelters, so that adopters no longer have to worry about unwanted dog breeding later on. Neutering could be a relevant preventive measure for owners who are unable to keep their dogs under control or securely confined. Many dog owners struggle with their dog escaping for longer or shorter periods. In such cases, the owner is primarily concerned about the physical well-being of their pet, without considering that their beloved dog might be the source of trouble for others. Certain breeds are known for their legendary escape tendencies. A familiar story is that when a male husky arrives in the village, blue-eyed puppies soon start appearing around the community. In rural or suburban areas in particular, it is still common practice to release dogs locked up during the day for the night, and some people release their dogs in winter when they do not have to worry about trampling garden crops.



Picture 46: Poster promoting castration

The quality of fences can be a decisive factor in this case. In segregated areas and their surroundings, the dog-keeping practices accepted by the majority of society are not observed. The dogs living there are generally not tied to specific households, and their reproduction is completely uncontrolled. The above examples indicate that local dog-keeping practices favor the creation of unwanted litters. Despite this, spaying and neutering dogs are not popular among owners, and in segregated areas, there isn't even a specific owner who would take steps to spay or neuter the dogs. Over the past few years, numerous campaigns have attempted to address this situation, sometimes by going door-to-door and other times by trying to popularize spaying and neutering by making it free of charge. However, these campaigns only provide a short-term impulse and are not able to significantly change established dog-keeping habits. The practice of spaying and neutering is hindered by numerous misconceptions and excuses.

There are a number of misconceptions about the neutering of dogs:

- "Female dogs need to give birth at least once to be healthy."
- "It will change the personality of the dog."
- "The dog will get fat."
- "Expensive surgery."
- "The puppies will have a good place, as there are already applications for two of them."
- "I want my dog to have a puppy, to be like him."
- "At least enjoy it." or "Let her experience motherhood."

Spaying and neutering is part of the promotion of responsible animal husbandry. The phrase ' good owners neuter' is becoming more and more common. Indeed, it is observable that a segment of the population – predominantly urban dog owners who keep their dogs as companions – has emerged, integrating spaying and neutering into their pet-keeping practices. However, it does not appear that this will solve the problem of abandoned dogs. For example, a pug kept in a third-floor flat and walked only on a lead is very unlikely to produce unwanted reproduction. Today, we find that it is precisely those societal groups that do not spay or neuter their dogs, where unwanted litters continue to be produced repeatedly. As a result, efforts to promote spaying and neutering are not yielding significant results.

Significant differences in the application of spaying and neutering practices are observed across different cultures. For example, in the United States, spaying and neutering of dogs have become almost routine over the last three decades, with more and more dogs being neutered before the age of one year (Trevejo et al. 2011). In the United Kingdom, spaying rate is high but decreasing. While 81% of dog population was neutered in 2017, the PAW report for 2021 estimates that this proportion fell to 71%. In contrast, in many northern European countries, neutering procedures are registered and in some places prohibited by animal welfare laws (England – Heimendahl 2010).

In our country, the issue of spaying and neutering is a topic without societal consensus, with numerous conflicting arguments and opinions. These groups cannot be neatly divided into social categories; rather, they form based on a mix of socialized and learned pet-keeping practices, creating camps of both opponents and supporters of spaying and neutering.

The use of surgical castration is widespread, with health benefits (Forsee et al., 2013; Yates – Leedham 2019), reduction of sexual behaviour (Downes et al. 2015) unwanted behaviour (Roulaux et al., 2020), and control of the number of animals (Wongsaengchan – McKeegan 2019). In our country, it is a common view that castration is beneficial because it can prevent many serious diseases (cancer, uterine inflammation). Spayed and neutered animals live longer, are calmer and more balanced, spaying and neutering is an appropriate means of controlling pet animal populations. In

reality, however, this is not the case. Based on a review of the literature, it cannot be definitively stated that spaying and neutering—especially prepubertal spaying and neutering—is clearly important for the health of the individual animal. It primarily serves societal interests. In the struggle against irresponsible pet ownership, spaying and neutering are a forced solution, a measure against overpopulation. In the current situation, the individual interests of the animals cannot really prevail, and for this to change, owners need to become more conscientious and enlightened. (Müller et al. 2015a; Müller et al. 2015b)

We cannot speak about neutering dogs in general, because the effect can be different for each individual. There are completely different considerations for a shelter dog, a pet, a sporting or working dog, or a breeding animal. But the breed, age, sex and housing conditions of the animal should also be taken into account. Whether neutering increases or decreases the chance of a healthy life may depend strongly on the time of neutering and the susceptibility to certain diseases due to the breed of the individual (Müller et al. 2015b). This is probably why there is a growing body of research on the problem that castration at six months of age or earlier, which is the traditional practice overseas, may predispose to a range of health problems that vary between breeds. Animals spayed at a young age are more likely to develop urinary incontinence, joint disorders, cruciate ligament rupture, bone sarcomas and other cancers (Cooley et al. 2002; Torres de la Riva et al. 2013; Zink et al. 2014; Hart et al. 2016). In addition to serving public interest, case-by-case decisions are needed for all animals.

Finally, in addition to health perspective, it is worth examining an ethical counter-argument, the critique of the anthropocentric worldview of castration. Once again, castration is a means by which man tries to solve a problem at the expense of his fellow animals. Spaying and neutering are often done in completely unnecessary cases, when the dog is living in a completely controlled environment and there is no chance of unwanted reproduction. By becoming a criterion for responsible dog ownership, neutering has also become the all-purpose dog ownership stereotype of our time. Many people now see it not only as a way of avoiding over-breeding, but also as a way of changing dogs' behaviour and making them more manageable. Neutering has been used by 58% of Dutch dog owners to 'correct' undesirable behaviour, but has failed to reduce aggression in most dogs (Roulaux et al. 2020). In fact, even a marginal increase in aggression levels has been observed in neutered dogs (Farhoody et al. 2018), and previous work has shown that neutering did not improve stranger-induced aggression (Neilson et al. 1997). Although the movement needs of neutered animals decrease by 30%, the procedure does not eliminate training and educational mistakes. In the context of this idea, the critique of anthropocentric viewpoints warns that, for our own convenience, we find it more feasible to resort to mutilating animals than to learn how to manage our dogs' instincts and behavior. On the one hand, this attitude highlights the fact that we have little knowledge of the cognitive parameters of the animals in our care, and make no effort to take steps to learn about them. On the other hand, we are even willing to make financial sacrifices in order to have outsiders solve problems between our dogs and us. Because neutering is carried out by a vet – who we assume knows what is good for the dog – we do not have to take responsibility for our decision.

We have been shaping dogs to human needs for centuries, but there has always been scope for natural breeding. Mass neutering, however, aims to turn dog breeding into a human monopoly. Some approaches go further and argue that in a global consumer society, dogs are themselves objects of consumption, and that neutering is a way of selecting for cheap dogs and giving access only to expensive breeding stock to those who can afford it. This could put dog ownership out of reach for poor social groups. So while consumer society creates an increased demand for dogs, it also seeks to turn access to them into a capitalist monopoly through neutering.

1.8 Animal-assisted interventions from a post-anthropocentric perspective

So far, we have reviewed how companion dogs are embedded in our consumer society. This was also necessary because the role of companion animals and our interactions with them are the most significant indicators of the changing human-animal relationship. The reassessment of our relationship with animals affects what we expect or give them and where we position them.

Based on the ideas presented at the beginning of the chapter, the shift in the human-animal relationship is rooted in the emergence and spread of posthuman praxis, which has redefined the boundary between humans and animals. Although humans continue to define themselves and the concept of animals, it has become apparent that this conceptualization is inconsistent. Attention has been drawn to the fact that there is a persistent attempt to subordinate and control animal existence beneath the human The exclusive, distinctive definitions that elevated humans above other beings have been questioned. It seems that the concept of humans as the "pinnacle of creation," deeply embedded in Western thought, is increasingly untenable, as this perspective is leading us more and more toward an ecological disaster. Therefore, it is necessary to place humans within an ecological framework, meaning we need to learn to consider other beings as partners (Haraway 2016). The most characteristic changes are the mechanisms that recompose the "traditional" representations and practices of the animal world, manifested in the increasing societal attention to animal interests and the evolving sensitivity toward them (Franklin 1999). The result of our attention toward animals is that more and more scientific research reveals characteristics about animals that we did not previously suspect. For instance, in the case of dogs, world-class results from domestic ethology in recent years have highlighted that we have misunderstood this species living with us in many ways. It has been discovered that dogs possess abilities that show they perceive the world differently than we previously assumed. For example, they are capable of spontaneous categorization of objects—a capability previously thought to be a fundamental characteristic of human cognition. Additionally, Hungarian researchers were the first in the world to investigate how dogs' brains process human speech, finding that, like humans, dogs process the meanings of words with their left hemisphere while using a right-hemispheric region to interpret intonation.

Thus, among the driving forces for reestablishing the human-animal relationship are both the reinterpretation of the human ecological position and the increasingly nuanced understanding of the animal world.

Claudia Fugazza, a researcher at the Department of Ethology at ELTE, tested Whisky, a 6-year-old border collie, who spontaneously formed categories.

Whisky knows the names of 90 of his toys, which fall into four broad categories: his balls, his rings, his ropes and his Frisbees. Each object name includes its category and a unique toy identifier (e.g. red ball).

In the experiment, Whisky was asked by his owner to bring him a named object from his toys. The dog could not see the owner during the object selection, so it could not receive any other non-verbal cues from the owner. (video 3.)

His owner did not teach him the categories – at least not consciously. He figured out on his own that rope, for example, is the category for all objects with names ending in rope, and he learned how to recognise ropes.

Watch the video! Click on the link beneath the picture!

Video 3: The ability to categorise
https://youtu.be/B3TtWq3zyaA

Categorisation is a fundamental feature of human thinking. We can think simply about many separate objects, people, everything, by grouping them according to certain common properties and thus treating them together in our minds. This ability has not yet been demonstrated in any animal.

As we have seen in the previous parts of this chapter, the dog-human relationship is quite close, but in most cases it cannot be identified with the partnership character of the human-animal contact as formulated by the post-human, because this bond is nowadays generated – explicitly or implicitly – mostly by consumption, despite the close emotional connection, so that although many people consider dogs as family members, we still consider the beloved animal as an emotional servant.

Throughout the nearly 35,000-year history of dogs and humans, human needs have determined the roles and responsibilities of dogs. Over the past centuries, we have developed and exploited the biological capabilities of dogs mainly for guarding, herding and hunting functions. In the last two hundred years, social roles and representational purposes have increasingly dictated the direction in which dogs have been shaped and nowadays dogs are increasingly involved in animal assisted interventions. Animals do not want to assist in human activities on their own. The selection of which animal species, and within those species, which specific individuals, are deemed suitable to participate in a support or therapeutic process, as well as the type of work they perform there, is determined based on human perspectives and decisions. These decisions are influenced by culturally determined conceptions of assistance. In activities involving animal participation, human intent prevails, with the animal serving as a means to that intent. Its effectiveness stems from the fact that the animal is not a passive participant but can respond to human situations and engage in communicative acts with both the facilitator and the clients. This is particularly true for dogs, which are obedient, easily understand what is expected of them, and generally grasp the situations in which they are required to perform tasks.

The creation of communities across racial boundaries is an essential element of animal-assisted work and therefore offers a great opportunity to create a post-anthropocentric relationship, but this is rarely recognised by practitioners because they depend on a mindset that has difficulty integrating non-human beings as subjects (Latour 1999; Descola 2013). Animal-assisted interventions are a distinctive form of interspecies connection in the 20th and 21st centuries. These situations represent unique encounters between humans and animals that could not have existed in their current form in the past. This is because our perceptions of animals were different, and the contexts of these interactions were also dissimilar. With the changing status of animals, it is increasingly recognized and accepted that they can complement human abilities and assist in the control of physical functions. Certainly, the modern concept of assistance relationships has historical precedents. For instance, several medieval sources mention guide dogs for the blind, though the experiences and accounts of such assistance varied among different authors. Certainly, the modern concept of assistance relationships has historical precedents. For instance, several medieval sources mention guide dogs for the blind, though the experiences and accounts of such assistance varied among different authors. (picture 47) In his work *De proprietatibus rerum*, written in the early 1200s, Bartholomaeus Anglicus notes that guide dogs are very easily distracted and can easily abandon their blind masters. In contrast, Nikephoros Basilakes, a 12th century Byzantine chronicler, writes that dogs are more reliable guides than humans. Based on the descriptions, we cannot know what made individual assistance relationships successful or unsuccessful. However, by the end of the 20th century, their assessment changed, and their application became more conscious as scientific measurements revealed their effectiveness. Researchers at the ELTE Department of Ethology found that in a ten-minute walk with guide dog and visually impaired person pairs, there can be over 100 decisions made (such as starting, stopping, turning, stepping down, stepping up, changing direction). On average, in about 50% of these cases, the decisions are made by the visually impaired person, and in the other 50%, the dog makes the decisions. The visually impaired person knows where they want to go, but they must rely on the dog's perceptions. Therefore, the

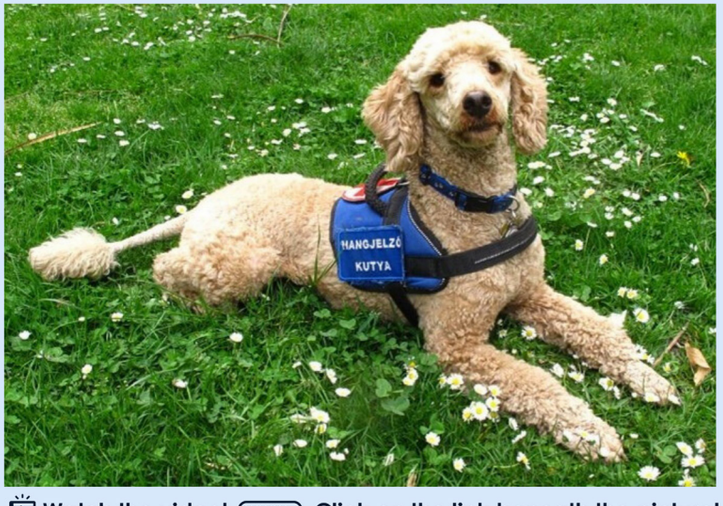
Picture 47: Late 13th century depiction of a guide dog

decision-maker constantly shifts, meaning that guide dog teams operate effectively not only because they can make decisions but also because they are capable of transferring the decision-making authority to the other party when needed. (For more on the ethological implications of this topic, see subsection 2.1.3.2.) It is likely that many animals could be trained to either make decisions or not make decisions, but only humans and dogs are capable of managing the dominant role of decision-making with such flexibility. These pairs exemplify the complementary, equal partnership that the posthuman paradigm articulates. We can say that the guide dog situation represents a post-anthropocentric relationship. However, neither professional nor public opinion typically interprets such cooperation as a partnership; it is often viewed as service or task performance on the part of the animal.

The changing dog-human relationship has led to a broader presence of assistance dogs. The cultural shift is so rapid that those living with assistance dogs often have to prove their dog's role and rights in public institutions or stores, even though the dog always wears a harness or vest marked with the training organization's logo and each pair also has an assistance dog ID. Many people only recognize guide dogs, whereas today, assistance dogs serve in an increasing number of areas. In Hungary, there are six types of assistance dogs working:

1. Hearing dog: a dog trained to alert a hearing-impaired person to a danger or other important sounds.
2. Dog assisting a person with reduced mobility (PRM): a dog trained to assist a person with reduced mobility in their everyday activities.
3. Seizure response dog: a dog trained to provide assistance to a person living with epilepsy or other persons at risk of chronic conditions like seizures.
4. Personal assistance dog: a dog trained to help a disabled person to live an independent life.
5. Guide dog: a dog trained to guide a visually impaired person.
6. Therapy dog: a dog used in pedagogical, psychological, psychiatric and conductive pedagogical habilitation and rehabilitation processes in special education and social services.

Assistance dogs can provide physical help to their owners, such as mobility aids for those with physical disabilities, or they can compensate for sensory deficiencies, like hearing dogs. Alert dogs are trained for various problems; the most well-known are seizure alert dogs for epilepsy, but there are also blood sugar alert dogs for diabetic owners and dogs that can predict post-traumatic stress disorder (PTSD) symptoms and anxiety attacks. An autism support dog can alleviate the anxiety of its autistic owner and assist in forming connections with other people. To prevent allergic reactions, gluten-detection dogs are also being trained. (videos 4-7.) While the range of assistance provided by these dogs is becoming increasingly nuanced and extensive, the societal attitude towards people using assistance dogs remains rather clumsy. The interaction is characterized by avoidance, rejection, and even ignorance of the situation due to a lack of social and governmental education—this work is only carried out by non-governmental organizations. In everyday practice, this manifests in various ways, such as some passersby interfering with the working dog: attempting to pet it, calling it away from its owner, or letting their own dog approach the assistance dog that is currently performing its task.

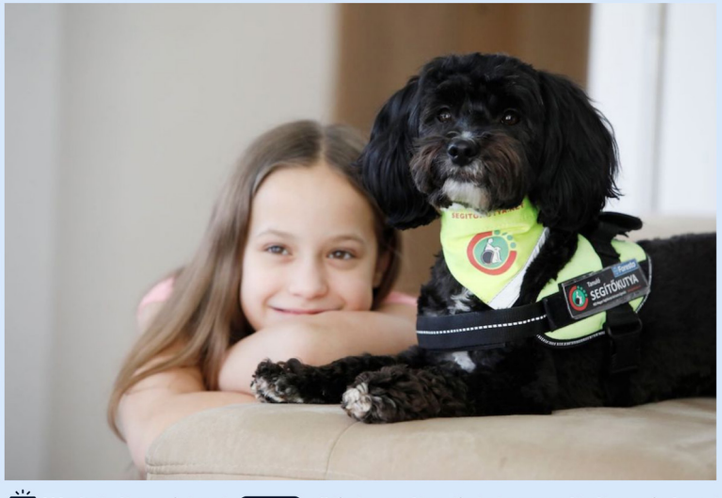


Watch the video! Click on the link beneath the picture!

Video 4: Hearing dog https://youtu.be/dgHF-awRfNM

Watch the video! Click on the link beneath the picture!

Video 5: Guide dog https://youtu.be/8oSPiOOo4nE



Watch the video! Click on the link beneath the picture!

Video 6: Mental health assistance dog https://youtu.be/7lU3hOdSPHk
Video 7: Diabetic alert dog https://youtu.be/fB38ZqTEEAY

The activities of the guide dog and its blind owner, previously defined as a post-anthropocentric relationship, do not apply universally to all animal-assisted interventions. In fact, the use of animals itself is already a human-centered step; however, the situation is more nuanced, resulting from a mix of various components, including both deliberately constructed and spontaneous elements.

Let's take a closer look at Animal Assisted Therapy (AAT), including therapy sessions with dogs. While assistance dogs work alongside a single person on a continuous basis, therapy dogs, with their handler, provide assistance from time to time in a different facility. Dog-assisted therapy is a practice carried out by professionals that leverages the beneficial effects of the human-animal relationship as a therapeutic factor. Dogs are used for various therapeutic goals, such as improving mobility, emotional, social, and cognitive development, stimulating communication, and enhancing quality of life, among others. There are therapy sessions based on regular visits from the animal, as well as therapies that rely on the constant presence of the animal and the effects it generates. (Chandler 2012; Serpell – Kruger 2010). (The details of the use of animal-assisted therapy with dogs are discussed in more detail in subsection 2.2.2 of this book, written by József Topál.)

ANIMAL-ASSISTED FORMS OF ACTIVITY

Picture 48: Animal-assisted therapy

- **Animal Assisted Therapy (AAT) (picture 48)**
  - The animal works with sick, injured or disabled people, helping them to develop.
  - Animal-assisted therapy is a developmental activity with the support of an animal for a predetermined goal.
  - The objectives of development can be:
    - development of psychic and motor functions

- education for independence
- reducing disadvantage due to disability
- influencing behaviour in a positive way

- To achieve this goal, there are defined therapeutic frameworks and the client's progress is monitored.

- **Animal Assisted Activity (AAA) (picture 49)**
  - There are no planned tasks.
  - It is done for pleasure or to improve the quality of life.
  - They do not monitor progress.
  - It has only general objectives:
    - reducing isolation, isolation
    - building positive relationships with both the animal and other participants
    - developing social, empathy and communication skills
    - stress reduction

Picture 49: Animal-assisted activity

- **Animal Assisted Pedagogy (AAP or Animal Assisted Education - AAE) (picture 50)**
  - It means involving animals in the education of children with normal development.
  - It helps children learn through play.
  - The animal is used as a motivating force in kindergarten and school lessons.
  - The animal appears as a reward to the children (e.g. petting the animal for completing tasks, giving a reward treat delivery).

Picture 50: Animal-assisted education

Returning to the post-anthropocentric aspects of the human-animal relationship, it is crucial to determine who a specific animal-assisted intervention is aimed at and what tasks it comprises. In the case of dog-assisted activities in kindergartens and schools, it is observed that in most cases children see the dog as a truly equal partner, while the team members who design and create the activity do not experience this relationship. An animal-assisted activity is mostly a constructed action, some elements of which remove the dog from its animal nature and place it in a human position, for example, greeting following human patterns with the act of introduction. (video 8.) And in situations requiring dialogue, the handler becomes the dog's "interpreter", often creating dialogue from content relevant to the session, for example by giving the impression that the dog can count. (video 9.) In fact, these situations also aim to construct some form of equal relationship, but in a way that elevates the therapeutic dog to a human position.

Watch the video! Click on the link beneath the picture!

Video 8: The caressing hands of 20 children https://youtu.be/CIUmrHZ1CUY
Video 9: Greetings https://youtu.be/rwuZn9d_2Ro
Video 10: "The counting dog" https://youtu.be/L9vHUP12QXA

Contrary to popular belief, the job of a therapy dog is not to go into a group of children or adults and be petted, but it seems to be ingrained in the public mind that therapy dogs are gentle and therefore petable animals, so petting seems to be an important relational skill. As a way of interacting with an animal, petting a dog is also a human-centred act, a human need. (video 10.) Its significance is illustrated by experiments showing that petting dogs reduces stress levels in humans (Glenk 2017; Thelwell 2019) and has been shown to lower blood pressure and heart rate (Bergler 1988). Petting companion animals has a greater calming effect than simple relaxation, and can even normalise respiration rates. In their study, Baun and colleagues (1984) examined 24 volunteers during petting their own or an unfamiliar dog and reading. Although stroking their own animal was found to be more relaxing, both conditions reduced respiratory rate more than the no-animal reading situation. Petting is more of a human need than a dog need. Although therapy dogs are mostly individuals open to people, meeting the stroking hands of thirty strange children is presumably a desire of few dogs, and is in fact more of a stressful situation, but trained dogs tolerate it well. The desire for physical contact can of course be present in dogs, but is probably more limited to intimate moments of master-dog contactBefore anyone questions the moral legitimacy of animal-assisted interventions for animal welfare reasons, it should be emphasized that research has already been directed at understanding how therapy dogs respond emotionally during their work. The results of a research team led by Stephanie Clark, for example, showed that the dogs studied were actually in a calmer state after interactions with the patient than they had been previously. It could be said that the subjects of the research benefited emotionally from the assisted situations (Clark et al 2020). However, there have also been studies in which therapy dogs showed subtle behavioural signs of stress (Sarrafchi et al 2022). Presumably, the personality of the individual therapy dog is also of importance, but since the selection of these animals is determined by their attraction to humans, it is also possible that not being able to go to work causes

stress in these dogs. The results of this research suggest that animal-assisted interventions can be comfortable for animals, and thus there is a way to see them as partners and, as a result, to develop symmetrical relationships, which is the basis for creating a post-anthropocentric assistive relationship. However, for the time being, there is more of an anthropocentric attitude, where animals are seen as performing a service or a task. Both clients and professionals consider it natural that animals serve the situation with their work (see Kamioka's definition in the box).

> “Nowadays, animal-assisted interventions are goal-oriented and structured interventions that consciously utilize animals in health-care, education, and human services to improve therapeutic benefits, health, and well-being. Those methods that use animals as ‘tools’ to enhance physical, mental, and social functions, as well as educational and welfare aspects for people, are called animal-assisted interventions (AAI).” (Kamioka 2014).

As the perspective slowly changes, even within a single animal-assisted intervention, different approaches may be present, but this is not transparently reflected within the frameworks of the sessions, as animal-assisted situations generally aim to portray an equal relationship. However, the involvement of animals in human interactions also transcends species boundaries, and thus a key message of animal-assisted interventions is that non-human beings also experience emotions, and therefore it is worthwhile to treat them as partners. Essentially, all forms of animal-assisted interventions provide an opportunity for clients to gain experience in establishing relationships with non-human beings.

From one perspective, animal-assisted therapy is a success story; within just a few decades, it has developed, spread, become a subject of scientific interest, and turned into a practical application with the conviction that the presence of animals and interactions with them have

positive effects on people. On the other hand, the attitude toward animal-assisted therapy has been ambivalent from the outset, often the subject of debates and criticisms, and it is not uncommon for it to be surrounded by a rejecting professional attitude. At first, Boris Levinson himself – the creator of modern animal assisted therapy[33] – did not believe in the relevance of his accidental discovery, and then waited ten years before presenting his study The dog as a "co-therapist" (Levinson 1962) to the scientific community, an idea which was received with mixed reactions at the American Psychological Association meeting. From the outset, the debate surrounding animal-assisted therapy has centered on the conditions that must be met for animal-assisted practices to be labeled as "therapeutic." Levinson's work contributed to the development of the concept of animal therapy as a medical treatment (Levinson 1984). In 1964, in his second article on the human-animal relationship, Boris Levinson aimed to conceptualize the basic concepts of the field and coined the terms "therapy animal" and "animal-assisted therapy" (Levinson 1964), which continue to be subjects of debate. In Hungary, animal-assisted interventions are not only divisive in terms of their effects, but many professionals also question the professional competence behind them, and some even challenge the use of the term "therapy." In professional circles, there is still a tendency towards rejection rather than opinion formation based on scientific research. However, there has been a significant tradition of studying animal-assisted interventions from the very beginning. Research has demonstrated results in physical, emotional, and social domains with dogs (and other species as well). Studies have examined the impact of animals on heart rate, breathing rate, and stress levels (Barker et al. 2005; Wu et al. 2002), as well as the anxiety-reducing effects of animals (Wells 2009). The relationship between the presence of dogs and psychological and physical well-being, as well as their impact on social relationships, has also been studied. Early research, which focused more on psychological effects, explained observed phenomena by suggesting that the animal represented "something" meaningful to the client, thus giving the therapeutic situation significance. However, once the physiological effects of interacting with animals were observed, scientific investigation shifted mainly towards experimental methods. This allowed for the demonstration of positive effects in many situations, while the mechanisms driving these effects remained unclear. Essentially, for seventy years we have known that animal-assisted therapy "works," but we still do not know exactly how.

33 Boris Levinson was the first to study the use of pets in formal therapy.

Picture 51: Getting in touch

2.
József Topál: Biological aspects of dog-human relationships: the theoretical basis of dog-assisted activities

2.1. The dog as a specific "behavioural mutant" of the wolf

2.1.1. Evolutionary origins of the dog, ideas about domestication

Today, no one disputes that the dog (*Canis familiaris*) is descended from the Eurasian wolf (*Canis lupus*), and since crosses between the two can produce reproductive offspring, they should still be considered biologically as belonging to the same species. (picture 52) It is important to note, however, that they do not form a true breeding community, as mating between dogs and wolves is very rare, even in the wild. Not only is the dog's reproduction now fundamentally influenced by humans, unlike in the past, but the behavioural repertoire, social and cognitive abilities, stimulus processing mechanisms and motivational regulation systems of dogs and wolves are so different that it would be difficult for them to interact with each other in real life. The "gap" between dogs and the wolves in the modern world is also due to the fact that, historically, humans have intensively exterminated wolves for centuries, leaving only the reclusive individuals and their offspring, that avoid humans and foreign stimuli. Today, aggression against out-group conspecifics and the avoidance of human settlements alone make it difficult for dogs and wolves to breed with each other. For practical reasons, it would therefore not be at all practical to regard them as different individuals of the same species.

Picture 52: European grey wolf

Behaviouralscientistshavetriedtoresolvethiscontradictionby consideringthedogasaspecific'behaviouralmutant'ofthewolf.

Over the past few decades, a number of hypotheses have been put forward about the domestication of dogs, which are still the subject of lively scientific debate. These ideas can basically be divided into two groups. One central idea is that the evolution from wolf to dog is a unique behavioural evolutionary process, whereby the dog has acquired specific skills adapted to survive in a human social environment. Others, on the other hand, claim that the domestication of the dog followed essentially the same principles and factors as any other species that humans have for some reason "put under their control" and begun to artificially select for general traits such as tameness. But before briefly reviewing these competing theories, let us briefly explore the concept of domestication.

Domestication is an evolutionary process whereby the anatomical-physiological, genetic, behavioural and cognitive-functional characteristics of a species are fundamentally altered in such a way that these changes allow it to adapt to a human-dominated environment (Price 1984). Thus, domesticated species may differ from their wild relatives not only in anatomical features (e.g. body size, skull shape, etc.), but also in physiological features (e.g. hormonal balance), behavioural features (e.g. aggression towards conspecifics) and cognitive abilities (e.g. learning ability). All domesticated species are characterised by a smaller relative brain volume compared to their wild relatives, less intense pigment production, altered ear size and shape, changes in their reproductive cycle, and a concomitant change in the amount and distribution of brain neurotransmitters (Trut et al). As for the behaviour of domesticated species, they are generally characterised by tameness and reduced aggression, which is manifested both in tolerance of the presence of conspecifics and in a reduction of fear of humans. All these traits are important features of the so-called *domestication syndrome*, whereby selection to tolerate social stressors (human presence, proximity to conspecifics) actually alters the species'

nervous system function, hormonal regulation and behavioural control mechanisms. Such overall changes seem to occur whenever a species undergoes a domestication process, be it mammal, bird or even fish, suggesting that a change in the genetic regulatory mechanism common to a wide range of species is at work.

More recent research has shown that many of the seemingly unrelated changes that occur during domestication are actually due to small but powerful changes during early embryonic development (Wilkins et al. 2014), mainly in the so-called 'neural crest cells', which are found in the embryos of all vertebrates as a temporary cluster of cells that develop into a variety of different cell lineages. This group of cells plays a fundamental role in the development of the facial skull, in the processes of cartilage and bone formation, in the functioning of the sympathetic nervous system, in adrenal production and in the development of the properties of pigment producing cells. Where these cells migrate to during embryonic development and what/how they develop into is controlled by a whole network of regulatory genes, so it is a very complex process. The adaptive pressures of domestication appear to modify the functioning of this genetic system, and changes in these regulatory processes have powerful consequences, both in the development of stress responses (tolerance of human presence), aggressive drives (tameness), anatomical features (skull shape, puppy-like dangling ears, etc.) and in many other areas of behavioural regulation. Thus, the *neural crest hypothesis,* formulated in the wake of this research, emphasises the universality of domestication, i.e. that all domesticated species – be they poultry, ferrets or dogs – have evolved through essentially the same genetic processes as compared to their wild ancestors. This is, of course, just one of the theories that try to explain why dogs are different from their wild cousin, the wolf, and why they have become what we see today.

A few decades ago, it was generally accepted in the scientific literature that the dog was in fact a "silly" version of the

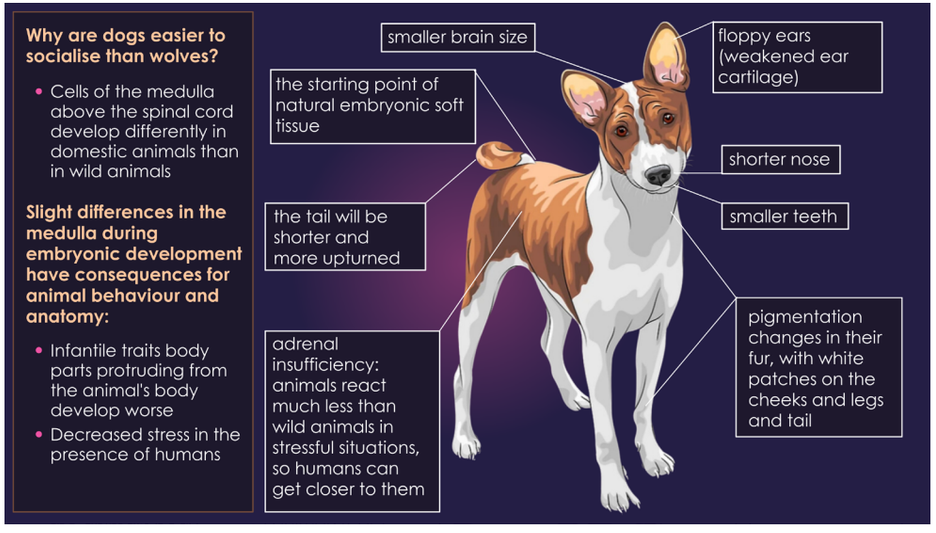


Figure 12: Tameness correates with anatomical features related to domestication

wolf. Once it was with humans, it no longer had to fight for survival day after day, as humans provided it with protection and care. This phenomenon is known as *relaxed selection*, whereby the animal's independent problem-solving skills became blunted, and skills such as tameness, obedience and controllability took over from creative thinking (Frank 1980). This idea was later developed further by two American behavioural scientists who formulated the *emotional reactivity hypothesis* (Hare – Tomasello 2005). This suggests that the selection for tameness does not lead to a general decline in cognitive abilities, but rather to the emergence of a whole range of skills for cooperation with humans as a by-product. So it is not that the dog's mind is duller than the wolf's, but that it works in a different way. This is also supported by the fact that further selection for controllability and flexibility of behaviour, manifested in diverse forms of learning ability, has produced increasingly sophisticated forms of communication with humans. Of course, some researchers disputed this idea and argued that the social-cognitive abilities of dogs and wolves are essentially indistinguishable, and that the spectacular differences between the two are simply due to differences in socialisation and experience during the development of the individual (Udell – Wynne 2010). Others

argue that although selection for specific traits has undoubtedly played a significant role in the domestication of dogs, changes in the dogs' social ecology have played a more imporant role in shaping the behavioural repertoire and mental functioning of this species (Marshall – Pescini et al). For example, conspecific cooperation is an important aspect of life in a pack, and evolution has therefore shaped wolves into cooperative animals that are attentive to others and tolerant of conspecific proximity. When dogs' ancestor joined humans, they actually used the same abilities – only this time to co-exist with individuals of another species (the *conspecific cooperation hypothesis*, Range – Virányi 2015). This idea is complemented by a new aspect, the so-called *synergy hypothesis* (Gácsi et al. 2009a), which suggests that as a side effect of selection for tameness, dogs have become able to effectively inhibit their own urges and actions, thus opening up the possibility of coordinated action (cooperation) with humans. Another striking difference between dogs and wolves is that dogs tend to avoid rather than "engage" in social conflicts with those above them in rank. This suggests that *domestication* has been associated with *an increased tendency to submissiveness* (Range et al. 2019), which has created the prerequisite for dogs to accept human leadership and form effective cooperative or working relationships with humans.

Our understanding of the domestication of dogs is further nuanced by the insights that the development of extreme sociability was an important factor in becoming a dog (*hypersociability hypothesis*, von Holdt et al. 2017). Compared to wolves, dogs show a strikingly strong drive to form positive social relationships with a wide range of conspecifics and humans. Such 'exaggerated' sociability has a well-documented genetic basis in humans: it is a leading symptom in people with Williams syndrome.[34] If a similar genetic background can be assumed in dogs, it is possible that selection during domestication has favoured individuals carrying the gene variants responsible for extreme sociability.

34 *(https://www.ninds.nih.gov/health-information/disorders/williams-syndrome)*

However, the domestication theories listed so far do not really take into account the fact that research in recent years has revealed a number of social-cognitive abilities in dogs that show surprising parallels with similar skills in young children. These findings provide a good basis for the hypothesis that the success of the dogs' ancestors in joining humans depended on their ability to somehow understand the processes taking place in the human social environment, which was extremely challenging for their mind. This may have manifested itself as a strong adaptive compulsion that resulted in the dog's mind acquiring social cognitive abilities that were functionally "human-analogous" (Hare et al. 2002). One of the most striking manifestations of such functional analogies is the attachment to humans, which is a behavioural control mechanism organised in the same way as observed in the attachment behaviour of 1-2 years old toddlers towards their parents (Topál – Gácsi 2012). The experimental results on dog-human attachment inspired the so-called *attachment hypothesis* on dog domestication (Topál et al. 2005). According to this hypothesis, a key aspect of dogs' domestication is the emergence of a behavioural control mechanism that enables dogs to display toddler-like attachment behaviour towards humans. The close emotional relationship with humans then allowed the development of unique forms of communication and cooperation (Miklósi – Topál 2012).

Others have also suggested that at least as important a factor in domestication is the progressive changes in neuroendocrine regulation (see Wirbowski et al. 2021) which have reduced the strength of fear responses to human eye contact. This may have resulted in the emergence of a preferential attention to the human face (*eye contact hypothesis*, Miklósi et al. 2003), which triggered a positive feedback process, paving the way for the emergence of diverse forms of communicative interactions with humans and facilitating the emergence of 'child-like' social-cognitive abilities in the dog. An advanced version of this hypothesis suggests that the key factor inf-dogs' domestication is the emergence of an evolutionarily

new *interspecific (human-oriented) social competence* (Miklósi – Topál 2013). Adaptation to the human environment has triggered a complex system of social-cognitive abilities in dogs that allows them to adapt their behaviour optimally to the social challenges of the human environment.

As can be seen from the above list, there is not yet complete agreement among experts on how and why changes occur during dog domestication. Although it is not easy to navigate through the plethora of different ideas, it should be noted that the hypotheses discussed here are not necessarily mutually exclusive, and it is quite likely that several of the factors highlighted in these hypotheses have played an important role in dog domestication.

Finally, it is also worth mentioning thatin addition to the above discussed behavioural-evolutionary aspects of domestication, there are also important genetic, historical-geographical questions that – at least partly – still need to be answered. Based on recent paleogenetic and paleontological studies, it can be stated with a high degree of certainty that the domestication of dogs may have started sometime between 20 and 40 thousand years ago (Larson et al. 2012), i.e. at least 10 thousand years before humans began to adopt a settled lifestyle and domestication of other species began. Many researchers believe that, although ancient wolf populations that gradually tolerated human proximity could undoubtedly have performed useful tasks (signalling approaching strangers, spontaneously joining in hunting), humans did not consciously adopt the dog ancestor for some sort of task, but for thousands of years they simply tolerated each other's presence, gradually flocking together and learning how to live in each other's constant presence without conflict. The question is, of course, where and how many times the first step in the domestication process – the evolutionary leap that enabled some Pleistocene wolves to live and reproduce in this new habitat, tolerating the constant presence of humans – occurred. Such a change can be expected only under certain conditions, including the simultaneous emergence of specific ecological conditions and random genetic mutations. This is supported by genetic studies that suggest that the domestication event may have occurred once, or at most only a few times, sometime in the last millennia of the Palaeolithic. As for the location, it is quite certain that it occurred somewhere in Eurasia (Freedman – Wayne 2017), where migratory *Homo sapiens* groups may have had regular contact with Eurasian wolf populations over large areas. However, there is still no scientific consensus on whether the location of this exceptional event was Europe (Thalman et al. 2013) or different parts of Asia (Savolainen et al. 2002; Wang et al. 2016). What is certain, however, is that successive generations of increasingly 'dog-like' canids and humans have become increasingly interconnected over millennia, and that adaptation to a shared environment has been imprinted in the genetic make-up of both. A good example of this is the fact that domestication has led to genetic mutations in dogs that make them able to digest starch by breaking it down. Research into the origins of these genetic mutations has shown that they appeared in dogs at about the same time that humans acquired genetic mutations that help them digest starch better. All this happened somewhere in the Middle East about 10,000 years ago (Axelsson et al. 2013), when humans shifted from a hunter-gatherer to a crop-growing lifestyle. So, with this drastic change of lifestyle, man changed the world around him and dogs adapted to it, as they have done again and again on countless occasions since.

2.1.2. Dogs as "pack animals" and "social predators": an ethological approach

There is no doubt that dogs fulfill a special role in our lives today, due to their evolutionary history, which is closely linked to humans in many ways. Dogs have successfully adapted to a world increasingly reshaped by Homo sapiens and have been able to integrate relatively conflict-free into social situations that are complex and opaque to them. Their controllability, rule-following and cooperative nature may give many of us the illusion that dogs are "furry children".

While the idea of treating dogs like children in their socialisation and upbringing is appealing to millions of dog lovers, we must remember that in terms of phylogeny, canines are very distant from Primates, and therefore of course from Homo sapiens. The ancestor of the dog was an intelligent social predator, a pack animal whose basic skills and instincts have in many respects been preserved to the present day. It is not uncommon, therefore, for many people to see the dog as a tamed wolf that must be spoken to in the language of wolves, asserting raw dominance. This latter idea is as flawed as treating the dog as a small child, since it is evident from our knowledge of the domestication process (see subsection 2.1.1) that dogs have come a long way since the separation from their wolf ancestor.

This is illustrated by the fact that the social organisation of feral dogs is only halfway similar to that of a well-functioning wolf pack that hunts efficiently, raises pups and protects its territory as a stable group (Mech 1970). Dogs living free from human influence form smaller communities than a wolf pack, and the members of the group are usually not related to each other. Due to the lack of clear dominant-subordinate relationships and strong (kinship) bonds, they are not as successful as their non-domesticated relatives in either foraging or rearing offspring (Daniels – Bekoff 1989; Causey – Cude 1980). Unlike wolves, the sexual behaviour of subordinate adults is not community controlled (not only the dominant female reproduces) and the group is generally less structured. However, the mortality rate of pups is extremely high, with only 5-10% reaching the age of 1 year. This is partly due to the fact that in feral dogs, males are not involved in rearing offspring at all. (picture 53) This is odd, because a complete lack of paternal care is not typical of canines. It is reasonable to assume that this is a consequence of domestication, since the reproduction and rearing of puppies in dogs has been largely under human control and with human intervention for thousands of years (Kleiman – Malcom 1981).

Picture 53: Indian stray dog with puppies

Although the number of dogs living in the wild, almost completely free from human influence, is quite limited, the majority of the world's dog population is not "pets", but loosely related to humans, living freely in cities and human settlements as stray dogs. These dogs often form groups with a clearly identifiable dominance hierarchy (see Cafazzo et al. 2010; Bonanni – Cafazzo 2014) and collectively defend their territories. In some places, e.g. India, large numbers of dogs live in such conditions and, although they do not usually maintain individual, personal relationships with humans, coexistence is essentially conflict-free. They live mainly on food provided by humans, and interact regularly not only with their conspecifics but also with humans (Bhattacharjee – Bhadra 2020). (picture 54) Overall, stray dogs have a remarkable behavioural plasticity that allows them to adapt their social behaviour and social systems to the specific environmental conditions (Font 1987).

Picture 54: Street dogs regularly interact with humans

All these observations clearly show that the dog is far from being the "pack animal" that its once untamed ancestor might have been, and that evolutionary adaptation to the human environment has in many ways profoundly transformed it. This is why there was a general belief among ethologists that the dog is a man-made 'artificial

being' that has long since lost contact with its original natural environment, and therefore, is not worth considering as a subject for ethological studies. For ethologists, the rule of thumb is that animals should always be studied in their natural environment, and there is still no complete consensus among researchers as to what exactly constitutes the dog's natural environment. Interestingly however, the dog has enjoyed a remarkable career as a popular subject of behavioural research over the last 25 years. This apparent contradiction is due in part to the fact that the increasingly detailed history of the domestication of the dog has revealed a number of genetic and behavioural evolutionary changes that suggest that humans are an integral part of the dog's natural environment and thus the human environment can be considered a natural niche for the species in many ways.

In addition, the important role that dogs have gained in behavioural research is also due to the boom in so-called *comparative cognitions.* Combining the theories and methods of cognitive psychology, classical ethology and evolutionary biology, comparative cognition seeks to analyse and interpret a wide range of manifestations of the animal and human mind. The systematic investigations that have been launched in this context have brought within reach the possibility of gaining a deeper insight into the puzzle of the evolution of our own species by understanding the differences between the functional characteristics of the human and animal minds. One very effective form of comparative methodology is to combine individual and phylogenetic approaches. Such an evolutionary perspective not only provides an opportunity to explore how the species-specific set of abilities emerged in humans during individual evolution, but also, in principle, to gain insight into how this set of abilities is shared among other species with different evolutionary histories. This is aided by the homology-based study of species with relatively close common ancestry but adapted to different environments (e.g. humans and chimpanzees), and by the analogy-based comparison of species that are distant in phylogeny but adapted to similar environments in terms of the skill under study (e.g. humans and dogs). The key factor in the evolution of *man* was the change in social cognition, and since the dog evolved by adapting to the human environment, the study of its social cognition can provide valuable insights into the adaption challenge that led to the development of complex cooperative skills and that ultimately shaped man (for more details, see section 2). These insights have thus brought the dog into the research spotlight and made it the 'new chimpanzee' of comparative psychology, i.e. a species of comparable importance to chimpanzees (Topál et al. 2009).

From an ethological point of view, it is also important to note that the selective breeding of dogs has not only led to consequences that are obvious to everyone, such as extreme morphological diversity – just think how different a chihuahua and a Neapolitan mastiff look. Selective breeding (artificial selection) has also led to the fragmentation and disintegration of the behavioural repertoire observed in the wolf, which was well maintained by natural selection and perfectly matched its elements. One of the most striking consequences of this process is the distinctive differences in the way individual dog breeds communicate with each other. For example, the extent to which puppy-like traits are retained in each breed has a significant impact on the way communicative signals are used. The more pedomorphic the breed, the more their interspecific communication will differ from that of the wolf (Goodwin et al. 1997). An example of such differences can be seen by looking at how dominance and submissive behaviours are displayed in each breed of dog. The behavioural repertoire of dominance in the wolf consists of eight different elements, which can be used in a variety of patterns to express the superiority of one animal over another. In some dog breeds (e.g. Siberian husky) all eight elements of the wolf repertoire are observed, but in the behaviour set of cocker spaniels, for example, there is only one element that is innately conserved. The situation

with the behavioural elements that can be used to express subordination is similar: the Siberian husky has all six elements of the wolf repertoire, while cocker spaniels have to make do with only one element that serves to express submission (Goodwin et al. 1997).

In summary, while wolves have a set of innate skills and a well-constructed complex behavioural repertoire that allows them to understand each other perfectly, domestication (relaxed selection) and selective breeding have "broken down" this structure, which was originally well-constructed by natural selection. As a result, certain skills and abilities of individual breeds and individuals vary widely. As elements of the wolf behavioural repertoire have been retained in varying degrees and composition in each breed, dogs may not be able to communicate smoothly with their conspecifics. (picture 55) However, these changes also have beneficial consequences: as dogs' behaviour become much more flexibly organised, learning processes play a much greater role in shaping their behaviour (teachability, learnability – see subsection 2.1.4), greatly increasing their potential to acquire new skills and forms of communication throughout their lives.

Picture 55: Wolf and dog encounter

The effects of domestication discussed here are already clearly evident in the early stages of individual development. The role of critical periods is diminished (Freedman 1961), social behaviour is more plastic, can be varied within wide limits, and is flexible to environmental changes experienced during individual life. Dogs' sexual development is accelerated, their reproductive activity is increased becoming independent of aggression, dominance and territoriality. During their development, dogs develop a fear of strangers much later than wolves and are therefore easily socialised with species other than humans (e.g. sheepdogs with sheep). They have a lifelong affinity with humans. They can adapt to external control in a wide variety of situations, unlike e.g. wolves raised and socialised by humans, where rank-order positional competition is inevitable in their social behaviour.

It is also worth noting that domestication has had a specific impact on the communication channels through which dogs communicate with their conspecifics (and with humans). For example, it has been suggested that the "relaxed" selection effect of domestication was also reflected in the dog's reduced need for truly acute vision, as its survival no longer depended on its ability to successfully seek and obtain prey. This seems to be supported by the fact that wolves have a more developed visual system – they have nearly twice as many ganglion cells in their retinas as the same sized dogs (Mech – Boitani 2010). However, the situation is not so simple, because for humans, visual cues are extremely important for communication. Therefore, the visual cues observed during social interactions are also important for dogs adapted to the human environment, on which they rely more heavily than wolves (for more details, see subsection 2.1.3). The situation is further complicated by the fact that the dog's vision is largely determined by the shape of its skull, and more specifically the position of its eyes. Dogs with a wolf-like anatomy have an elongated snout, their eyes are positioned laterally, resulting in a wider field of vision, but the overlap of the visual field (a prerequisite for field vision) is rather small. On the other hand, the eyes of the short-snouted breeds, i.e. those with shorter and wider skulls, are forward-facing and therefore have a larger overlapping field of vision. The structure of the retina of dogs selected for this "child-like" head shape is also altered so that the area of sharp vision is concentrated in a single spot, forming a pattern similar to the *corpus luteum* in the human retina, which makes the eye suitable for focused vision. As a result, these dogs are better able to focus their visual attention, for example by being able to fixate on an image for a longer period of time, allowing them to observe the details of the image more closely (Gácsi et al. 2009b; Bognár et al. 2018).

Video 11: "Switching off the sense of smell"
https://youtu.be/IHHJflJDAis

As regards communication with scent signals, dogs have retained the same importance in domestication as it had in wolves. However, it is important to note that there are significant individual and breed-specific differences in dogs' olfactory abilities Research indicates considerable genetic variability in dogs with respect to the genes encoding the olfactory receptor proteins (Robin et al. 2009). This variability may be related to the gradual adaptation of dogs to humans which may have favoured certain individuals that helped humans with poor olfaction to locate and track prey. This is the reason why certain hunting dog breeds have an innately greater sense of smell (Polgár et al. 2016). However, smell plays a primary role in conspecific interactions among dogs, as the human sense of smell is orders of magnitude weaker than that of canines in the case of most odors. In the dog-human relationship, such communication is rather one-sided, so that for the dog living next to a human, this communication channel inevitably loses its importance and the dog tries to focus on visual cues that are also important for the human. Indeed, studies show that if a task can be solved by visual cues, the dog tends to "switch off" its sense of smell and rely solely on observable cues (Szetei et al. 2003). (video 11.)

Communication by vocal signals is also important for all canines. In dogs, barking is the most common form of vocalisation, which, although highly variable, shows significant breed and individual differences. While different canine species use this distinctively articulated vocalisation only in certain situations and to a very limited extent (e.g. wolves only bark in alarm or defence), dogs use it in a wide variety of situations and motivational states, including during social interactions such as play and enticement. It is also worth mentioning that the acoustic structure of dog barking has become more diverse as a result of domestication, which ensures that it can be used in a variety of situations and with a wide range of meanings, both in communication with conspecifics and with humans.

2.1.3 The dog as an "enculturated" species: parallels in the social behaviour of dogs and humans

It is obvious that the ancestor of the dog, as a social predator species, already had advanced social-communication skills when it was domesticated. These were a good starting point for the development of a new set of socio-cognitive abilities, adapted to the human environment over thousands of years of domestication. One curious feature of these skills is that they often manifest themselves in sophisticated ways towards humans, i.e. in interspecific interactions, while the same skills do not seem to be used by dogs in conspecificinteractions. It is virtually unique in the animal kingdom that dogs are able to engage in interactions with partners of another species that are, in some respects, more complex than those with their own species. A good example of this strange anomaly is the use of eye contact as a communication signal. While dogs prefer to establish eye contact with humans, e.g. when initiating communication or in other cooperative situations (Kaminski, 2009; Miklósi et al. 2003; Soproni et al.

2001), this communication tool is used only to a very limited extent in interactions with other dogs (e.g. to signal dominance – Bradshaw – Nott 1995).

There is now wide scientific agreement that the key to sophisticated social competence in dogs lies in humans and the complex social situations they provide which are an integral part of the dog's natural environment. It is therefore reasonable to assume that dogs are selected for the ability to enculturate, i.e. their natural development depends on the experiences and social stimuli provided by the human environment. The dog is therefore able to recognise the social rules of the anthropogenic environment and to adopt the behavioural norms expected as a result of these rules. Enculturation is a process that unfolds in the dog's natural environment during the development of the individual, which has a profound effect on the social-cognitive skills of the species. Although it can take many forms, enculturation is essential for the normal social development of the dog. Note that dogs can survive more or less independently of human interference, as discussed above (see subsection 2.1.2), but this cannot be considered a natural way of life. The lack of socialisation related to the human environment can lead to a deprivation of the dog's nervous system, resulting in atypical development of its socio-cognitive skills.

It is also important to note that behavioural and cognitive skills unfold in a predetermined sequence during individual development, and this determines the timing and form of the environmental and social stimuli that the nervous system needs to respond to. This fundamentally influences the sensitivity of an individual's nervous system to stimuli from the human environment. Furthermore, environmental experiences acquired at a certain stage of an individual's development can even irreversibly alter the course of the development of social-cognitive skills, i.e. the enculturation process works in a sense through a positive feedback loop. The more social experience the mind has, the greater its capacity to acquire additional social experience.

The natural socialization effect of the anthropogenic environment on the dog's nervous system is best illustrated by the fact that a puppy is socialized spontaneously in the human environment without any special attention. This process is in stark contrast to the non-domesticated version of the dog, the wolf. If a wolf is not separated from its mother before eye opening (4-9 days after birth) and allowed to grow up in a mixed-species environment, i.e. with its mother and siblings in the constant presence of humans, a preference for humans will not develop (Klinghammer – Goodman 1987). Importantly, however, even early separation from conspecifics and intensive human care in early puppyhood do not result in the wolf socialising to humans in a similar way and to the same extent as the dog (see later studies on bonding and social attraction, e.g. Gácsi et al. 2005).

Experimental observations of the last decades confirm the hypothesis that the domestication of *Canis familiaris* is accompanied by a behavioural evolutionary process, underpinned by the emergence of socio-cognitive abilities functionally analogous to human abilities (Topál et al. 2009).The human environment is extremely complex in terms of social relations and, due to linguistic communication, is loaded with interactions that are difficult to understand for a species lacking linguistic competence. This could be extremely challenging for the dog's mind as it gradually adapted to the human environment. It is reasonable to assume that such extreme adaptation challenges resulted in selection pressures that led to convergent evolutionary changes in many of the social skills of dogs. While many aspects of dog behaviour became functionally analogous to their human counterparts, a specific set of skills (social competence) emerged in the dog. However, it is important to emphasise that when hypothesizing such convergent evolutionary processes as the cause of the emergence of the dog's social cognitive abilities, we are highlighting the functional correspondence and superficial similarity between human and canine abilities and behaviour. Thus, we do not make specific assumptions about

the underlying mental processes, i.e. we do not claim that the same cognitive processes operate in dogs and humans to underlie the behavioural similarities.

It follows from the above argument that, contrary to earlier ideas, domestication was not primarily a selection for different physical characteristics (body build, size, coat colour, etc.). The changes in physical characteristics in the early stages of domestication (before the selective breeding of dog breeds) were only an accompaniment of the adaptation process, which focused on the success of social interactions between dogs and humans. The elements of this were attachment to humans, manageability, controllability of behaviour by humans and teachability. In the following, we will look at some of the manifestations of the dog's social competence, related to social attraction and attachment and synchronization mechanisms, which show striking parallels with similar skills in humans.

2.1.3.1 Social attraction and attachment

The modern approach to human attachment is a theory that takes into account psychological, evolutionary and ethological considerations and assumes that for normal social and emotional development, a young child needs to develop a personal attachment relationship with at least one primary caregiver. Researchers have long wondered to what extent this model can be considered valid for the specific interspecific relationship between the dog and its human caregiver. The answer to this question is not easy, because although dogs, like other social carnivores, have evolved a strong motivation for group cohesion, attachment implies an individual, personal relationship that is functionally distinct from a general attraction to group members. Moreover, the formation of attachment relationships between members of different species is only conceivable if there is an analogous behavioural structure in both species that has a common function in social-affiliative relationships. Recent evidence suggests that domestication has led to significant changes in the social-affiliative behavioural systems of dogs (Miklósi 2014), and that these changes may underlie the formation of

dog-human bonding. The attachment relationship between dog and human is reciprocal, i.e. on the one hand, the dog shows signs of 'toddler-like' attachment behaviour towards its caretaker according to specific criteria (see below), and on the other hand, the human itself tends to perceive its relationship with the dog as an attachment one (Archer 1996).

As for the innate basis of attachment, although there may be individual and species differences in the precise timing and quality of the socialisation process, dog puppies, unlike human-raised wolf puppies, may develop specific preferences for humans (Zimen 1987). The primary socialisation period of dogs is unusually long compared to that of wolves (3-12 weeks after birth – Freedman et al. 1961). Puppies that have had little or no human contact during the first 12 weeks of life may still be socialised later (with varying degrees of difficulty) and may be able to form affiliative relationships with humans. In an experiment (Gácsi et al. 2005), from the age of 7-8 days wolf and dog pups raised exclusively by humans with intensive socialisation, were tested for social attraction to caretakers, strangers and adult strangers at 5 weeks of age. The results showed that while puppies generally prefer a human over an unfamiliar adult dog (whether the human partner is their caretaker or a stranger), young wolves do not show this general preference. Wolves prefer their caretaker over an unfamiliar human, however, they do not prefer even their caretaker (who is with them 24 hours a day, feeding and caring for them) more than an unfamiliar adult dog (Gácsi et al. 2005). This leads to the hypothesis that long cohabitation with humanshas led to the emergence of 'interspecific' attraction in dogs, which may form the basis for the development of dog-human bonding.

Although attachment may seem to be a rather subjective and difficult to define concept in everyday terms, it is in fact a behavioural phenomenon that can be objectively measured and clearly defined according to certain criteria (Rajecki et al. 1978). Attachment is a behavioural organizing and regulating mechanism (Sroufe – Waters 1981), which manifests itself as a persistent attraction to a specific object or agent (the attachment figure) through specific behaviours. Attachment always occurs as a result of developmental maturation

processes and manifests itself in different species-specific behaviours (Sears et al. 1953). Attachment thus functions as a behavioural construct that regulates the interactions of partners in different situations according to clear principles (criteria), and it would be a mistake to simplify it to a mere 'general preference' for a mate. So, for example, if a wolf raised by a human does not fear its caretaker, and even prefers the caretaker, this is not sufficient reason to consider it as having an attachment to the caretaker.

The functioning of attachment as a behavioural control system can be very well observed, for example, in the parent-child relationship, where its presence can be inferred from the following criteria (Rajecki et al. 1978):

1. In unfamiliar environments, for example, the exploratory behaviour of a 1.5-year-old child shows a characteristic pattern when the parent is present. The toddler explores the environment away from the parent, but returns to a *secure base* (i.e. the attachment figure) from time to time to recharge emotionally and gain courage to explore further. Importantly, the contact- and proximity-seeking behaviour observed at this time is specific. Namely, the child does not show, or at least does not show as intensely, this behaviour when someone familiar other than the parent is present.
2. If a child who is independently exploring the environment suddenly encounters a fearful stimulus, instead of fleeing to a perceived safe distance from the source of fear, he or she will flee to the attachment figure present. So the parent acts as a *safe haven in a* fear-inducing situation. The proximity- and contact-seeking behaviour observed in such situations is also specific.
3. If a child who is independently exploring the environment is suddenly left alone by the attachment figure, there are clear behavioural signs of *separation anxiety* (stops exploring/playing, cries, tries to follow the parent, etc.) and the presence of anyone familiar cannot reduce anxiety.
4. However, when the attachment figure returns, the child will *greet* the returning parent with a specific behavioural change (seeking contact and closeness) and then show signs of *reassurance* (exploring again, playing, etc.).

Importantly, although these operational criteria for attachment behaviour have been developed from research not only on humans but also on other primates (e.g. Bard 1991), they can be applied to parent-offspring relationships or to social relationships in other species in the animal kingdom in general (e.g. Cairns 1966).

A standard laboratory procedure, the Strange Situation Test (SST), has been developed to test the functional criteria of attachment. The method was originally used by Ainsworth and Wittig (1969) to study the mother-infant relationship. SST is based on the premise that separation from an attachment figure in an unfamiliar environment triggers anxiety, whereas on reunion with the parent (attachment figure) the activated attachment system manifests itself in various forms of contact seeking. Attachment behaviour is thus activated by moderate stress during successive episodes. This test method has been successfully applied to characterize the attachment behaviour of adult dogs towards their owners and to provide a descriptive analysis of this unique interspecific relationship (Topál et al. 1998). The results clearly showed that the attachment behaviour of dogs shows striking analogies with the behavioural manifestations of children towards their parents in similar situations. The observed responses corresponded to the criteria listed above that would be expected from attachment as a behavioural control mechanism. The *secure base* effect was shown by the dogs' increased exploratory activity and their willingness to play in the presence of their human caregiver. When the owner was away, the dogs showed behavioural signs of separation stress: they stopped their previous activity and spent most of the time standing in front of the door, even when another person was present. However, when the owner returned, they greeted the owner (proximity- and contact-seeking behaviours) in a way that

was characteristically different from the way they would have greeted an otherwise friendly other person in a similar situation. It should be noted, that the SST experimental procedure, adapted from child psychology, is not well suited to directly demonstrate the phenomenon of a *secure base* effect in dog-human relationships (Prato-Previde et al. 2003). However, a modification of the original procedure has provided clear evidence for this (Palmer – Custance 2008).

Until recently, only a few studies have specifically tested the other important criterion of human attachment behaviour, the *safe haven* effect. One of the few exceptions is the study (Gácsi et al. 2008) in which dogs were exposed to a threatening stranger in the presence or absence of the attachment figure (the dog's caregiver) in order to enhance the stress responses of the subjects. It was found that there is a correlation between the dogs' behavioural and physiological responses (heart rate), both of which are influenced by the presence of the owner (caregiver) in the threatening situation. It appears that the mere presence of the owner alone is able to reduce the effect of fear-inducing social stimuli. This finding supports the notion that, similar to the child-mother bond, the *safe haven* effect is present in the dog-owner relationship as an important criterion for bonding (Gácsi et al. 2008).

Other experimental studies have revealed an important additional analogy between dog-human and parent-child relationships. Adult dogs have been shown to be able to form new attachment relationships in a relatively short period of time, and repeated interruptions of attachment do not reduce the ability of dogs to subsequently form full attachment relationships with other humans (Fallani et al. 2006, Valsecchi et al. 2010). Such flexibility has so far only been described in humans and dogs.

However, some researchers have suggested that attachment behaviour is based solely on the social experience provided by humans, and therefore if wolves are kept away from their conspecifics early on and socialised intensively enough, they may show attachment to their human caretakers (Hansen – Wheat et al. 2022). Although there is no doubt that wolf pups reared in this way develop a close affiliative

relationship with their caretakers and in many respects show preferences towards them (see e.g. Ujfalussy et al. 2017), we only have firm data on lifelong attachment in adult dogs that meet the criteria discussed above. The studies on wolf-human attachment pose serious methodological problems and in any case do not provide a basis for such a conclusion (for detailed critical comments see Gácsi et al. 2023). The idea that the 'toddler-like' attachment of dogs to humans is due to the specific effects of domestication was confirmed by a comparative study. This study compared the attachment behaviour of dog and wolf pups raised with human 'surrogate mothers' to their caretakers using the SST method. The results showed that, unlike four-month-old dogs, wolves of the same age did not meet the criteria for an attachment bond (Topál et al. 2005).

2.1.3.2. Synchronisation skills

It has been argued in detail that mixed-species groups of dogs and humans should be treated as natural entities that have evolved through a long process of adaptation into what we observe today. An important factor in the unique social competence of dogs is their ability to form individualised attachment relationships with humans. At the same time, attachment also plays an important role in synchronising partners, as this is what can facilitate and make cooperation between dogs and humans more effective. Observations have shown that the snychronization that occurs during dog-human interactions can manifest at various levels of behavioural regulation, including physiological processes, motivational/emotional states and actions.

The most evident and easily observable manifestation of synchronicity is the coordination of behaviours, usually towards a common goal. The goal itself is sometimes specific, for example, in hunting, where the prey animal can only be brought down through a joint effort, as a lone hunter would be unsuccessful. In other cases, the goal is more general, such as when the dog "wants" to play. In both cases, the individual can only achieve its goal if it takes into account the behaviour of others and adapts its own behaviour to it. In this sense,

Picture 56: Guide dog training

collaborative action can be said to lead to a new construction of a joint action. Studies have shown that the behaviour of dogs and humans working together to achieve a given goal is characterised by a complex coordination (Kerepesi et al. 2005). For example, during joint play, dogs not only rely on metacommunicative cues (e.g. play-calling posture) to maintain play, but also adopt a complex 'behavioural plan' adapted to the behaviour of the play partner (Mitchell – Thompson 1991).

A great example of how humans and dogs can work well together is the case of guide dogs and their owners. (pictures 56) Studies of their joint movements have shown that guiding a blind person is, in fact, a very complex cooperative activity requiring the active participation of both parties (Naderi et al. 2001). An essential element of this cooperation is the continuous alternation of who fills the role of the decision-maker (the actor). Sometimes the dog initiaes the next element of the action, while at other times the owner decides what to do next. At the moment of the decision, the actor making the decision is considered dominant. Thus the alternation of the decision-maker indicates that the two are engaging in a give-and-take leadership role in the interaction. Although there may be large differences between specific guide dog-owner pairs in the percentage of decisions that are made by the dog or the owner, the dominance shifts that are common to all of them suggest that dogs and humans are able to coordinate their actions in a unique way in the animal kingdom (Naderi et al. 2001). This high-level cooperation is similar in many respects to what is observed in the cooperation between humans. This is because human synchronized activities are also fundamentally dependent on the social relationship between the parties, and are characterised by a high level of interactivity and complex cooperation.

The way dogs and humans cooperate is also influenced by the relationship between the cooperating parties and their individual life experiences. For example, family dogs that are kept as companion animals, with whom their owners maintain an emotional partnership, are surprisingly dependent in situations where they are faced with solving a problem (e.g., getting a reward treat from a hard-to-reach bowl – Topál et al. 1997). This is because these dogs attempt to solve the problem in cooperation with their owners, coordinating their behaviour with them. In such situations, it's typical for the dog to look at the owner, indicating that the dog uses its owner as a social reference and source of information in unclear task situations (Miklósi et al. 2003). Therefore, the nature of the dog-human social relationships determines the dog's readiness to exhibit self-restraint, cooperate and communicate with the human partner in task situations. As a significant consequence of domestication, instead of the wolf's autonomous problem-solving ability, dogs exshibit an enhanced tendency to cooperate with humans in "social units". However, this ability can only develop with sufficient socialisation during individual life. This suggests that the dog-human bond, which is in many ways resembles to the parent-child relationship, plays an important role in the development of skills related to social competence in dogs.

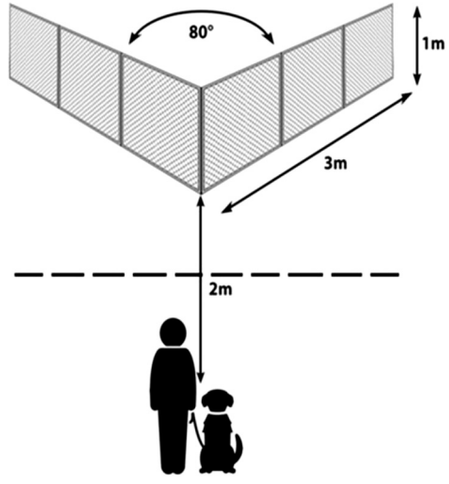
However, the relationship between attachment and behavioral synchronization is reciprocal, meaning that each influences the other. For example, as in mother-infant relationships (Stern et al. 1977), synchronised routines established by dogs and their owners can play an important role in strengthening attachment. Such synchronization is most likely to occur when partners are sensitive to each other's emotional and attentional states.

Behavioural synchronisation is also greatly facilitated by the ability of the partners involved to recognise and follow certain rules of social behaviour. The ability to construct and follow rules is unique to humans. Our social life is characterised by a number of group-synchronising behaviours that can be carried out according to some commonly agreed rule. A particular form of rule-based behaviour is ritual, which consist of behaviours performed automatically according to

a habit. Rituals have the basic characteristic and advantage of not requiring much conscious decision-making or thinking, meaning the performance of an action is not overly dependent on the current state of the environment. Consequently, rituals (behavioural habits) are most likely to be advantageous in a stable environment. In line with this, it is reasonable to ask whether a dog well adapted to its environment may develop similar habits (rules and/or rituals) and adopt them from humans.

It is generally accepted that dogs' obedient behaviour and their „eager to please attitude are partly based on their ability to understand social rules (de Waal 1996). This is supported by research indicating that dogs engage in constantnegotiation with their partners during social play, which suggests that they interpret and apply the rules of the game (Bekoff – Allen 1998). The coordination of dog behaviour with humans is also benefits significantly from specific manifestations of social learning skills, such as imitation. Dogs demonstrate a talent comparable to that of great apes in understanding the learning rule "Do as I do" and, can appropriately imitate human-demonstrated behaviours according to this instruction (Topál et al. 2006a; Fugazza et al. 2016).

In complex interactions with humans, constructing and adhering to social rules can be of great importance, as it effectively minimizes the frequency of conflict situations. For example, in a study where dogs were tasked with searching for a hidden ball multiple times in succession they observed a human experimenter going through several hiding places before each search to hide the ball. Importantly, the human experimenter always followed the same choreography of hiding, always visiting all the hiding places in a predetermined order, regardless of where she ultimately hid the ball. The dogs quickly recognized the ritualised nature of the experimenter's behaviour Even though they were not explicitly instructed on how to behave in this situation, when given the opportunity to search for the ball, they did not search purposefully for the ball's location. Instead, they engaged in a sort of hide-and-seek play, attempting to adhere to the perceived rules of the game. Rather than directly searching where they suspected the ball might be hidden, they mimicked the searching behavior itself, often searching in places where the ball was clearly not located.



Picture 57: V-shaped fence

This study demonstrates a common, simple case of rule-following, where an individual develops and maintains a habitual action based on the behaviour of its partner. In such cases, rule-following actually becomes evident when the individual has the opportunity to choose a more "logical" (simpler, more effective) solution to its already habitual behaviour, and yet does not do so, but instead sticks to the rule-like behaviour. This is demonstrated in a study (Pongrácz et al. 2003) where dogs were given the opportunity to follow a human demonstration by repeatedly walking around a V-shaped fence to obtain a reward placed behind it. (picture 57) A door then opened on the fence, through which they could easily obtain the reward without having to go around it. However, the dogs did not take advantage of the opportunity and, despite demonstrably noticing the open door, insisted on the previously established solution. Other studies have also shown that when dogs learn by observing humans, they tend to reproduce unnecessary and redundant aspects of the behaviour presented by humans, similar to young children (Meltzoff 1988). They do this even when they could achieve the goal of the task more efficiently in a direct way (Kupán et al. 2010). The emergence of such 'efficiency blindness' (or selective responding) in observational learning situations depends to a large extent on the instructional ('teaching') nature of the situation (see subsection 2.1.4 for more on this).

A particular subset of rule-following is the ability (and willingness) to spontaneously develop a behaviour (ritual) without any apparent positive or negative reinforcement even when the behaviour serves no identifiable or meaningful purpose in the circumstances. This phenomenon has been demonstrated in a study (Kubinyi et al. 2003) involving adult family dogs. In this study, owners were instructed to change their routine upon returning home from a walk by making a short and unnecessary detour before entering the door of their home, without paying attention to the unleashed dog. The owners repeated this pre-entry "ritual" daily for six months, and interesting changes were observed in the dogs' behaviour as a result. Comparing the results of the first and last month, initially, the dogs generally responded to their owners' behaviour of demonstrating the detour by following them (i.e. walking back and forth behind or beside the owner). By the sixth month, however, approximately half of the dogs had adopted the new yet completely pointless habit of the owner. They began performing this unnecessary detour at the front door on their own initiative, even before the owner started the behaviour (Kubinyi et al. 2003). This phenomenon, where dogs spontaneously adopt human behaviors without coercion, is unique among animals. It likely stems from an adaptive mechanism through which dogs, in adapting to a complex human social environment, develop a capacity to minimize conflict.

All these observations suggest that a well-socialised dog has a strong drive to adapt its behaviour to the observed rules of its social environment, even when the actions it performs may not serve any meaningful function. This adaptibility is crucial for coordinating behaviour among group mates and likely plays a role in facilitating co-operative actions between dogs and humans.

Another important manifestation of the synchronisation mechanisms is the alignment of internal states between dogs and humans. Evolutionary, this can be linked to phenomena such as the howling chorus observed in wolves where pack members are irresistiblly drawn to join vocalizations to coordinate and express group cohesion (Schassburger 1993). A similar phenomenon can also be observed in dogs. Building on this concept, several studies have shown that human yawning can be contagious to dogs (Joly – Maschroni et al. 2008; Silva et al. 2012; Romero et al. 2015). Researchers have interpreted this phenomenon as an extension of empathic skill between dogs and humans. (picture 58) However, the issue remains debated, as there are studies questioning this interpretation of the results (Harr et al. 2009; O'Hara – Reeve 2011).

Picture 58: The transfer of human yawning to dogs is a manifestation of empathy

Nevertheless, a growing body of research suggests that the mere presence of or interaction with dogs can impact a person's emotional state. Given that physical contact is a primary way humans express empathy, it is reasonable to assume that dogs may have been selected in this direction during domestication. This idea is supported by observations that human-raised wolves are far less inclined to enjoy petting comared to dogs. Studies have shown that petting a dog under appropriate conditions leads to physiological changes associated with relaxation: beta-endorphins, oxytocin and prolactin are released in the dog and heart rate is reduced in both individuals (Odendaal – Meintjes 2003). A related finding is that positive social interactions with *a bonding partner* not only increase endogenous oxytocin levels in dogs, but can also induce similar changes in humans (Handlin et al. 2011; Nagasawa et al. 2015). Moreover, even positive social interactions with unfamiliar human partners can affect the physiological responses of dogs, demonstrating a stress-relieving effect (Coppola et al. 2006). However, recent research suggests that such manifestations of physiological

synchrony are highly dependent on individual socialization (Wirobski et al. 2021).

This phenomenon is interesting because changes in brain oxytocin levels significantly influence the dog's social behaviour (Turcsán et al. 2022). A growing body of research shows that oxytocin treatment has specific effects on dog behaviour towards humans. It increases attentiveness to the owner (Romero et al. 2015; Nagasawa et al. 2015), and reinforces the tendency of dogs to use the owner as a social reference and source of information in ambiguous situations (Hernádi et al. 2015). Furthermore, oxytocin improves dogs' ability to respond to human communicative gestures, such as pointing (Oliva et al. 2015; Macchitella et al. 2017) and influences how dogs perceive emotions on human faces, increasing their attention to positive emotional expressions – Somppi et al. 2017).

The "transmission" of human internal state to dogs has been demonstrated in experiments where owners' levels of anxiety were artificially manipulated (either increased or decreased). After engaging in joint activities with their dogs under these altered states, changes in the dogs' stress levels were observed (Sümegi et al. 2014). Changes in the owners' anxiety levels were also measured using a state anxiety questionnaire and a memory task. The latter was included in the study because it is well known that a slight increase in stress improves performance in such tasks. The results show that owners perceived changes in their anxiety levels (as reported in the questionnaires) and that increased stress levels during the memory task did indeed improve their performance. More importantly, after 10 minutes of interacting with their dogs (engaging in play or simple obedience tasks) under altered stress conditions, the dogs' anxiety levels changed in the same direction as the anxiety levels of their owners. Specifically, dogs of 'stressed' owners showed improved performance in the memory task (Sümegi et al. 2014). This suggests that dogs are capable of attuning to changes in the internal states of humans based on different social cues

(visual and acoustic signals). However, there is limited research evidence on this subject beyond the study mentioned here. For example, during joint play with humans, different cues from the human partner can influence the dog's mood thus leading the emergence of playful behaviour (Rooney et al. 2001).

More recently, dogs have also been shown to be as susceptible as humans to being influenced by social stimuli. For example, their behaviour towards a new item can be determined by observing a human's emotional response to that item (Turcsán et al. 2015). They may even tend to ignore their 'natural' preference for larger amounts of food after seeing a human explicitly prefer smaller amounts (Prato-Previde et al. 2008). This type of social suggestibility in dogs is likely influenced by the functioning of the oxytocin system. Oxytocin serves a dual role as both a neurohormone and a neurotransmitter. As a hormone, it regulates socio-emotional behavior, while as a neurotransmitter, it plays a crucial role in stress regulation within the nervous system and in modulating the reward value of social stimuli. Overall, oxytocin facilitates enhanced attention and cognitive resources towards social stimuli, which contributes to specific manifestations of social competence, including social suggestibility. This concept is supported by studies showing that oxytocin treatment, as well as pre-training with social stimuli (petting, eye contact) enhances dogs' responsiveness to social cues in tasks involving choices between more versus fewer rewards (Kis et al. 2022). This parallels human behaviour described as social conformity seeking which has also been shown to be influenced by oxytocin (Stallen et al. 2012).

2.1.4. Communication between dogs and humans: the role of natural pedagogy

It is now generally accepted that an important driving force behind the emergence of Homo sapiens from the animal kingdom was the so-called communication compulsion. This evolutionary challenge encourages group

members to learn about each other's internal states, intentions and thoughts enabling them to coordinate their activities effectively (Csányi 1999). One of the important insights of research on the history of dog domestication is that for dogs, which gradually became capable of fulfilling the status of companion animals, joining and remaining in the human community – as an evolutionary challenge – also emerged as a kind of communicative compulsion. Dogs could only become part of the human group if, despite the obvious limitations of their cognitive abilities, they managed to gain some understanding of the complex system of human communication and knowledge transfer processes. Although it is not easy to imagine how a species so distant in phylogeny from apes could meet such a challenge, the facts show that dogs have done so quite well. As we have already pointed out, dogs clearly differ from wolves in tasks requiring cooperation and communication with humans (e.g. Miklósi et al. 2003). A striking feature of these differences is that dogs show 'toddler-like' characteristics in their ability to respond to challenges in the human social environment (see e.g. Soproni et al. 2001; Hare – Tomasello 2005; Lakatos et al. 2009).

Before briefly reviewing the exact nature of the toddler-like nature of the dog's communication skills, we need to ask what are the specific features of human communication interactions that make this system unique in the animal world. Human communication, which is used to acquire, store and transfer relevant knowledge, is different from techniques with similar functions in the animal world not only because it consists of a complex system of linguistic symbols embedded in grammatical structures that no other species can access in the absence of linguistic competence. The *manner in which* information is transmitted between partners is a crucial and unique feature of human communicative interactions.

Indeed, it is a species-specific feature of human beings to have an information-sharing mechanism that enables them

to engage competently in the process of knowledge sharing from infancy, long before the development of language skills. Researchers refer to this specific knowledge transfer mechanism as natural pedagogy (Csibra – Gergely 2009). *Natural pedagogy is* something that we all practise instinctively and routinely every day. This is typically what parents with young children do, for example, when they interact with their babies. The essence of this distinctively interactive process is that the partner (e.g. the parent) who wants to share knowledge initiates the interaction, to which the receiving partner's (e.g. the few-month-old infant) nervous system responds with specific activation and relevant behavioural responses. However, the initiation of communication is only the first step in this multi-phase process, which has three distinct parts. In the first step, the communicator expresses his/her intention to communicate by means of so-called ostensive signals. For example, a parent uses the characteristic intonation known as "mothereese", to address the baby and make eye contact. Then, using so-called referential cues (e.g. looking or pointing), the parent identifies the object, event or person about which they want to share specfic knowledge. Finally, in the third step, the parentconveys the specific knowledge (e.g., naming the object/person unknown to the baby) that the interaction was created to share (Csibra – Gergely 2009).

In summary, the unique effectiveness of human knowledge sharing is based on a communication technique completely unknown in the animal world: ostensive-referential contextualisation of communication. This means that before actual communication (knowledge sharing) occurs, the initiator expresses his/her intention to communicate in a specific way and identifies the object of communication. This action primes the partner, preparing them to receive information, and directs their attention to the relevant target in the environment. It is important to note that the communication technique described here, which is perfectly applicable without the use of language, is not only a

Picture 59: Dogs are sensitive to stimuli that express intent to communicate, such as eye contact

human-specific phenomenon in the way it is used by the initiator, but also unique in the way the human nervous system often responds innately to the expression of the intention to communicate and to the referential cues that mark the object of communication (Praise – Csibra 2013).

It is reasonable to assume that dogs, while trying to navigate the complex and difficult-to-understand human interactions, had to adapt to this peculiarly human communication process. In evolutionary terms, the solution might have been for the dog to develop sensitivity, like preverbal babies, to stimuli that express humans' communicative intentions, such as eye contact or specific intonation. (picture 59) Dogs also needed the ability to interpret directional gestures (e.g. pointing, eye gaze) that humans use to indicate the object of communication. All of this assumes that stimuli crucial for interactions based on natural pedagogy (human face and eye contact) are perceived not as fear-inducing but as attractive – a non-trivial point, given that direct eye contact is one of the most effective fear-inducing stimuli in the animal kingdom. As mentioned earlier (see subsection 2.1.3), dogs are a notable exception to this, as they use eye contact in a wolf-like manner among themselves (as a form of ritualised aggression). However, with humans, eye contact frequently serves a communicative role, indicating an intent to communicate.

Dogs have a strong urge to initiate interaction with humans, using visual cues (looking at humans and changing gaze) that are functionally analogous to humans. When faced with an unsolvable problem (e.g. being unable to reach a desired food item because it is too high or a previously successful solution is no longer feasible), dogs often use these cues to attract the attention of their human partners (Miklósi et al. 2000; 2003). The particular significance of eye contact with humans is underscored by the fact that dog puppies exhibit spontaneous preferential attention towards the human face from a very early age. In contrast to wolves, dogs have been observed to readily make eye contact with humans while waiting for a signal as early as a few weeks of age (Gácsi et al. 2005).

As mentioned above, another typical indicator of communicative intent is the use of specific speech prosody, which is also an important feature of interactions based on natural pedagogy. Studies utilizing voice analysis indicate that when humans attempt to engage dogs in such knowledge-sharing scenarions, they employ a dog-directed speech style that closely resembles infant-directed speech (mothereese), but retains ditinctive features (Gergely et al. 2017). Brain imaging studies have also shown that the dog's nervous system is highly responsive to this speech style, with a specific activation pattern in the secondary auditory cortical areas (Gergely et al. 2023).

However, it is not just that dogs – like babies (Farroni et al. 2002) – naturally prefer to look at people's faces, finding eye contact and dog-directed speech prosody highly attractive and engaging. This preference serves as a foundation for them to learn about human *communicative intentions*, which is important for interpreting human communication effectively. Experimental data show that in communication scenarios where a human points to an object or directs their gaze, dog interpret such gestures as referential signals (indicating the object of communication) only if preceeded by eye contact and specific intonation from the human (Soproni et al. 2001; Téglás et al. 2012).). Thus, just like 6.5-month-old infants (Senju – Csibra 2008), dogs are more willing to follow human gaze when it is accompanied by a

clear expression of communicative intent, aligning with the principles of natural pedagogy. It is important to note that this ability to interpret human intention to communicate is a unique phenomenon in the animal kingdom, absent even in our evolutionarily close relatives, such as chimpanzees (Povinelli et al. 1997; Kano, et al. 2018).

An important finding about referential cues is that dogs are very sensitive to human gestural cues from early puppyhood, with most dogs being surprisingly good at using human cues as early as 6 weeks of age without any training (Riedel et al. 2008). Interestingly, however, human-raised wolves have great difficulty in learning the meaning of such 'simple' human gestures (Virányi et al. 2008). Wolves require extensive training, typically spanning 6-8 month from a very young age to achieve a performance compasrable to what dogs can achieve spontaneously (without systematic training). Interestingly, dogs can also learn the interpretation of unusual and unconventional variants of pointing gestures, such as when the experimenter points with his/her feet or elbows (Miklósi – Soproni 2006). For example, in a search task, dogs can successfully understand the „referential nature" of the human gesture (pointing hand) even if they only see the ponting hand in a static position without the arm moving in the correct direction, or if they observe the pointing hand moving backward to its original position. Their performance with such "tricky" pointing is comparable to that of 1.5 year-old children.

When analyzing the dog's receptivity to natural pedagogy, we must consider that in adult-child interactions utilizing natural pedagogy, the ostensive-referential cues follow a specific structure. Namely, referential cues never precede the expression of the intention to communicate. This is so, because one of the main functions of ostensive cues is to activate in the recipient a specific interpretative stance known as *referential expectation* (Senju et al. 2008). This means that when infants perceive the adult's communicative intent, their nervous system not only switches into a readiness to learn but also anticipates that forthcoming gestures will be directed towards a specific „object", thereby associating knowledge sharing with that particuar object. Based on the studies described above, it is reasonable to assume that dogs are also capable of forming some kind of referential expectation. That is, cues of human communicative intent are crucial for dogs to recognize the referential nature of subsequent directional signals. The phenomenon of *referential expectation* has been confirmed by a recent study (Tauzin et al. 2015), which demonstrated that the temporal relationship between the signals expressing the intention to communicate (ostensive signals) and the directional gestures indicating the object of communication (referential signals) is also important for the dog. Dogs were observed in a task where the experimenter consistently pointed to indicate which of two dishes contained a reward. However, the dogs experienced this referential gesture in two different sequences of behaviors. In the situation relevant to natural pedagogy, the human first made eye contact with the dog and addressed it (1. expression of communicative intention), then pointed to one of the dishes (2. designation of referent). Finally, just before releasing the dog, the human clapped his hands with his head down, not looking at the dog (3. non-communicative attention getting signal). In the situation irrelevant to natural pedagogy, the dog observed the same behavioral elements, but with behaviors 1 and 3 reversed (clap: 1, point: 2, express intention to communicate: 3). The results clearly show that dogs were more inclined to follow the pointing and choose the indicated dish when signals of communicative intention *preceded* the referential signal. This occured despite the fact that clapping, used as an introductory stimulus in the irrelevant situation, was equally effective as verbal addressing and eye contact in directing the dog's attention to humans. Thus, similar to infants, dogs observe patterns in knowledge sharing situations using natural pedagogy to interpret human behaviour. This confirms the hypothesis that cues expressing the intention to communicate play a role in the dog's readiness to

interpret human directional gestures as meaningful markers.

A significant consequence of dogs' sensitivity to ostensive-referential cues is their unquestioning acceptance of knowledge conveyed in this manner. That is, dogs are willing to reproduce actions "presented" using elements of natural pedagogy (i.e., in an ostensive-referential context) even if the goal or function of the action itself is cognitively opaque, unusual, or not very effective in the given task situation (Erdőhegyi et al., 2007; Topál et al., 2009). This phenomenon, termed "efficiency blindness" or selective responding, suggests that when humans employ natural pedagogy in interactions with dogs, dogs interpret this as a teaching or instructing scenario that activates a "ready to obey" attitude. The precise function of the cognitive-interpretive mechanisms elicited by communication appears to differ between dogs and young children. For infants, ostensive and referential communication cues primarily serve an epistemic function, i.e. they signal to the infant the possibility that some *generalisable*, *culturally shared* knowledge can be acquired in a given situation (Csibra – Gergely 2009). In contrast, dogs' sensitivity to ostensive-referential communication serves a different function: they interpret and accept knowledge or instructions as episodic (relevant to the immediate situation) and behave accordingly. The difference is illustrated by the observations that in a hide-and-seek task, dogs associate the replication of an otherwise meaningless action with the person of the demonstrator (teacher). That is, if the person changes, the learned response may disappear. In contrast, young children maintain learned behaviours from natural pedagogical situation regardless of the teacher's identity (i.e. even if the person changess), even if the behaviour itself seems meaningless to them (Topál et al. 2009).

Overall, the findings presented here, consistent with several studies, indicate that dogs, like human infants, can recognise the communicative intent behind gestures and anticipate receiving information or instructions following human

ostensive'referential signals. There is reason to believe that this specific social competence, observed in interactions between different species, is unique to the dogs, because evolutionary changes in the dog's adaptation to the human environment have played a fundamental role in its development (Miklósi – Topál 2013).

2.2. The dog as a prototype therapy animal: theory and practice

2.2.1. The evolutionary, biological and psychological roots of the therapeutic effect of the dog-human relationship

The rise of human civilisation, particularly in the last hundred years or so, has triggered a major extinction wave among higher mammals, among others. In the light of this trend, it is of particular significance that while the wolf (Canis lupus), the wild ancestor of the dog, has in many places been driven virtually to the brink of extinction, the domesticated version of this species (the dog – Canis lupus famiaris) has become one of the most successful species globally. Worldwide, there are approximately 1 billion dogs, making them the largest population of any carnivore. Among large mammals, only economically significant livestock such as cattle (around 1 billion) and sheep (around 1.2 billion) rival their numbers on Earth. Nothing better demonstrates the dog's overwhelming success than the fact that it is found everywhere humans live around the world – except for Antarctica. The human-dominated 'interspecific' social environment is an integral part of the dog's natural habitat, meaning that they have essentially adapted to live their daily lives in the presence of man. Although many of dogs have only loose relationships with humans (e.g. tens of millions of stray dogs found on the streets of India), there are still more than 400 million of them worldwide who live in close social relationships with humans as family members and pets. Overall, a

striking feature of the dog's social life is its willingness to join human communities – this is what makes this animal so special to us.

If we consider the relationship between dogs and humans from a comparative evolutionary perspective, it is important to note that there are a number of basic structures and mechanisms at different levels of behaviour, physiological functioning and cognitive processes that provide a relevant basis for the development of social interactions between the two species as shared characteristics of dogs and humans. Some of these similarities can be considered evolutionarily ancestral, shared inheritance between dogs and humans, but some have also emerged as functional analogies through convergent evolutionary processes in adaptation to a common environment. For example, both the human and canine nervous systems contain evolutionarily ancestral neural structures typical of the mammalian brain. These structures are associated with social skills and play important roles in the development of emotional responses, attachment mechanisms, cooperation and synchronisation. The regulatory systems responsible for stress responses are also present in both species, representing a common evolutionary heritage of mammals These systems are fundamental to the communication and socialisation processes between humans and dogs. But convergent evolutionary processes have also played a major role in the "meeting" of dogs and humans. Indeed, the gradual adaptation of the dog to the human environment has led to changes in social-cognitive skills that have led to the emergence of a specific interspecific social competence as interacting elements of a complex system (Miklósi – Topál 2013). This is what has ultimately made the dog better suited than any other species to fulfil the role of companion animal alongside humans. As discussed in more detail in subsection 2.1.1 above, the various domestication hypotheses discuss in detail some aspects of this complex behavioural evolutionary process. Examples include the attachment hypothesis (the emergence of a behavioural control mechanism that enables the dog to form a toddler-like attachment – Topál et al. 2005), the synergy hypothesis (the emergence of self-control

and cooperation with humans as a side effect of selection for tameness – Gácsi et al. 2009a), the hypersociability hypothesis (selection for extreme sociability – von Holdt et al. 2017), and theories that see specific changes in neuroendocrine regulation as key to these processes (see Wirbowski et al. 2021).

The research results of the past decades have provided ample evidence to support the view that the role of the dog as a companion animal alongside humans is well established in evolutionary-biological terms. Humans are a peculiarly 'biophilic' species (Wilson 1984), i.e. they are more likely than others to show a marked interest in and socializing tendencies towards different species of the living world. Only humans have shaped their environment to coexist closely with a range of animal species, and this is not some recent fad that has run up with the development of civilisation, but goes back far into the prehistoric times of mankind (Serpell 1986). The domestication process of the dog has created a species that is an ideal subject for humans to keep around for essentially emotional reasons, to satisfy their social emotional needs. It is now widely accepted among experts that the relationship between dog and man was facilitated, at least in part, by emotional factors in the early stages of domestication.

Although the increasingly tame animals that ventured close to human groups provided indirect benefits (e.g., signaling approaching predators or clearing up litter), their 'adoption' into archaic human communities was driven primarily by emotional rather than utilitarian considerations. It might not be an exaggeration to say that humans first loved dogs and only later found roles for them. Of course, with the emergence of farming and animal-keeping cultures, the dog's relationship with man was also primarily based on various functions such as house-keeping, hunting, herding, etc. (Serpell 2006), but over the last two or three centuries, as a side-effect of the widespread spread of urban life, there has been a gradual transformation in the relationship between man and dog. The functions that dogs used to perform alongside humans have gradually become obsolete, as urbanised populations in industrial civilisations no longer hunt, raise

herbivores needing protecion from predators, or guard their valuables with dogs, instead relying on advanced technologies. All in all, this shift has led to a modern transformation in the relationship between dogs and humans, giving rise to the 'companion animal' as a psychosocial phenomenon. Millions of dog owners around the world experience daily that the companionship of their pets not only reduces feelings of loneliness but also that physical contact and interaction with the animal have a positive impact on their emotional and physical well-being. A companion dog therefore has a major role to play in mitigating the effects of loneliness, one of the undesirable consequences of modern urban living. It's not just that petting a dog is comforting, or that a person is delighted to be greeted warmly and enthusiastically by their dog when returning home after a tiring day at work. Dogs also encourage social contacts: they facilitate people's interactions, provide a basis for conversation, encourage people who are otherwise strangers to engage in common activities and thus act as a community-building factor (McNicholas – Collis 2000). Dogs also play an important role in shaping people's daily routines, as millions of dogs in urban environments need to be walked regularly, with the positive 'side effect' of actively contributing to the maintenance of the owner's physical health (Wells 2009). In addition, dogs provide many people with new opportunities for a meaningful and physically active leisure time – just think of the increasingly popular dog sports.

Another important aspect of the dog's aptitude for being a companion animal is that it can play various roles in the human social relationship system. On the one hand, the family dog often takes on the psychosocial role of the child, triggering the urge for caregiving and a sense of responsibility in the people around it. (picture 60) This is quite common because of dogs' abovementioned skills such as toddler-like attachment, dependence (controllability, controllability), cooperativeness, ability to participate in communicative interactions and synchronisation mechanisms. But the possible psychosocial functions are not limited to the role of the child, a dog can be a "close friend" or even a "supportive companion".

Picture 60: Dogs evoke a sense of caring and responsibility in humans

It is also important to note that dogs as companion animals can contribute to the emotional and cognitive development of children (Melson 2005), but can also play an important role as an "emotional support" for newlyweds, the elderly and people in crisis (illness, family tragedy, divorce). Social support is a crucial factor for mental well-being, according to many theories, and as a companion animal is almost always 'on hand' and available to its owner, it can be the perfect provider for such needs (Bryant 2008). Building a relationship with a dog is often easier to trust and relate to, and it involves less emotional risk and conflict compared to human relationships. A companion animal is free of prejudices, and factors such as the social status, financial situation or health of the partner, which are fundamental to our human relationships, are irrelevant to it.

Another important feature of the dog's various psychosocial functions is that it can also serve as a kind of buffer, a "lightning rod", and thus significantly reduce the damaging effects of stress from our social conflicts (Allen et al. 2002). Social interactions with the dog may also provide the child with a potential opportunity to relieve the emotional burden of parental conflict and reduce the stress experienced (Strand

2004). More recently, it has been suggested that the role and position of the dog within the family are fundamentally determined by its status as most immature member in terms of personality organisation. This may take the dog highly sensitive to its role as a 'symptom carrier'. The phenomenon of symptom-bearing is often observed by family therapists; in dysfunctional families the child, as the "weakest link", may be prone to becoming the symptom-bearer of the family system. This most often manifests itself in the form of serious behavioural disorders or chronic health problems. Although not yet investigated, it is reasonable to assume that, like children, companion dogs may also act as symptom carriers: i.e. their behavioural disorders (e.g. aggression, fear, depression) or chronic health problems (e.g. recurrent ear infections, skin problems, epileptic seizures) may be due to the phenomenon of symptom carrying, at least in some cases. The psychological processes of the owner (life difficulties, traumas, anxiety, mood disorders, personality disorders) may therefore cause similar somatisation and behavioural disturbances in companion dogs as in children. This is also supported by observations that dogs may be able to take on the internal states of their human caregivers (see e.g. observations on emotional contagion described in subsection 2.1.3 – Sümegi et al. 2014). Although the impact of the relationship with a companion animal on mental health has long been overlooked in clinical practice (Walsh 2009) and has not yet been fully recognized, it is clear that insights bring new perspectives to family therapy practice. Indeed, many have suggested that it is important to replace the strictly person-centred therapeutic approach with a broader perspective that treats the family companion animal as an active participant in the system and takes this into account in the family therapy process (Melson 2010), because this can provide information on, for example, the organisation of the family (Triebenbacher 2000).

The wide variety of social relationships we can develop with dogs is at least partly rooted in humans' inherent tendency toward anthropomorphism. Anthropomorphism refers to our spontaneous readiness to attribute a complex emotional and cognitive background similar to that of

Picture 61: We tend to anthropomorphise

humans to the behavior of the animals we come into contact with (Selby – Rhoades 1981). (picture 60) Of course, explanations based on "anthropomorphic" bias have been and continued to be heavily criticized in the scientific literature. As discussed earlier in relation to the various hypothesised processes of domestication (see subsection 2.1.1), there are also extreme views that dogs are social predators living in packs, which humans have taken from their natural environment several thousand years ago and selectively bred to perform specific tasks such as hunting or herding. Consequently, the dog is nothing more than a purposefully bred, domesticated version of an originally potentially dangerous predator, so the notion of the dog as an ideal companion animal with specific social skills and 'child-like' characteristics is nothing more than an illusion. Such views may be attractive to many because they spectacularly ignore the emotions associated with dogs and therefore appear to be very objective and unbiased. However, such explanations – which ignore specific behavioural evolutionary processes – do not provide an acceptable answer to the question of why the descendants of a herbivorous or fruit-eating primate that originally evolved in the tropics – and which itself lived under constant threat from predators – evolved into a human being capable of and willing to form close and individually diverse relationships

with a social predator such as the dog. It also does not explain why our social relationships with dogs are capable of giving us a sense of security and calm under certain conditions. In summary, neither our experience of dogs' behavioural skills nor the available scientific evidence justifies viewing dogs as merely tame social predators.

It is no longer debatable that "psychological" phenomena such as attachment, caring and the management of social relationships in general have a very strong biological basis. These psychobiological and behavioural systems in social mammals have evolved to function within a particular social context with conspecifics, but are inherently flexible to adapt to the changing circumstances that the individual may encounter. In this respect, the dog has followed a unique behavioural evolutionary path, as discussed in detail above (see subsection 2.1.3).

Moreover, the ancient symbiosis between humans and their pets has taken on a whole new form in recent decades. Many of the new functions of the dog in the modern era generally have an important social-emotional dimension, which is one of the reasons why various aspects of the dog-human bond have received increased attention since the 1970s (Levinson 1969). One of the most spectacular consequences of this process is the emergence of the dog in a social-assistance role: more and more dogs are being trained specifically to improve the quality of human life. Starting in the United States, the emergence and gradual spread of dogs capable of providing various forms of assistance to facilitate the daily lives of people with mobility, vision, or hearing impairments, epilepsy or other seizure disorders, has been a phenomenon observed throughout Europe since the 1990s. But they also have a role to play in other areas of healthcare, such as dogs trained for diagnostic tasks (e.g. tumour detection) or for exploiting the human-animal bond for clinical purposes (therapy dogs). This latter approach leverages the intuitive understanding between humans and dogs to support the development of emotion regulation, social skills and mental abilities for promoting health and therapeutic development in children, adolescents and adults.

Many people believe that it doesn't require any special expertise to recognize the potential of this approach, as everyday experience demosntrates that our relationship with our companion animals is not only a source of pleasure, but also supports our emotional physical and mental well-being. However, such "lay opinions" can be easily misleading, as subjective impressions cannot serve as a basis for clinical methods. In order to understand the effects of dogs used as "assistants" in a wide variety of therapeutic sessions with diverse developmental objectives, systematic and scientifically rigorous studies are necessary. There are clear indications of such efforts in the scientific literature of the past 25-30 years, and the following section provides some insights into these studies.

2.2.2. Scientific investigation of the impact of animal-assisted activities with dogs

The therapeutic potential of interactions with animals was first recognised by Florence Nightingale, the 19th-century founder of modern nursing. She observed that petting and cuddling animals could reduce anxiety in both children and adults in psychiatric institutions (Nightingale 1859), thereby indirectly aiding in patient recovery. It is no coincidence, therefore, that in this early period of animal-assisted therapy, the spontaneous use of the method focused on anxiety management and relaxation. Sigmund Freud, the founder of psychoanalysis, also advocated the approach. Based his observations, he considered it particularly appropriate to use dogs in psychotherapy. (picture 62) He noticed that his pet dog, present during psychotherapy sessions, would conspicuously avoid tense, nervous

Picture 62: Sigmund Freud and his pet Jofi

patients, while willingly seeking contact with calm and relaxed patients. Freud concluded that dogs might indicate a patient's level of anxiety by how close the animal stayed to the patient thus providing the therapist with important additional information. Another important observation Freud made was that the presence of the dog facilitated communication between the therapist and the patient. Patients found it easier to initiate communication when they were first allowed to 'talk' to the dog. Gradually, patients became more accessible to the psychotherapist, who could then get them to talk about themselves more easily. However, the real initial impetus for the spread of the use of dogs as therapeutic assistants came much later, in the 1960s, from an American psychotherapist, Boris Levinson. (picture 63) Like Freud, he recognised the ability of his dog to bridge the communication gap between the therapist and patients who refused the therapist's advances, thereby opening up the therapeutic process. Based on his experiences, Levinson consulted with colleagues who had similar observations. Finding that he was not alone, he begun developing his new method (Levinson 1969). Although his method was met with some criticism in professional circles, the term he coined, „companion animal therapy" clearly indicated that Levinson was explicitly attributing therapeutic effects to the involvement of dogs (and other animals). However, methods based on this approach, which became increasingly popular in the 1980s, were more commonly referred to as animal assisted intervention (AAI). This term is more technically accurate since there was no scientific evidence at the time that animals had specific therapeutic effects, given the absence of systematic studies of their impact (Katcher 1983).

Picture 63: Boris Levinson and his dog Jingles

Over the decades, different types of animal-assisted interventions involving dogs have emerged, which can be divided into three broad categories based on the circumstances, methods and target groups (Kruger – Serpell 2006). Animal-assisted activity (AAA) is a generic term for a variety of activities, usually recreational or educational, characterised by spontaneity. There are no specific, predefined intervention methods and well-defined treatment goals, and the activity itself does not require the involvement of a therapist or developmental professional. A typical example is an informal 'petting visit' to nursing homes, where the animal acts as an *emotional-cognitive stimulant,* eliciting positive emotions, activity and communicative interaction, thereby contributing to the preservation of mental health and improving the quality of life. Animal-assisted therapy (AAT), is a structured, step-by-step process planned and conducted with the active involvement of a development professional (therapist). It includes predefined objectives, and is well documented and monitored throughout both the preparation and implementation phases. The progress of the developmental process is recorded against specified criteria, and it is recommended that the skills or abilities targeted by the developmental sessions be measured by specified indicators. AAT can address a wide variety of dysfunctional motor, cognitive and emotional skills. Animal-assisted education (AAE) is a structured process aimed at achieving predefined educational objectives. A teacher guides the interactions between the students and the animal, and the students' progress toward the objectives is measured and documented.

As regards the measurable effects of animal-assisted interventions with dogs, there has been a growing body of scientific publications over the past 40 years. As early as the 1980s, research in this feild was inspired by the recignition that the future of animal-assisted therapy as a specific method would depend on the sufficiency and quality of studies demonstrating its positive effects (Wilson – Netting

1983). Although this view was widely shared by professionals, paradoxically, it is only in the last 15 to 20 years that research on this topic has really taken off, employing methods that meet the general requirements of impact assessment studies. The difficulty lies in meeting scientific criteria when selecting samples, designing appropriate controls and measuring outcome variables (Topál – Hernádi 2011). A critical review published in 2014, which focused mainly on the methodology of AAT impact assessment studies (Chur-Hansen et al. 2014), concluded with the disappointing finding that there is too little evidence meeting strict scientific criteria. The situation has not changed much in the last decade: many more methodologically sound trials, particularly randomized controlled trials (RCTs) are needed to demonstrate the therapeutic effect of AAT. RCTs are a widely accepted methodological tool in clinical trials, aiming to reduce sources of bias when testing the efficacy of new treatments. In essence, subjects are randomly assigned to treatment and control groups, treated differently, and the effectiveness of the treatment is assessed relative to the control. An important, though not always practical, aspect of the method is that when recording the indicator variables measuring the effect of treatment, the data recorders do not know the type of treatment the individual has received, i.e. whether they are in the treatment or control group.

Attempts have been made to investigate the therapeutic effects of dogs in many different areas. Various methodological approaches and indicator variables have been used to measure the effects of animal-assisted interventions on quality of life, health indicators, physiological variables, and emotional, social and cognitive indicators. The following provides a concise description of the possible effects, based on the results of a few selected studies.

2.2.2.1 Quality of life and health indicators

The impact of dog-assisted therapy on quality of life and various health indicators is frequently studied in hospital settings. For example, a randomised controlled trial investigated the impact of therapy dog intervention during the movement rehabilitation of patients undergoing orthopaedic surgery (Harper et al. 2015). Patients who participated in the canine visits reported significantly reduced subjective pain perception compared to the control group, showed improved coping indicators for postoperative pain and demonstrated enhanced communication with staff. The study concluded that dog-assisted therapy has the potential to positively affect post-operative recovery, indirectly contributing to a faster and more successful patient rehabilitation. Similarly, another study on children in intensive care units using randomised controlled trial (Barker et al. 2015) found that canine therapy significantly reduced anxiety compared to control procedures, thereby confirming the beneficial impact of dog-assisted interventions on quality of life.

2.2.2.2. Physiological effects

More than 40 years ago, the first results were published showing that the presence of a dog could have a beneficial physiological effect (Friedmann et al. 1983). In this study, children's blood pressure and heart rate were measured during a task requiring reading aloud. The results indicate that dogs can have a calming effect on physiological indicators of stress as evidenced by the fact that the presence of a dog lowered both blood pressure and heart rate in the participants. Despite methodological flawsin this initial study, subsequent research has consistently supported the notion that dogs can exert a positive (stress-relieving) effect in social stress situations. For example, in cases involving young children diagnosed with problematic attachment behaviour, a therapy dog can provide more effective social support than an adult human or a toy dog (Beetz et al. 2011). This study found a correlation between salivary cortisol levels and physical contact

with the dog; with cortisol levels being lower in the presence of the dog compared to control situations. A randomised controlled trial has also demonstrated a similar physiological effect (Cole et al. 2007). Cole and colleagues investigated the impact canine therapy sessions on circulatory parameters and mood in patients with severe cardiac conditions. The study concluded that these sessions significantly improved patients' circulatory parameters and reduced anxiety compared to control conditions.

2.2.2.3. Impact on social and emotional skills

These studies are based on the observations that dogs can facilitate social relationships, promote positive social interactions between people and enhance communication. For example, research from as early as 1980s demonstrated that disabled children and adults (who use wheelchairs) were more likely to engage with strangers, receive more frequent positive expressions of emotion (such as eye contact or smiles) and gain increased social recognition when accompanied by a dog compared to when alone (Hart et al. 1987; Mader et al. 1989). Dogs have also been shown to evoke spontaneous positive emotional responses from humans in controlled setting such as animal-assisted therapy sessions. For example, a series of studies conducted in nursing homes showed that elderly participants smiled more and engaged in more active communication during dog-assisted therapy sessions (Perelle – Granville 1993). Dog-assisted therapy has been found to enhance social behaviour in elderly people (Neer 1987), including those with Alzheimer's disease (Kongable et al. 1989), effectively slowing down the decline process. As dementia progresses, the verbal abilities of elderly peope decline, posing challenges in their ability to engage in social situations and receive essential social stimuli. However, therapy dogs serve as highly effective stimuli that encourage verbal responses (see e.g. Marx et al. 2010). This is not only because dogs are excellent at reading body language and responding appropriately to initiate interactions, but also because they stimulate and elicit positive emotional responses through clear signs of affection, emotional attachment and pleasure. This suggests that canine therapy has the potential to stimulate social activity in elderly people with dementia, who often experience increasingly social isolation.

Observations from dog therapy sesion with children having psychiatric disorders, compared to control situations, suggest that children are more socially open, active and emotionally balanced in the presence of dogs (Prothmann et al. 2006). These changes can be crucial in therapeutic development, as positive emotions indirectly stimulate attention and facilitate memory. Further studies suggest that contact with dogs can influence children's social behaviour and emotional development. For example, analysis of classroom behaviour among pupils diagnosed with conduct disorder has shown that children are calmer in the presence of dogs with fewer behavioural disturbances (Kaye 1984). Other research has concluded that regular interactions with dogs can help children develop social skills, leading to improvements in empathy and conflict management abilities (Endenburg – Baarda 1995). This finding suggests that dog-assisted interventions could be utilized as a developmental tool to enhance children's social behaviour and integration into their communities. Targeted impact assessment studies analysing the behaviour of young school children in classroom settings with and without dogs have yielded interesting results (Hergovich et al. 2002). The authors found that the presence of dogs positively influenced children's behaviour: they displayed more empathy, autonomy, social interaction, and less aggression during lessons. Additionally, a randomised controlled trial was use to explore the impact of canine therapy on the social behaviour of young people hospitalised with acute psychiatric diagnoses (Stefanini et al. 2015). The findings indicated that canine therapy significantly improved the patients' cooperativeness and the quality of their social interactions with both peers and health care staff.

2.2.2.4. *Effects on cognitive and attentional skills*

The effects observed in social behaviour and emotional skills may be closely related to changes in cognitive performance. For example, school-age children with multiple disabilities display significantly more spontaneous positive emotional expressions towards a therapy dog compared to interactions with either a physical therapist or a plush dog used as a control. The presence of the dog effectively facilitates children's attentional skills (Topál et al. 2017). Focused attention is crucial for performing tasks that require cognitive abilites. Consistent with this, typically developing preschool children participating in a "pattern matching" task showed fewer errors when in the presence of a therapy dog, compared to a plush dog, or an adult human (Gee et al. 2010). Moreover, during memory development exercises, children in the dog-assissted condition required significantly less assistance to complete the task than in the control (plush dog, adult) conditions. The impact of dogs on attentional skills and subsequent memory is further supported by findings showing that preschool children diagnosed with language impairment and those with typical development demonstrated more accurate imitation skills in dog-assisted task situations compared to control situations (Gee et al. 2009). Similar improvements were observed in tasks assessing motor skills, where preschoolers with typical development and those with motor developmental delays performed tasks more quickly in dog-assisted situations compared to control conditions (Gee et al. 2007).

A randomised controlled trial also investigated the effect of canine therapy on mental deterioration and associated mood problems in elderly people with dementia (Majic et al. 2013). Residents in a nursing home were randomly assigned to two groups. One group received only standard treatments during the 2.5-month study period, while the other group received standard treatments combined with dog therapy. The analyses indicated that animal-assisted therapy delayed the progression of neuropsychiatric symptoms, reduced the rate of cognitive decline, alleviated associated anxiety and aggressive behaviours, and improved symptoms related to depression. These effects were not only observed during the treatment period, but also persisted over time. Interestingly, in the month following the dog therapy intervention, negative symptoms increased in the control group, whereas no worsening trend was observed among the elderly participants who received dog therapy.

2.2.2.5. *Potential effects of canine therapy for people with autism spectrum disorder*

The development of people with autism is a particular area where dog-assisted interventions can be especiaslly beneficial. Working with children (and adults) with autism presents a major challenge for professionals, as autism is a pervasive developmental disorder that affects a wide range of social, cognitive and emotional abilities. It is characterised by atypical manifestations of social interactions (such as avoidance of eye contact, unusual use of facial expressions, posture and gestures), disturbances in social relationships (including lack of empathy and emotional synchronisation), reduced and underdeveloped communication skills, restricted interest, repetitive stereotyped behaviours, and extreme stress and anxiety related to social situations. The developmental goals of animal-assisted therapy are aligned with these leading symptoms, primarily aiming to improve social interactions and communication skills, expand restricted interests and activities, and reduce stress related to social situations.

In the late 1980s, the first studies were conducted on using animal-assisted therapy to alleviate the symptoms and undesirable consequences of autism spectrum disorder (ASD). (picture 64) Redefer and Goodman (1989) observed the behaviour of young school-age children with autism before, during, and after dog therapy sessions over an extended period. Based on repeated observations, the authors concluded that canine therapy led to rapid and remarkable

Picture 64: The development of people with autism is a particular area of application for dog assisted therapy

behavioural changes in both verbal and non-verbal social behaviours among withdrawn and non-interactive children with ASD. The increased frequency and improved quality of social behaviours were evident even one month after the termination of the therapeutic sessions, indicating a lasting effect. Unfortunately, however, this study did not incude a control group which limits the conclusivenes of the observed effects. Specifically, it remained unclear whether the observed changes were specifically attributable to dog-assisted interventions. Since the mid-1990s, there has been a growing number of observations using various methods to demonstrate the value of involving dogs in developmental activities for people with autism. In families where a young child diagnosed with autism is accompanied by a family dog, questionnaire surveys have shown that the child often displays behaviours towards the dog that are either never or very rarely exhibited towards humans (McNicholas – Collis 1995). These behaviours include greeting the dog upon arrival home, sharing feelings, thoughts and daily events with the dog, accompanied by eye contact and petting the dog. Even children who typically show aversion to human touch seem to enjoy or tolerate physical contact with dogs, and interactions with dogs do not appear to provoke aggressive. Other studies suggest that including a dog in such families may yield beneficial effects. One study, for example, found

that introducing a dog to a child diagnosed ASD led to improvements in motor function, better stress coping mechanisms, enhanced cooperation with parents, improved daily routines and a noticeable improvement in the family's overall quality of life (Burrows – Adams 2008). This 'therapeutic' impact of the family dog has also been confirmed by hormonal measurements. Analysis of salivary cortisol levels in children with autism showed that integrating a dog into the family reduced the post-wake cortisol rise compared to previous periods. Conversely, when the dog was removed, morning stress hormone levels increased again. It was also observed that introducing the dog correlated with a reduction in children's behavioural problems – although this assessment relied solely on subjective reports from parents (Viau et al. 2010).

Interesting conclusions were also drawn from a case study that collected data on the behaviour of a 12-year-old child diagnosed with ASD during therapy sessions with and without the presence of a dog (Silva et al. 2011). Consistent with previous studies, they found that the presence of a therapy dog significantly reduced negative manifestations such as physical and verbal aggression and repetitive behaviours.) Additionally, it increased the frequency of social interactive behaviours such as play, eye contact and smiling. Other studies have investigated the specific effects of dogs in different controlled settings such as using a plush dog instead of a live dog or a toy. It has been reported that children aged 3-13 years with autism and Asperger syndrome are more playful, communicatively interactive and focused (less distracted) during developmental exercises when in the presence of a dog compared to control conditions (Martin – Farnum 2002, Sams et al. 2006). This attention-focusing effect of therapy dogs has also been demonstrated in children with multiple disabilities (Topál et al. 2017).

Canine therapy can also serve as a significant complementary treatment for reducing stress and enhancing social communication skills in adults with ASD. Indeed,

canine-assisted sessions have been shown to decrease symptoms of perceived stress and agoraphobia, while improving social awareness and communication abilities in adults with autism of both normal and high intelligence (Wijker et al. 2020).

A comparative study of children aged 6-14 years diagnosed with autism and typically developing children in dog therapy situations revealed that children with autism, who often struggle with understanding the emotional stetes of others, shoe less difficulty when interacting with a dog. They are more adept at recognizing the communicative cues of dogs compared to those of humans. Moreover, they may even perform cognitive tasks such as understanding desires or intentions different from their own – which they tipically find challenging in human interactions (Buják 2003). These observations suggest that involving dogs in developmental activities can be a beneficial approach for enhancing some of the social, cognitive and emotional skills essential in autism. Further evidence supporting the development of emotion recognition skills through dog-assited interventions comes from another study (Stetina et al. 2011). This research involved both children and adults with ASD, demonstrating that several weeks of training in emotion recognition with dogs led to improvements in their ability to recognize human facial emotions.

Another intriguing study suggests that observing interactions between therapy dogs and children could potentially aid in the early diagnosis of autism. Specific differences have been observed in how children with ASD interact with dogs compared to those with other disorders. For instance, children with ASD tend have shorter initial periods of eye contact with dogs, prefer to keep their distance for longer periods, and are less likely to pet them compared to children with anxiety disorders (Prothman et al. 2005). These deviations from typical attentional and social behaviours towards dogs during early childhood could serve as valuable diagnostic indicators. It should also be noted, however, that some researchers have highlighted potential drawbacks of having dogs present during therapeutic interventions for individuals with autism spectrum disorders. The presence of a dog may inadvertently increase undesirable stereotyped behaviours such as. clapping (Martin – Farnum 2002), and heightened arousal levels may hinder the therapeutic goals of the session.

Overall, the findings discussed above suggest that the use of canine therapy, both in general and specifically for individuals with autism, harnesses two fundamental potentials: affective and communicative. Regarding the affective potential, dogs serve as powerful sources of multisensory stimuli—lively movements, sounds, and tactile sensations—that can be motivating, energizing, and attention-grabbing. This stimulation effectively enhances the typically low levels of sensory and affective skills in individuals with autism. Building on this understanding, therapy sessions often incorporate socio-sensory routines within activities that clients enjoy, aligning with this approach. Regarding the communicative-interactive potential, it should be noted that that therapy dogs exhibit simpler, more easily interpreted behaviours compared to human partners. This simplicity can facilitate the involvement of individuals with ASD in socially structured interactions that do not necessitate complex linguistic communication. Moreover, these interactions are often repeatable and easily predictable for the client. Practicing such interactional routines is important because it allows the client to gain proficiency in interpreting and responding to the social behavioral cues of the therapy animal. This foundational skill can then pave the way for acquiring proficiency in more complex interactions over time.

A recent comprehensive review of the relevant literature (Rehn et al. 2023) concluded that involvement in dog-assisted therapy can significantly benefit individuals with autism, particularly in enhancing social-cognitive skills, emotional regulation, and behaviour, especially among younger

age groups. However, despite the above discussed positive findings, Rehn's review also highlights the need for caution in drawing definitive conclusions. Currently, there is no standardised framework outlining the exact procedures for conducting interventions or specifying which indicator variables should be used to measure their impact. Addressing htese methodological concerns is crucial for future research in this area.

2.2.3. Selection criteria and training requirements for dogs suitable for animal-assisted activities

It should be remembered that a dog will never volunteer for therapy work, nor will it be asked if it wants to be "assisted" in this way. If the dog's owner has ambitions to be a therapy dog handler in support of various professionals in animal-assisted therapeutic development sessions, it is easy for the dog to find itself in some kind of animal-assisted therapy situation after some training. However, such sessions can also be very stressful for the dog, as it may often find itself in challenging situations (e. g. simultaneous approach of unfamiliar clients, unexpected movements, loudvocal cues, etc.) that tests its ability to cope with stressors. Frequent exposure to these situations can raise serious ethical welfare concerns in the short term, and over a longer period, it can increase the risk of trauma, potentially leading to a permanent and difficult-to-recover-from deterioration (Hall et al. 2019).

While it is important to bear in mind the ethical considerations of animal welfare, which are often overlooked, the reality is not so grim. Today in Hungary – as in many other countries – a dog can only become a therapeutic "assistant" if it is suitable for this purpose based on the its temperament, socialisation history, abilities and training. Formal examinations of the therapy dog and its handler are designed to assess how they respond to specific stimuli in therapy situations and their ability to work as a balanced team with each other, the therapist and the target group to ensure the success of the session. It is therefore important to stress that we cannot consider the suitability of the dog or the human handler separately; passing the test is always *a* matter of *their combined performance.* For this reason, the dog-human pair (therapeutic dyad) that passes the test will always be authorised to participate in future therapy sessions. A dog that has passed the exam can only work with the handler with whom it passed the exam and a similar restriction applies to the person who handles the dog.

However, animal assisted therapy can be challenging even for a well-trained dog. These situations are characterised by 'multi-partner' interactions, involving simultaneous engagement between the dog, the handler, the lead therapist and the target group, with the dog playing a key role. The dog must listen and react to the client interacting with it while also responding to the instructions of its owner (handler) and being attentive to the other members of the therapy target group and the lead therapist. This kind of shared attention and interactivity is mentally demanding and requires specific preparedness in terms of the dog's attachment to humans, training history, temperament, adaptability, task performance and capacity to handle workload (Bremhorst – Mills 2021). It might be thought that the basic characteristics of different dog breeds determine the suitability of an animal for such tasks, but experience shows that breed characteristics vary greatly between individuals (Fadel et al. 2016). Therefore, knowledge of breed alone is not a reliable guide to determining the suitability of a dog for participating in animal assisted interventions.

For this reason, the suitability of a therapeutic dyad for work must be assessed based on multiple factors simultaneously. The motivational ability of the dog is important and closely tied to the handler's ability to motivate it appropriately and effectively according to the situation. Additionally, it is also important for therapy work that the dog is well-controllable and that the handler can manage the dog's behaviour in an appropriately and effectively. Equally important is the predictability of the dog's behaviour. This includes

assessing whether the dog is prone to sudden, unpredictable changes in behaviour and whether the handler can anticipate and respond to such changes in a timely manner. The repertoire of tasks the dog can perform, such as various "tricks" and retrieval exercises, and the handler's ability to apply this knowledge to meet the the needs of therapy sessions, are also critical. There are also other important aspects of the suitability of the dog and the handler that relate to the personality traits of both. For many people, it may seem strange to talk about personality traits in dogs, but several studies have shown that individual differences in dog behaviour show similar variability to that observed in human populations (Jones – Gosling 2005). For example, dogs show characteristic individual differences in temperament, tendencies toward anxiety or obsessive-compulsive behaviour disorders, social behaviour, and aggression (Overall, 2000). Researchers have also investigated complex 'personality traits' in dogs, such as general 'sociability' or 'confidence' (see e. g. Jones – Gosling 2005). Additionally, analogous manifestations of some human psychiatric conditions, such as obsessive-compulsive personality disorder, can be found in dogs (Moon-Fanelli et al. 2011; Overall 2000).

Regarding the personality traits of the ideal therapy dog-handler team, having what is known as "emotional aptitude" is crucial. This includes a sense of social awareness, love for humans, a tendency towards empathy and the ability to cope with aversive situations and stress. Strong interaction skills, such as effective communication and mutual listening (shared attention), are also essential. Additionally, it is vital for of the handler to understand and respect his/her own competence boundaries. In therapy sessions, the handler must work closely with the therapist, ensuring both are aware of each other's areas of expertise. The handler is primarily responsible for the dog's behaviour guiding it according to the therapist's instructions and the behaviour of the target group (e.g. children with disabilities). It is crucial, however, that in this situation, which involves complex interactions, the handler is able to make independent and decisive decisions. For example, the handler may need to override the therapist's instructions to protect the dog or remove the animal from the situation if it is deemed too stressful. When the dog's handler respects the well-being of his/her dog and accurately interprets its behavioural cues, this conveys a positive message to the clients in the therapy session, who will likely internalize the perceived compassionate and caring attitude. Conversely, if the handler blatantly ignores the dog's needs, this indirectly communicates to the target client that their own needs and desires may not be considered.

The certification standards for organisations using therapy dogs vary widely around the world. Howere, the basic common criteria published in different forums (see e.g. Lefebvre et al. 2008; Murthy et al. 2015; Freeman et al. 2016) can be summarized as follows:

1. The therapy dog must be over one year old. In the case of a dog taken from a shelter, it must have been in a permanent home for at least six months.
2. The dog can only start working with an adult with whom it has had regular contact for at least six months.
3. The dog should undergo a fitness test to assess its temperament, sociability, obedience to handlers, and how the stress and other challenges of therapy situations affect its behaviour. A dog can only be judged suitable if it is friendly and accepting of strangers, calm in the presence of other animals, controllable and non-aggressive, tolerant of crowds and distractions, obedient on a loose lead, and has well controlled vocalisation (no barking unless instructed).
4. The dog should always be on a lead when working and should always work with the handler with whom it took the fitness test.
5. The dog's fitness should be reassessed every two to three years.
6. Several animal welfare ethical aspects must be observed in therapy work: the handler should not to use

physical restraints (e.g. a choke collar) on the dog; the handler should understand the dog's body language; the dog should not participate in therapy sessions more than three to four times a week, each session should last no more than 1-1.5 hours, and the dog should be given regular rest periods during therapy.

7. Additionally, the dog is expected to have annual veterinary check-ups, proper vaccination, and protection against external and internal parasites. Only healthy animals are allowed to participate in therapy sessions, and dogs fed a raw food diet are not permitted in animal assisted sessions.
8. The handler of the therapy dog must also be healthy, aware of the potential dangers of zoonoses, understand basic hygiene rules (e.g. how to wash hands, disinfect surfaces, etc.), know what to do in case of injury or accident, and be aware of the possible presence of external parasites.
9. The handler is expected to report any injury or problem behaviour during the session to the training organization.

Despite the numerous number of 'standards' listed here, the problem remains that there is a lack of uniform regulation and requirements not only globally but also within individual countries. Individual dog training and application organisations in almost every country have their own set of criteria and procedures, which can vary widely. The situation is well illustrated by the surprising conclusion of a representative survey conducted in the United States (Serpell et al. 2020), which compared the practices and policies of therapy dog use by examining the standards of different organisations. The survey revealed that the situation is extremely chaotic. A significant number of organisations do not fully adhere to the general standards and criteria detailed above, which are considered globally accepted guidelines for animal-assisted therapy work.

According to the survey, although the majority of organisations (88%) require documentary proof of rabies vaccination, a significant proportion (>50%) do not have any other vaccination-related requirements. In fact, some organisations (13%) do not require regular stool testing and many (42%) do not mandate regular external parasite protection. Moreover, the vast majority (75%) do not address the potential health risk that raw-fed dogs pose to clients in therapy. Almost unbelievably, 8% of dog therapy organisations in the United States do not screen their dogs and handlers with any kind of behavioural test. It is not surprising then that compliance with guidelines for dog welfare is often compromised. For example, a significant number of organisations (>40%) do not prohibit the use of physical restraints (choke collars) or limit the maximum duration of a therapy session. All these anomalies could be easily remedied if there were a national, uniform and binding code of conduct for all organisations to ensure compliance with the guidelines for dog therapy work.

The situation in Hungary is much better in terms of regulation and compliance with operating standards. Not only are we ahead of the chaotic situation in the United States, but we also compare favourably with most countries worldwide. Since 2010, all Hungarian organisations using dog-assisted therapeutic interventions have been subject to a uniform set of certification standards and criteria, with compliance ensured by an appropriate legal framework (see subsection 2.2.4).

In our country, the test for therapy dogs consists of two parts, a temperament test and an exercise in a real therapy situation. (picture 65) These two parts of the test are separated in time, and the dog-handler dyad can only start preparing for the therapy exercise if they have successfully completed the requirements of the temperament test. The temperament test includes both obedience tasks and assessments of the dog's general skills and suitability for therapy work. During the test, the prospective therapy dog and handler are exposed to stimuli similar to those encountered in

Picture 65: Certificate of completion of the therapy dog exam

real-life therapy sessions, but in a controlled manner. The aim of the test is to:

1. Asses the dog's ability to be led on a lead in different situations, such as when meeting a stranger and a strange dog.
2. Examine the dog's reactions when approached by several people, individuals with unusual mobility or gestures, or those in wheelchairs, and when touched in an invasive way (restraining hugs, touching body parts).
3. Test the dog's obedience and controllability, including heeling, sitting, lying down, and staying with owner off-leash and with an unfamiliar person on-leash, under various distracting conditions, and calling the dog from among the playing dogs.
4. Assess retrieval skills, cooperation during play and controllability to exclude aggressive urges related to guarding training.
5. Test food discipline (food refusal) in social interaction and off-leash uncontrolled situations;
6. Evaluate tolerance of unexpected stimuli, noise sensitivity.
7. Study the behavioural effects of separation from the handler (owner) in a strange place.
8. Examine the reaction to human behaviour from a stranger that conveys friendliness or threat.
9. Investigating aggressive urges towards the handler or stranger in a feeding situation.

A detailed description of the tasks and the detailed criteria for assessing the examination tasks can be found on the website of Asistance Dogs Hungary. [35]

Only those dog handler pairs that have passed the temperament test, can proceed to the second part of the test. To qualify for the second part of the test, the participants must complete a preparatory training course supervised by a certified dog-handler dyad designated by the training organisation. These certified dyads must have been actively engaged in therapeutic work for at least one year. The final examination can be undertaken after completing a preparatory training course that includes a minimum of 15 visits in total. It is important to note that the pre-training can only commence if the dog meets the animal health criteria specified for therapy dogs (see below for details). At the end of the preparation for the final examination, candidates will develop a session plan in consultation with the therapy trainer (teacher, physiotherapist, etc.) and will carry out the tasks set out in the plan during the examination. This plan outlines the tasks to be performed during the examination and should incorporate predefined types of tasks to comprehensively evaluate various aspects of the dog-handler dyad's readiness for therapy work.

The mandatory elements of the activity plan are as follows:

1. Greeting members of the target group using a predefined choreography.
2. Allowing the dog to be surrounded, touched and stroked simultaneously by members of the therapy group.
3. Introducing movement and noise around the dog (e.g. making loud noises and running around).
4. Performing at least three types of playful skill tasks (e.g. fetching, crossing an obstacle, rolling over, high-fiving, etc.), with the client guiding the dog during each task.

35 https://www.matesze.hu/documents/document/terapias-kutyak-vizsgaszabalyzata-document-202101262000.pdf

5. Having the client lead the dog on a leash with changes of direction and pace.
6. Allowing the client to give the dog a reward treat.
7. Interrupting the session with the entrance of an unfamiliar adult who makes noise in the room.

During the session, handlers are allowed to reward and control the dog using their own methods. They may give the dog a short rest between tasks to alleviate any tension.

For further details of the final examination and a comprehensive description of the tasks visit the website of Assistance Dogs Hungary. [36]

To pass the final exam, the dog-hander dyad you must meet the following criteria:

1. The dog demonstrates balanced behaviour at all times and in all circumstances.
2. The dog enjoys interacting with strangers.
3. The dog tolerates strong environmental stimuli, noises, smells, physical contact and sudden movements well.
4. The handler continuously monitors the dog and responds appropriately to its behaviour and environmental stimuli.
5. The handler refrains from using physical restraints, such as choke or prong collar, or halti.
6. The handler does not cause undue stress or deliberate pain to the dog during the tasks.
7. The handler maintains optimal control of the dog, both over-control and lack of control are detrimental to the therapeutic task and are thus undesirable.
8. The handler and his/her dog establish good cooperation with the leader of the therapy group and other individuals involved in the therapy.

36 https://www.matesze.hu/documents/document/terapias-kutyak-vizsgaszabalyzata-document-202101262000.pdf

9. The dog shows no signs of aggression or uncontrolled fear reactions in any circumstances.
10. The dog is housebroken.
11. The dog and its handler behave in a manner that does not cause fear or pain to the participants in any situation;
12. The dog's activity level and motivation are appropriate and contribute positively to the atmosphere of the session.

Another essential condition for the use of therapy dogs in Hungary is adherence to required hygiene rules and animal health requirements. This is crucial because during animal-assisted therapy, dogs often come into direct physical contact with clients who may have a weaker immune system due to age or illness, placing them at higher health risk. Therefore, it is vital to adhere to general hygiene guidelines, ensuring that only healthy, clean, and well-groomed dogs are allowed to participate in therapy sessions (the same applies to handlers and equipment). It is recommended that before each session, dogs' eyes, mouth, anus, and paws be wiped with a damp cloth. Handlers should also wash their hands with soap both before and after each session to maintain cleanliness and reduce the risk of transmitting any contaminants. These practices help ensure the safety and well-being of both clients and therapy dogs during sessions.

Regarding animal health requirements, therapy dogs in Hungary must have up-to-date vaccinations for rabies, parvovirus, distemper, infectious hepatitis, and leptospirosis. A detailed procedure is in place for dogs withdrawn from work due to health issues, outlining the steps required for their return to work based on the nature of the illness. Protection against external and internal parasites must also be maintained, specifying the active substances, frequency of treatment, and regular veterinary screening tests needed to minimize the risk of zoonotic diseases. Certain health requirements are specifically designed to maintain the

well-being and quality of life of the therapy dogs. For instance, dogs with joint problems (such as dysplasia) can only be used if it can be assured that the physical activities involved will not cause them pain. Additionally, for the protection of the dogs, pregnant or lactating bitches and bitches in advanced stages of pregnancy (after 35 days) are not allowed to participate in animal-assisted work.

2.2.4. Canine therapy in Hungary and around the world: statistics, areas of application, legislation.

Animal-assisted therapies are becoming increasingly popular worldwide, with a wide range of animal species used in such interventions. While precise global statistics are not available, it is certain that the vast majority of animals used for therapeutic purposes (>70%) are dogs, followed by horses and cats. In terms of prevalence, these three species are followed distantly by others, including small mammals, dolphins, reptiles, fish, and even arthropods. There are more than 150,000 therapy dogs worldwide, most of them in the United States (about 50,000), where the estimated population coverage is the highest in the world, with about 1 therapy dog for every 6,300 people. Within Europe, the UK is considered a "superpower" for therapy dogs, with approximately 6,300 registered therapy dogs, equating to a population coverage of 1 per 10,600 people. Hungary also ranks well, with 634 specially trained therapy dogs working across the country as of the beginning of 2024, providing a population coverage of 1 per 15,100 people. These therapy dogs are utilized in numerous institutions for weekly animal-assisted sessions and therapy programs aimed at improving locomotor and/or cognitive and emotional functioning, as well as in psychotherapy and palliative care. In Hungary, approximately 4,500 individuals, including those who are disabled, elderly, sick, or children with special educational needs, regularly benefit from therapy dogs.

The use of therapy dogs is a voluntary civil movement worldwide. Dedicated dog training organizations prepare family dogs, deemed suitable, to participate in animal-assisted sessions. Owners then take their dogs to these programs under the guidance of their training organizations. There are thousands of dog training organizations globally, with 72 NGOs training and employing therapy dogs in Hungary alone. Organizations that train special assistance dogs are often grouped into umbrella organizations at both national and global levels. The largest of these is Assistance Dogs International (ADI)[37], which includes organizations from all continents. Its European regional umbrella organization is Assistance Dogs Europe (ADEu), which, as of early 2024, comprises 53 assistance dog training organizations from 19 European countries. While these organizations primarily train guide dogs, assistance dogs for the blind, disabled, and hearing impaired, as well as personal assistance dogs, many also train or employ therapy dogs. There are also smaller umbrella organizations at regional or national levels. For example, ESAAT (European Society for Animal Assisted Therapy)[38], founded in Austria in 2004, has 12 member organizations from Germany and Austria. ESAAT has significantly contributed to developing the guidelines and standards that govern the training and use of therapy animals in much of Europe. At the national level, the Hungarian Association of Therapy and Assistance Dogs (Assistance Dogs Hungary – MATESZE)[39], founded in 2006, currently includes 14 member NGOs involved in training and using assistance dogs. (picture 65) The primary objective of the association is to develop and enforce professional standards to create a unified professional framework. This framework ensures the acceptance of dogs as a "rehabilitation tool" by society, enhancing their effectiveness in disability rehabilitation.

To this end, MATESZE, with the involvement of staff from Eötvös University and the Hungarian Academy of Sciences, developed training material for assistance dog trainers.

37 https://assistancedogsinternational.org/
38 https://www.esaat.org/en/
39 https://www.matesze.hu)

This material was certified as an OKJ training course in 2009 and included the necessary theoretical and practical knowledge for trainers of therapy, assistance, signaling, and guide dogs, along with the corresponding modules, professional, and examination requirements. The qualification is a "pathway qualification," meaning that the "Habilitation Dog Trainer" certification, which allows the holder to train therapy dogs, is a prerequisite for enrolling in the specialized courses for training different kinds of specially-trained service dogs. Although in 2022, the aforementioned "assistance dog trainer" qualifications were removed from the OKJ system and revised as social sector training supervised by the Ministry of Interior, this qualification remains a prerequisite for training assistance dogs in Hungary.

MATESZE has played an important role in drafting the legal framework regulating the training and use of assistance dogs. This includes contributing to the Ministerial Decree on the rules for training and using habilitation dogs (27/2009 [XII 3]) and the amending decree (9/2016 [V.12.]) and its annexes. In connection with this regulation, MATESZE developed detailed examination regulations and procedures for different types of assistance dogs in 2009, which have been revised several times (2016, 2022) based on experience and feedback. These examination rules and procedures have been approved as an official annex to the aforementioned Ministerial Decree and are binding for all assistance dog training organizations in Hungary. This legislation is significant because comprehensive EU-level legislation and regulations on assistance dogs are still lacking. Similar to the situation in the United States, most European countries do not have a uniform set of rules at the national level. The exception is Austria, where, like in Hungary, legislation on the requirements and procedures for the official certification and recognition of different types of assistance dogs was adopted several years ago.

On behalf of the Ministry of the Interior, MATESZE is responsible for ensuring compliance with the professional standards, training, and qualification requirements set out in Decree 27/2009 (XII 3) of the Ministry of the Interior. It supervises the examination of assistance dogs and issues examination certificates. To this end, MATESZE has set up and operates digital platform (www.matesze.hu), which currently provides a wide range of services to 72 registered assistance dog training organizations nationwide, nearly 800 certified assistance dogs and their owners, and institutions providing dog therapy. This platform includes a comprehensive national database of registered assistance dog training organizations, trainers, certified dogs, and dog handlers, accessible to anyone. It also administers examinations for assistance dogs, collects examination documentation, issues certificates, organizes training courses, and provides professional and legal advice and information to dog trainers, dog users, therapy institutions, educational institutions, and the media.

Picture 66: MATESZE logo

3.
Erika Köböl:
Pedagogical aspects of dog assisted activities

3. 1. Introduction

In the next chapter, we will focus on the pedagogical application of the wide range of dog-assisted activities. We will review the elements of the teaching-learning process in general and specifically in relation to the involvement of therapy dogs. In this chapter we can only explore the pedagogical process on a larger scale, highlighting its relevant and important points from the point of view of animal assistance. Occasionally, other possible applications will be discussed, but the pedagogical application will remain at the heart of the subject.

We would like to achieve several goals. It is important for teachers to be able to identify more easily where and how to involve the therapy dog and its handler in their work. At the same time, we feel it is also important that handlers working with their therapy dog, who do not necessarily have a pedagogical qualification, should see their place and role in this process realistically. It is also our aim to ensure that the activities carried out with therapy dogs (and therapy animals in general) should only be seen as a game for the children and clients, but that those directly or indirectly involved in the teaching-learning process (teachers, handlers, parents, carers, society, etc.) should not see them as a game, but also see the function, awareness, aims, potential and usefulness of their use.

In our opinion, only with this awareness and knowledge can the competence boundaries we have outlined be interpreted and internalised (Köböl – Hevesi – Topál 2015). Of course, our proficiency in any activity is a developmental process, and it is no different here. This also entails that we can over- or underestimate our knowledge. We hope that our work will help both beginners and advanced professionals to become conscious 'users'. We believe that this can help us collectively achieve the goal of our society realistically assessing the role of dogs as helpers in pedagogical processes.

3.2. Dogs at the service of education

3.2.1 Nature, experiences, animals, dogs for effective education

One of the fundamental pillars for the survival of a community – whether human or animal – is the adaptation to the community's rules, as well as the knowledge acquired by individuals and its sharing and transmission to the community and future generations. Knowledge transfer was obviously a very simple and natural system and process at the beginning of human civilisation. The 'curriculum' was 'dictated' by life, by survival, and the success of acquisition was verified by life itself. At the level of species, this is the history and present of evolution, and at the level of societies and individuals, it is the quality of individual life courses, and even social mobilisation. With the development of our culture and societies, the system of rules and curricula has expanded, and organised itself in an almost unforeseeable way in time (historical changes), space (different cultures living side by side), horizontally (the amount of information to be preserved and transmitted) and vertically (the hierarchy and systemisation of the elements of this information). Ancient algorithms for the transmission of information have been preserved (e.g. social or experiential learning), but human-specific ways of transmitting information have also emerged, such as organised school education or communication and reception through written texts.

Change is constant, and it is this change that makes it necessary for the process, the way and the place of education to change from time to time, to adapt to new challenges, but also to wisely preserve the useful practices of the past.

3.2.2. New paths in pedagogy

When children enter the institutional schooling and education, their world changes. The "life" and knowledge that had been lived and experienced as a whole is broken down

into subjects and lessons, but the transfer between the different elements of knowledge is not self-evident and often not sufficiently effective. The break between lessons is also not dictated by needs. We have to end the lesson even when the children are still curious about something, and we cannot end the lesson even when the children have visibly reached their maximum capacity at that moment. Breaks also require adaptation e.g. using the toilet, lunch, preparation for the next lesson. In addition, school is a "workplace" where pupils are expected to learn new skills day after day, and it would be optimal if they were equally interested in all "work areas". It is precisely because of these circumstances that it is particularly important, in educating our children, not to lose sight of the fact that 'Learning is not preparation for life, learning is life itself' (Dewey 1976).

The question may arise: how a dog that has lived with us for a long time in the same community is now being given a new role. What are the pedagogical roots that have created, if not directly, the openness to their use?

In the following, we will briefly review the pedagogical antecedents and areas of pedagogy whose approach paved the way for the use of animals in developmental activities for children. Our aim below was not to provide a summary of educational history, but rather to subjectively focus on the elements of different educational trends that we synthesize in animal-assisted activities.

3.2.2.1. Reform pedagogy

In Europe and the United States, from the last decades of the 19th century child-centred pedagogical trends and concepts have emerged that aimed at renewing the theory and practice of education. These were called reform pedagogy. (Báthory – Falus 1997). A new concept of the child emerges, which emphasises that the child has a world of their own, with its own approaches, perspectives, problems, values and ways of experiencing. The roots of this change of perspective are to be found in social and economic changes (Pukánszky – Németh 1996).

It is worth reviewing which elements in these trends create the pedagogical openness that allows us to consciously integrate animals into educational processes at the end of the 20th century.

John Dewey, quoted earlier, was one of the first exponents of the new pedagogical endeavours. The basic ideas of his school model (Pukánszky – Németh 1996) were the following. Learning is not an activity for its own sake, but children must be prepared for life itself in school. However, since there is no ready-made knowledge in life, the task of modern schools is – like natural learning processes – to teach the way and skills of acquiring knowledge. To do this, the *child must make independent efforts*, *encounter problem situations*, thus can develop problem-solving skills and should overcome obstacles in order to become an adult who can act. In his opinion, the curriculum should be adapted to the child's experience, because if the experience and the curriculum are not linked, the child will lose their motivation to learn.

Among the trends of the first era of reform pedagogy, the New School model of reform pedagogy aimed to provide a usable knowledge. The *teacher was given a* new role, that of a *helper*, which further strengthened the family character of the institution (Németh – Skiera 2003).

Ovide Decroly's pedagogy was based on *nature*, and his aim was to prepare children for life by adapting to the natural order of life. *There are no subjects*, but the aim is to acquire an always expanding, complex body of knowledge. In doing so, it was based on *direct knowledge acquisition*, where children could observe phenomena and gain sensory experience. Children could work freely, *the teacher guided only indirectly*, and *the children worked together* (Mogyorósi – Virág n.d.).

Important elements of the work school concept established by Georg Kerschensteiner were the idea of *working together*, *taking responsibility* and *helping others* (Pukánszky – Németh 1996).

Maria Montessori's pedagogy was based on two basic principles: *the child's activity* and the freedom of *independent action.* Her teaching was based on the child's development and she adapted the environment accordingly. The cornerstones

of this method, which is still very popular today, are the *acquisition of independent experience*, for which it is our task to *provide optimum assistance and to* remove obstacles to the child's development. The aim is to enable the child to do independently what they are capable of doing. All of this is integrated in its motto: "Help me to work on my own!" (Németh – Skiera 2003: 118)

Adolf Ferriér's concept is the *active school,* which integrated the reformist educational trends. His principle was that *school should appeal to the whole personality of the child* – his or her emotions, intellect, will. Ferriér's aim was also to enable institutions representing reformist pedagogical principles to communicate with each other (Mogyorósi – Virág n.d.).

In the period that followed, the reform pedagogy that started in Europe became a world movement. In addition to the need to synthesise the principles of the past, a common aspect that stands out is the education *of children in a community, but also as individuals.*

Rudolf Steiner's Waldorf School divides the child's development into 7-year periods, and the teaching method is adapted to these periods. The *role of* the *teacher changes dynamically from period to period*, adapting to the child's personality development. Initially a role model, then an authority, then a provider of professional education and finally of vocational training. The curriculum includes traditional subjects, but with a strong emphasis on arts, crafts and *practical, usable knowledge*. The subjects are taught in 4-week epochs, so they have the opportunity to go in-depth into a subject (Németh – Skiera 2003; Pukánszky – Németh 1996).

Experimentation is a key element of Célestin Freinet's pedagogical system, which relies on natural curiosity. *Free expression* is also important, and it is the teacher's job to create an atmosphere in which the child can freely share his or her thoughts and feelings. Community life, based on *cooperation* and *joint work*, where *difference and acceptance of difference are natural, plays an* important role (Pukánszky – Németh 1996).

Helen Dalton breaks away from frontal teaching in order to take into account the individual ability structure of each learner. *Students work independently, assisted by the teacher.* The *dynamics of the learning process are adapted to the child's development* (Németh – Skiera 2003).

Carleton W. Washburne's reform school in Winnetka (Chicago) (Winnetka Plan), where *everyone can learn and develop at their own pace, either independently or in groups.* Here too, *the teacher is the organiser and adviser* (Pukánszky – Németh 1996).

Dewey's student H. Kilpatrick was responsible for the project method, which became known as a result of the reform educational movements. The project method organizes the curriculum around *real-life tasks based on the child's interests,* and the *learning is* carried out as *independently as possible*, *according to the individual development of the pupils* (Pukánszky – Németh 1996).

Peter Petersen and the pedagogy of the Jena Plan is a synthesis of the reform pedagogy of the period. The most important features of this approach are *project-oriented education* that goes beyond the subject matter, *differentiation of learning according to individual* and *individual developmental aspects*, the use of Freinet techniques and Montessori tools, and the *integration of children with disabilities* (Németh – Skiera 2003). The methods of acquiring knowledge are: conversation, play, work and celebration. (Pukánszky – Németh 1996).

3.2.2.2. Alternative pedagogy

The concept of alternative pedagogy and alternative school is used in the literature in both a broad and a narrow sense. In a broader sense, we include all pedagogical trends that appear as an alternative to traditional school education (in this sense, the schools of reform pedagogy mentioned above can also be included). In a narrower sense we classify school models that were established on parental or teacher initiative after World War II as part of alternative pedagogy. They have in common their diversity, since they are based on different theoretical backgrounds, but the keywords of *equality*, *equal opportunity*, *liberal education* (Neill, Rogers), *conflict resolution based on* equality and *cooperation* appear (Gordon) (Németh – Pukánszky 1996).

Their names are not uniform, but rather reflect the most important characteristics for the country, e.g. Free Schools (Germany), Small Schools (Denmark), *free*, *alternative*, *active*, democratic-creative, *cooperative* schools (Pukánszky – Németh 1996; Mogyorósi – Virág 2024).

Common characteristics, also important for our topic, include mostly small sized schools, *individual treatment*, *special attention*, *multifaceted skills development*, *active engagement*, own curriculum or special curriculum frameworks, organising the curriculum modularly, project-based teaching, epochal teaching (intensive, continuous teaching of certain subjects in 3-4 week cycles), methods of *individual and group learning* (projects, cooperative teaching), emphasis on text-based assessment (Brezsnyánszky 2004). In the context of today's school offerings, we can think of – without any claim to completeness – pedagogical practices working with cooperative methods (Kagan 2001), project-based learning (Nádasi 2010), Waldorf schools (Hungarian Waldorf Association 2024), institutions working on the basis of the Complex Instruction Programme (K. Nagy 2015) or the pedagogical concept of the Complex Basic Programme (Complex Basic Programme 2024) (Mogyorósi – Virág 2024).

3.2.2.3. Experiential education

According to Dewey (1938, cited in Bakti et al. 2018), learning occurs where and when the external objective world and internal experience meet. This has two important characteristics. It is partly cumulative, its elements building on each other, interconnecting, and secondly, the external and internal 'world' pass through the filter of the individual's experience, so it is characterised by *continuity* and *interaction*. Experience is an event or a process that is personally lived through, thus becoming an experience. Kolb (1984, cited in Bakti et al. 2018) developed the experiential learning cycle in which concrete experience, reflective observation, then abstract conceptualisation and active experimentation are repeated in a circular sequence. Experiential pedagogy is "*learning based on* concrete, *hands-on experience*, usually not in everyday *situations but in situations involving adventure and/or experience,* and in a natural – intact – environment. Situations involve the individual in as many aspects as possible, thus promoting the coordinated activity of the "*head, heart and hands*" (Schörghuber – Amesberger, cited in Szabó 2006), so the principles of experiential learning can be put into practice (Bakti et al. 2018). The sessions are always *based on concrete tasks.* The learner is *not a passive recipient* but an active doer. In practice, the steps of *planning, implementation, evaluation, generalisation and application* are cyclically repeated (Liddle 2019).

The milestones along the way are:

A. "(Ask) / Ask a question! / What is the problem?
B. (Brainstorm) / Come up with ideas / What are the possible solutions?
C. (Choose)/ Choose! / Choose one of the possible solutions!
D. (Do)/ Take action! Try the chosen solution!
E. (Evaluate)/ Evaluate! It worked, if the solution worked, if not go back to point A..." (Fáyné – Sztanáné 2015).

One form of experiential learning is outdoor pedagogy, where outdoor activities and tasks designed outdoors provide the basis of the learning process. Wilderness and adventure therapy is a psychotherapeutic application of experiential pedagogy (kéTTé Hungarian Experiential Learning Foundation 2024). Also harnessing the power of nature is Japanese-originated forest bathing, which is a guided relaxation walk aimed at stress relief, immune boosting and the development of resilience (Hungarian Forest Bathing and Forest Therapy Association 2024; Forest Bathing Hungary 2024; Josifumi 2018; Clifford 2018)

However, in addition to outdoor activities in a broader sense, we can also include numerous indoor pedagogical methods, such as the use of fairy tales, drama, puppets, paper theatre, visual arts, music, robotics, board games, games pedagogy, animal assisted activities, zoopedagogy,

problem-based education, cooperative methods and project-based education, as experiential learning and experience are key elements of all of these.

The common feature of experiential pedagogy methods is that they take you step by step through a cycle of experiential learning. In all cases, although the 'tools' used are different, they provide the participants with a rich experience, making learning experiential and effective (Fáyné – Sztanáné 2015).

In experiential activities, the *body and the mind*, the *self and the other are* always in close contact, and *social relationships* and *emotions play a* major role in learning and thinking, because without *emotional involvement* there is no effective learning (Immordino – Yang 2011, cited in Bakti et al. 2018). Experiential education is physically, cognitively and socially challenging (Liddle 2019), so it involves the "wholeness" of the participant. Humans are bio-psycho-social beings (Székely – Vergeer – Simon 2007.) and "health is not the absence of disease, it is more: it is a state of physical, mental, social well-being, which is not far from the broader understanding of wholeness as moral and intellectual well-being, in which well-being means the health of the whole person" (Köböl – Hevesi – Topál 2015), so experiential pedagogy can also play a role in improving quality of life (Csíkszentmihályi 2011; 2015).

Although experiential education intentionally builds on risk-taking (Liddle 2019), in our case it is precisely controlled, with only a level of challenge that is just above the individual's ability level, meaning that they have a realistic chance to rise to the task. And the challenge that is exceeded leads to a state of pleasure (Csíkszentmihályi 2015).

Experiential pedagogy can therefore be understood as a complex activity in many ways. In part, it means *the complex, biological, psychological and social involvement of the participant*, the complexity of the *external and internal world*, the complexity of the *interdependent experiences*, the complexity of *planning, implementation, reflection, interpretation and learning,* but also *the complex, interdependent applicability of different methods and tools* (e.g. story, visual arts, music). This complex activity, which is as complex as life itself, has another great 'weapon': its *motivating power.*

3.2.3. Environmental education, environmental pedagogy, zoopedagogy

When we look for the place of animal-assisted activity in today's pedagogical system, perhaps one of the closest links is environmental education. The National Environmental Education Strategy (Vásárhelyi 2010: 34) uses the following definition of environmental education or, more broadly, the pedagogy of sustainability: 'a process of raising a generation of people who are aware of and concerned about their wider environment and its problems. They have the knowledge, skills, attitudes, motivation and commitment to work individually and collectively to solve current problems and prevent new ones". It can be simply put as *education about*, *in*, *by* and *for the environment* (Vásárhelyi 2010).

The expectations for environmental education are: *complexity*, systems approach, lifelong learning, *local and global*, *current- and forward-looking, activity-focused*, *problem-solving*, *value-creation*. In the pedagogical background, the following expectations are formulated: democratisation, *interconnectivity*, interculturality, *comprehensive, convertible knowledge*, *reinterpretation of the learning process*, *innovative educational programmes* (Vásárhelyi 2010). In the course of school education, we find related topics and contents in several subjects (see National Curriculum 2020). The methods of environmental education include problem solving, conflict resolution, collaboration, and its activities include independent measurements, tests, fieldwork, sociometric testing, drama games and association exercises (Schróth et al. 2015).

The pedagogy of Education for Sustainability (EFS) defines an even broader concept: 'It focuses on complex socio-economic contexts, looking for the links between environmental quality and people's chances of well-being,

human rights, the natural and political basis of peaceful coexistence and the ethical and economic background of these' (Schróth et al. 2015: 12).

Although, along with environmental pedagogy, zoopedagogy cannot be classified as a classical form of reform pedagogy or alternative pedagogy, our topic is in many ways related to pedagogical practices seeking new, non-traditional ways and solutions. Zoopedagogy includes all activities that can be associated with education and training in zoos, aquariums and wildlife parks, with the aim of educating people to save nature and wildlife (Ács 2007; Pintér – Nagy 2003).

Modern zoos have a wide range of activities. Their mission is to conserve nature, protect species and habitats, enhance scientific knowledge, provide *recreational* opportunities, promote sustainable development, educate for conservation and play a key role *in shaping ecological attitudes* towards all levels of society (Nagy 2007). The educational objectives of the World Zoo Strategy are summarised in the motto "Building a future for wildlife" (Nagy 2007: 9). This stated that education should be part of the institutions' strategy. They should define the guiding principles of education, and these should be reflected in their collection and exhibition planning, in their conservation activities, and in the design of services for visitors. Their educational activities should aim to showcase the zoo's living collection, encourage conservation and influence people's attitudes towards nature and the environment at local and global level through awareness-raising activities. It is important to present animals in the best possible conditions, adapted to their natural environment. They should maintain a reference library and provide accessible teaching aids. They play an important role in the education of in situ (local) conservation.

To this end, training of staff and volunteers and networking with other institutions are considered important. They also play a formal (organised) and informal (non-organised) educational role. Their zoo educators are also involved in curriculum development to ensure that conservation is integrated into education as effectively as possible (Nagy 2007).

The Bristol Zoo Garden's slogan: "See it, sense it, save it!" represents the essence of zoo education and the levels of education and awareness. *See*, that is, notice, listen with awareness, this is the level of knowledge, understanding. *Feel*, that is, let the experience in, experience through your own senses. With this involvement you can already feel, understand their situation. This is the level of empathy. *Save*, meaning that the living being you have already come to know and understand can now count on your protection. This is the level of interiorisation and change of attitude, which is a permanent change (Nagy 2007).

Zoopedagogy can play an important role in experiential learning, providing context for knowledge, gives *an emotional basis for* engagement and *motivation*, creates a *problem-based learning space*, and gives the opportunity to *develop an independent learning strategy.* It helps students to learn to think environmentally conscious, make decisions and *act responsibly*, but also to develop their critical thinking skills through the formulation and acceptance of *criticism.* They can also develop *their communication skills* and empathy (Nagy 2007).

Zoo education works with a diverse repertoire of methods and tools. Education can be provided through thematic sessions, lectures, quizzes and competitions, zoo theme days, projects, forest school programmes and workshops. In addition to personal encounters, the methods include methodological aids, worksheets, guides, publications, information systems, special visual aids, theme tables, exhibitions, but also educational trails and model gardens (Pintér – Ilosvay – Özvegy 1997).

Opportunities to learn while having fun, e.g. through summer zoo camps, feeding demonstrations, ethological animal shows, playhouses. National and international

conservation and *animal protection campaigns*, celebrations of special days and presentations of species conservation programmes help to raise ecological awareness. *Animal therapy, animal shows and zoo* adoptions are excellent ways of developing tolerance and empathy (Pintér and Nagy 2003).

The most important of its methods is the *observation of* live *animals*. Dangerous animals can also be observed from outside a fence. In the creation of petting zoos *animal welfare* and *ethical behaviour towards animals are the* main considerations, so the species and *individuals selected are those that* are suitable for the task. This form of animal care is a major responsibility for the institution, the zoo educator, but also for the parents and children. The zoo is designed to allow the animals to roam in a sheltered area free from visitors, according to their own needs. Hand-held, not liked animals have a special place in the observation process (Nagy 2007). Our reluctance towards these animals is due to a number of reasons. According to the theory of 'potential danger', we are averse to species that are dangerous to us or that are very similar to them. Lack of similarity theory says that our fears are rooted in difference. Invasion theory says that we dislike animals that show up in our homes uninvited. The prewiring theory refers to our justified antipathies that go back thousands of years (Ranschburg 2003; Pintér – Nagy 2003; Ács 2007). For activities aimed at changing negative attitudes towards animals and even through them towards each other, we suggest the activity plan in the work of Zoltán Ács (Ács 2007) cited above.

It is important to stress that putting live animals into someone's hand is only recommended for educational purposes. The conditions for doing so are also very carefully defined (Nagy 2007). It is important that the encounter is safe for both the animal and the visitor who holds it. *Animal welfare and health considerations are* paramount (Nagy 2007), which defines the necessary organisational tasks. These include recommendations on the *appropriate location*, *transport* and *housing of the animal*, prevention of *accidents*, what to do in case of *allergies or phobias*, the importance of hand *washing* before and after the session, and *how to* avoid disturbing the animal.

In addition to the activities directly with the animals, traditional and alternative pedagogical methods and forms of work are also used in zoopedagogical activities, such as frontal, group, pair work, discussion, demonstration, drama, project days, cooperative group work, sensory games (Nagy 2007). Among the tools, information systems used in zoos (boards, posters, interactive games, ICT tools, etc.) are common. Their purpose is to provide information, to communicate knowledge indirectly. These can be signposts, information boards, prohibition boards, signs, species tables of animals and plants, complex content (e.g. animal protection, nature conservation, taxonomic summaries, habitat descriptions, descriptions of curiosities, cultural history, adoption signs) (Nagy 2007). They can be incorporated into formal education in addition to informal zoo education. Other methods and tools include nature trails, guided routes, which can be supplemented with audio material, showrooms, information booklets, activity sheets, thematic exhibitions, special visual aids (e.g. escape room,[40] online zoo visits[41] and webcams.[42]) The websites of Hungarian zoos offer a wealth of useful and demanding educational materials and educational packages that can be used in a planned zoo education session and can be integrated into the school education process.[43]

In our view, the place of zoopedagogy can indeed be understood within the pedagogy of sustainability and within the framework of environmental education, but it is also considered to be partly part of animal-assisted activities as a pedagogical activity working with animals. However, animal-assisted activities cannot be considered as part of sustainability and environmental education alone, as they can also help to achieve other pedagogical objectives (Figure 13).

40 *(http://www.zooszeged.hu/zoosuli/allatvedelmi-szabaduloszoba/)*
41 *(http://www.zooszeged.hu/szeged-vadasparkja/terkep/)*
42 *(http://www.zooszeged.hu/szeged-vadasparkja/webkamerak/)*
43 *(https://zoobudapest.com/oktatas/pedagogusoknak/oktatocsomagok)*
(https://zoobudapest.com/oktatas/digitalis-allatkert)

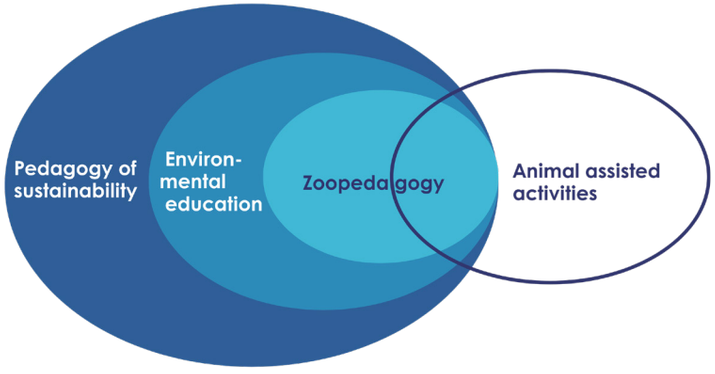


Figure 13: The relationship between sustainability pedagogy, environmental education, zoopedagogy and animal-assisted activities

The links between animal-assisted activities and other areas (e.g. social, healthcare) are not discussed here, but examples will be given later.

3.2.4. Educational activities assisted by dogs

The emergence of the need for new pedagogical paths and methods discussed in the previous chapter indicates that the effectiveness of the traditional school, which was based on frontal teaching methods only, delivering the curriculum and then asking for feedback, was being questioned (Mészáros – Németh – Pukánszky 2003). The new solutions have been brought about by the needs of clients (children, parents, the wider community, etc.) and the profession, the teachers, and it is within this system of needs and expectations that the different variants of animal-assisted activities are emerging and finding their place. In the application of animal-assisted forms of education, the above characteristics of traditional education cannot be identified, or can only be identified to the extent necessary. In the following, we will review the pedagogical applications of animal-assisted activities, looking for the intersection and interfaces between the two areas.

Animal-assisted activities are those activities in which animals are purposefully and consciously involved in the process of education, development, improving quality of life or healing. The etymology of the term 'animal-assisted activities' is a useful starting point for interpreting the term.

The term "animal" indicates that the application may include dogs or horses, or dolphins, cats, rabbits and other species, but the choice is always based on a conscious pedagogical decision, taking into account the specific role of the species, its specific impact on us and the opportunities it offers. It is the task of the professionals to find the most optimal task, place and work for the client, in our case the child or pupil, taking into account the aims to be achieved. The main protagonist of our book is the dog, so we will now focus on the pedagogical activities that can be carried out with them. The main reasons for our choice are, in part, the suitability of the species and its consciously selected, trained individuals for the task, discussed in detail above, and, in part, the increasing popularity of dog-assisted procedures and the realities of implementing these activities in Hungary.

In our case, the term "assisted" indicates that the animal is a facilitator, a "tool", a motivator of the activities, it can be involved in the activities we plan in many different ways, and the way it participates in the activities can be very varied.

The term "education" or the synonymous term "activities", intervention (Zsoldos et al. 2014) indicates the diversity of pedagogical applications in which animals are functionally involved (Fine 2000; Köböl – Hevesi – Topál 2015).

In the following, we will briefly review the areas of pedagogical work where the basic versions of animal-assisted activities, which are now considered classic, are used, and look at the ever-expanding areas of application. As in the previous chapters, the focus of our work remains on dogs, but we also open up to the practice of using other animal species.

3.2.4.1. Possible settings for the pedagogical use of animal-assisted activities

While searching for the settings of animal-assisted activities, we will briefly review the contexts of education and training. Our aim is not to provide a comprehensive overview of these settings, but rather to map out the possible contexts in this work.

The first stage of early childhood education and care is day care, which provides care for children under 3 years old. The

care of children is provided in accordance with the national basic programme for nursery education and care (Association of Hungarian Nurseries 2024). Nurseries may also provide specialised services in addition to basic care. Home care includes family crèches and day care. Alternative day care for this age group is provided by the Sure Start Children's Centre (European Commission, Eurydice 2024).

A kindergarten is an educational institution that provides care for children from the age of 3 until they start compulsory education. Its activities and objectives are planned and implemented based on the national core program for kindergarten education (Government Decree 363/2012 (XII. 17.) on the national core program for kindergarten education) (European Commission, Eurydice 2024).

The institution of primary education is the elementary school, where primary education is provided according to nationally uniform requirements. It has two stages: the lower division (grades 1-4) and the upper division (grades 5-8). Their operation is regulated by Act CXC of 2011 on National Public Education, government decrees, and the strategic and operational regulatory documents of public education institutions (educational program, organizational and operational regulations, work plan, house rules) (European Commission, Eurydice 2024).

In our country, secondary and post-secondary education starts in grade 9 and lasts 3-5 years. This includes high schools and vocational education and training institutions (European Commission, Eurydice 2024).

The core activities of higher education institutions are education, scientific research and artistic creation, which can be universities, including universities of applied sciences or colleges (European Commission, Eurydice 2024).

In the care system, "the following institutions and professionals have a key role in the care of children/students with special needs:

1. institutions of the Pedagogical Assistance Service undertaking the following tasks: special education counselling, early intervention, education and care; individual development of severely disabled children/pupils; expert committee activity; parenting advice, speech therapy, academic and career guidance, conductive education, adapted physical education, kindergarten and school psychology, catering for the exceptionally gifted
2. separate special education institutions, conductive education institutions
3. integrated special education and conductive education institutions
4. inclusive schools and kindergartens
5. mobile network of special needs teachers
6. developmental educators" (European Commission, Eurydice, 2024).

Support for disadvantaged and multiply disadvantaged children and pupils is provided in public education and vocational training institutions and through targeted programmes:

1. Complex Instruction Programme (KIP);
2. Complex Core Programme;
3. Arany János Programmes;
4. Fort he Road Scholarship Programmes;
5. Let’s Teach For Hungary Mentor Programme;
6. Sprogboard Programme of vocational training schools;

Support programmes of the social institutional system:

1. Sure Start Children's Centres
2. ’Tanoda’ programmes (extracurricular learning centres) (European Commission, Eurydice 2024).

Animal-assisted activities in these areas can support the achievement of goals defined in the regulatory documents of the respective institutions. Additionally, they can be effectively used in healthcare institutions, particularly in the fields of psychiatry, geriatrics, and pediatrics (Zsoldos et al. 2014), as well as in social institutions, care and nursing facilities, rehabilitation or transitional housing institutions, residential homes, and homes for the elderly, etc.

3.2.4.2. The "classical" forms of implementation (AAA, AAT, AAE) and AAD

In a previous chapter of this book, we have already reviewed the classic forms of animal-assisted activities. However, based on the experience and the use of concepts in recent years, we feel it is important to supplement and clarify the previous classification from a pedagogical aspect. It is now necessary to define the terms and forms of work used so far and their relationship to each other more precisely in order to ensure that the scope of interpretation by professionals and clients is consistent. We justify this by noting that, in everyday language and unfortunately sometimes even among professionals, animal-assisted therapy is used as a main concept under which various work forms are categorized. In the worst case, all activities are identified as the more resonant therapy, which clearly does not reflect reality and does not benefit the perception of animal-assisted activities.

The definition of therapy varies depending on the field and the aim of the therapy, but the common points are that it is carried out by a professional, it is based on diagnosis, it aims to establish an appropriate condition, stabilize or improve (heal) a condition, and it is a set of activities carried out in pursuit of this aim. It is carried out within a scientifically and empirically developed, well-planned and defined framework, with a defined number of people, goals and duration. The process itself is controlled, documented and based on quality assurance. Therefore, to refer to an assisted activity with a dog (or any other animal species) as therapy, it must meet the above conditions.

From a pedagogical perspective, it is equally crucial to distinguish animal-assisted therapy from developmental activities. In the case of developmental activities, there are also overlaps in professional terminology, as we talk about developmental activities, developmental therapy and therapy. However, in our view, developmental activities and therapy can be distinguished from each other by means of a few key points. Based on the above aspects, they have in common that they are both carried out by a professional, based on diagnostics with habilitation and rehabilitation goals. In both cases, the achievement of the goals set for a period is documented. However, the frameworks for planning and implementation, as well as the number of participants, duration, and goals, can be more flexible in the case of developmental activities.

Based on these findings, we believe that alongside Animal Assisted Activity (AAA), Animal Assisted Therapy (AAT), and Animal Assisted Education (AAE), it would be valuable to include a category specifically for Animal Assisted Development (AAD), particularly in educational contexts.

3.3. Conscious pedagogical activities during dog-assisted sessions

In the following chapter, we would like to draw attention to the importance of conscious pedagogical activities. Due to the scope, nature and purpose of our book, we only wish to set out the cornerstones that professionals should take into account during animal-assisted activities.

3.3.1. Conscious application of traditional pedagogical principles

The process of knowledge transfer should be consciously planned for efficiency, and it is beneficial to view it as a structured system (Báthory 1992). (Figure 14) The process can be viewed from a broader perspective (e.g. education system, public education), but it can also be interpreted as a learning stage, or as a period of teaching a subject or development. Of course, the same approach and awareness should be applied to animal-assisted activities, whether they are activities, developmental activities, therapy or education, as they are also a possible way of teaching and learning.

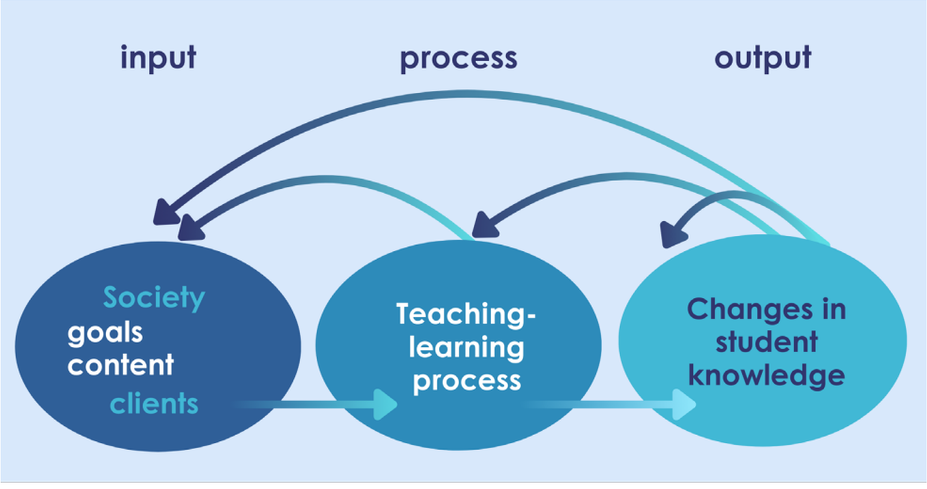


Figure 14: A systems model of teaching-learning.

If we consider this process as a system, its input/starting point is the definition of goals to be achieved and the knowledge to be transferred. The source of these are, in the case of a broader understanding of the system, societal needs and scientific knowledge, but it is equally important to approach this from the client's, the individual's, side. Information sources for this include regulatory documents (e.g. national curriculum, local curriculum, syllabus, individual development plan), the client's diagnosis, the opinion and recommendations of the expert committee, our own assessment, or the results from the previous teaching and learning phase. Based on these, we plan the teaching and development process, its content, the order of content, the length of a stage, the timing of assessments, etc.

At the end of the teaching and learning process, the main indicator of the effectiveness of the work is the change in the learner's knowledge, which is measured and evaluated depending on the pedagogical process. This point may be the end of a stage of learning (e.g. graduation, final exams), the end of a stage (e.g. end of a school year, end of a subject, end of a development stage), or the end of a lesson or session. The methods and instruments of measurement are of course very varied and situation specific, tailored to fit the process, the type of knowledge and the client (e.g. exam, final paper, oral examination, project presentation, practical activity, measurement, or targeted observation).

Up to this point, we have viewed the system as a linear process. However, ensuring the effective operation of any system requires systematic feedback, which also needs to be planned consciously in advance. Without this, we would not be able to address potential flaws in the system.

Feedback must respond to all the key elements of the process. First we look at the change in the client's knowledge. If the expected results are found (e.g. a subject test was well done, a development phase was successful, a session achieved its goal), then there is basically nothing to do, we can move on to the next phase, where the teaching and learning process starts again with new goals and content. However, even in such an ideal situation, it is not a bad idea to occasionally refer back to other points in the system. In this case, our goal may also include renewal, achieving even more efficient work, or introducing new methods. However, it is obligatory to review the system, to look for the problem, if the change in the client's knowledge is not satisfactory according to our previous planning and expectations, an exam did not go well, we did not achieve the set development goals, or we did not feel the lesson was successful. Think about it, when our washing machine displays an error message, we immediately look up the error code meaning, try to rectify the problem or contact a technician. Why would we approach clients or even a generation differently? Therefore, in case of "failure," it's worth examining every level of the system.

The first step in the feedback loop is the client. It is important to assess what reasons may lie behind any potential shortcomings. We also need to provide feedback on the teaching and learning process itself. Here, it's crucial to monitor whether the participants and elements of the process contributed to any shortcomings—for example, whether we allocated sufficient time to achieve the goals, chose effective methods and work forms, ensured adequate collaboration between the group leader and facilitator, and assessed whether the therapy dog met the specific needs of the target group, among other factors. We believe that at this level it is also worth paying attention to how "compatible" the process was with the therapy dog, the handler and the teacher, how well it fitted their knowledge, personality, workload, etc. If

disharmony is found here, adjustments are necessary for long-term effectiveness. Furthermore, it's essential to look back at the inputs to the system and examine whether we set realistic goals and defined appropriate content for the target group.

In the interest of efficiency, it is therefore worthwhile to keep a constant eye on the entire process, on all its elements (the goals the participants, their tasks, the methods used, etc.), because only in this way can the efficient "functioning" of the system be ensured, and possible errors can be detected and corrected.

Based on this, we can determine that rehabilitation and educational work is inherently a highly complex activity due to its process-oriented nature. The process begins when the need for it is recognised. It therefore involves a continuous sequence of assessment, diagnosis, rehabilitation, development or educational plan, and the actual implementation of rehabilitation or educational work, followed by evaluation. The exploration of the results achieved indicates a new investigation, on which a new phase is built (Bálint 1991; Pető 2002; Köböl – Hevesi – Topál 2015).

3.3.2. Changing roles, new challenges

The changed educational approach, setting, and framework—as mentioned several times above—means a new role for both students and educators, which must be taken into account during planning.

Experiential pedagogical activities require a transformation of the teaching role. The role of the teacher becomes very diverse. He/she must know the abilities, ability structures and emotions of the children and pupils entrusted to him/her. He/she coordinates the activities, creates and ensures safe and acceptable frameworks and boundaries for all, both emotionally and physically. Facilitates raising issues. Facilitates and encourages. It is important to gain the trust of the group and its members.

In this situation, the role of learners is also changing. Their participation becomes more active, they are not just recipients, as the teacher's direct transmission of knowledge is reduced or ceased altogether. Students' activity is indicated by asking questions, raising issues, conducting investigations with greater independence, forming opinions in relation to problems, and engaging in debates. In this learning environment, they have the opportunity to coordinate their own work, which gives them more freedom but also more responsibility.

Another feature of experiential learning is that learners are presented with challenges of a difficulty that is appropriate for them (not too easy, but not too difficult) and therefore sufficiently motivating. The information is optimal in quantity and purposefully organised. Within this learning framework, participants are committed to development across social, emotional, cognitive and physical dimensions. Personal qualities are prioritised, but also collaborative thinking and action, as well as risk-taking (Gerlang 2019; Kispéter – Sövényházy 2008, following Liddle 2019).

Based on these considerations, the question arises whether children with special educational needs can meet these role expectations during inclusive education, and to what extent we can expect their active participation, can they solve problems, form opinions, coordinate their own work. Whether participating in integrated, inclusive, or segregated educational settings, children with special needs require support. However, characteristics of experiential learning–such as tasks tailored to individual needs, well-organized and segmented curriculum adapted to small steps, structured activities, and collaborative learning processes–fundamentally align with special education principles and practices. (Gerlang 2019; Kispéter – Sövényházy 2008 after Liddle 2019).

Within the educational use of therapy dogs, it is worthwhile to address special educational perspectives as well. In Hungary, when the use of therapy dogs first started, dogs and their handlers were mainly involved in the care of groups with special needs, but today this proportion seems to be somewhat more balanced. Fortunately, although more and more sessions are being provided to not just children with special educational needs, differentiation and 'accessibility' remain a crucial goal.

Therapy dogs can accompany you through all stages of education and skill development. In the following, we will review the possibilities and ways of involving animals in these processes at the level of curriculum, skill development and motivation.

3.3.3. Short and long-term planning

During the planning and structuring of lessons, the basic didactic aspects (Falus 2022; Ádámné – Boldis 2013) should be applied to the dog-assisted activities in order to be effective. In the following, we summarise the knowledge that the professionals working together in a team need to have, and then we show how this knowledge and tasks are distributed among them.

3.3.3.1. General planning considerations

The basic starting point is the age and composition of the group of children, any special needs that may arise, e.g. the type and specific characteristics of special educational needs or the needs of a particularly gifted child, the size of the group, the strengths that can be built upon and the areas that definitely need development.

When planning the sessions, the competent professional leading the group should be familiar with the relevant basic documents, such as the pedagogical programme of the institution, the local curriculum. They should have a curriculum or development plan appropriate to the type of session and the group. This will help them to understand their activity as a process, to know both the previous experience and the way forward. As a didactic principle, the following should also be included: scientific rigor, motivation, activation, comprehensibility, gradual progression, regularity, visual aids, durability, differentiation, feedback, and reinforcement. The different types of lessons should be planned consciously. One must be familiar with the variations of these lesson types, such as those introducing new knowledge, applying (practicing), summarizing (consolidating, organizing, reviewing knowledge), or assessing lessons. Additionally, understanding their functions and relationships to one another is essential. In the case of AAD, the development process structured for a similar purpose, and in the case of AAT, the protocol of the therapeutic procedure. Planning is influenced by the specific characteristics of the subject or the area to be developed. Additionally, the material conditions and possibilities are crucial. Where can the session be held, how much space is available, and are there any distracting factors, etc.?

An important element of planning is that both the educator and the handler must be aware of their own preparedness, methodological repertoire, and proficiency in various learning organization procedures. In addition to the above, the knowledge, abilities, size, temperament, activity level, workload and experience of the therapy dog also have a significant influence on planning. It is also worth considering its compatibility with the target group.

3.3.3.2. Suggested general structure for teaching lessons (AAE) and developmental activities (AAD)

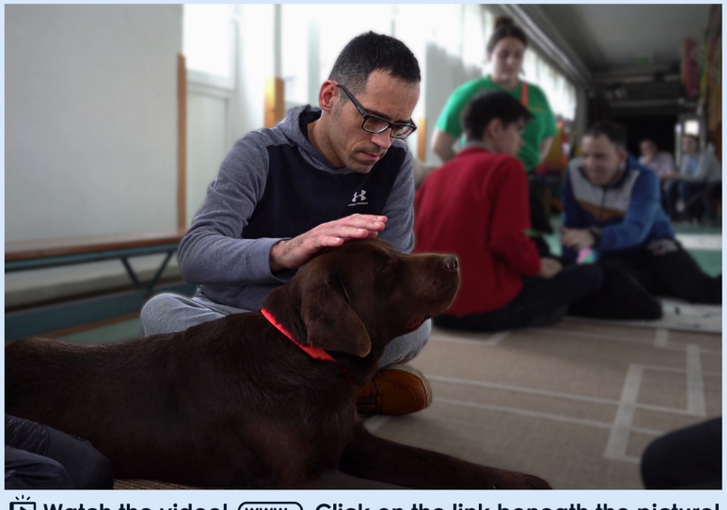
In the case of lessons or developmental sessions involving dog-assisted activities, the lesson plan includes the sequence of activities, related didactic steps, developmental areas, teaching methods, and tools to ensure the most effective work possible. This level of planning focuses on the target group, curriculum and developmental objectives. When involving assistance dogs, this classic form should be complemented by planning the entry and exit of the assistance dog, defining its tasks and activity level, and integrating these steps into the session. This step requires a high level of awareness and cooperation from the professionals working together.

The sessions are basically divided into three main parts, which also outline the structure of the class. When planning, it is important to combine the principles of the traditional lesson/activity structure with the framework and needs of the dog-assisted activities.

In the introductory part, the group leader creates the level of attention and motivation needed to work actively together. The aim is to get the clients interested in the next 30-45-60 minutes. On the other hand, another goal is to create a sense of security in facing new challenges and tasks by revisiting

previous knowledge and guiding the client into or back to the topic area after the previous session. A motivating game or raising a problem that activates and leads to the topic of the session, while mobilizing the skills that will be crucial during the session can be very useful. During physical education lessons or motor skills development, this is also the time for a warm-up, which prepares the group physically for the next active phase (Király – Szakály 2011).

From the dog's and its handler's side, the main purpose of the introduction part is to get in touch with the target group. (videos 12-15.) This is where the introduction and greeting takes place. The ritual of this is not fixed, it can vary, but its function is the same. At this point, the dog and the client can establish contact with each other, and although it is under control, they are "each other's" at this moment. This is a natural need on the client's part; during this time, the dog belongs only to them. However, it is also the natural need and right of the dog to orient itself in the given situation.



Watch the video! Click on the link beneath the picture!

Video 12: Greeting (Task)
https://youtu.be/8pZTT1Uc5Gw

Video 13: Saying hello and choosing a trick (Task)
https://youtu.be/ZEzVBMMPGMo

Watch the video! Click on the link beneath the picture!

Video 14: Saying hello and petting the dog together (Logopaedics)
https://youtu.be/EopP2WL9VKY

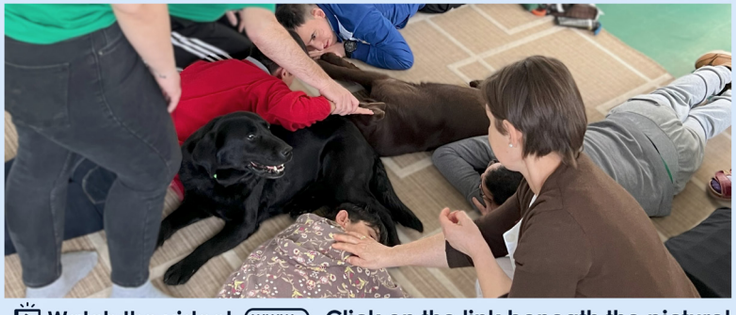
Video 15: Who was I thinking of? Saying hello by choice (Kindergarten)
https://youtu.be/jiPp6LuIzkQ

In the main part of the session, depending on the type of session, the new knowledge is transmitted, analysed, formulated, organised, integrated into the existing knowledge network and consolidated, with varying emphasis. During developmental or therapeutic sessions, the development of the targeted areas is carried out. In activities, the emphasis is on the main areas defined as the primary goals of the session. Finally, this serves as the foundation for practice and application. Here the therapy dog is always involved in the activities based on the mutual decision of the group leader and handler. The form of involvement, the extent of involvement, the types of games are also their mutual decision, but always serve to achieve the stated educational goals.

The concluding part of the sessions always includes summarizing the work done and evaluation. In physical education classes, in sessions aimed at developing motor skills, this is the time for stretching, relaxation and physiological calming of the body (Király – Szakály 2011). During dog assisted activities, this is complemented by a farewell, which is

a mandatory element of the session. Its form may also vary from group to group. If the session is also the end of a joint work, time should be planned for parting ways, for the 'final' goodbye.

When saying goodbye, it is also important to consider the dog's point of view in addition to the educational goals. The ritual of this can also be unique to each group. Since the dog also needs rest time after the lesson, we often suggest a shared farewell at this point. The farewell can be a sitting or standing around the dog, and collectively petting it, which depending on the group's age and the purpose of the session, can be complemented with chants, singing, and the evaluation process. (videos 16-21.) However, the method should also be considered depending on whether the dog and the handler will only have a short break after the session (so they will only have a short refreshment) or whether the work is over for the day (so they can have a period of active and passive rest and recreation). The farewell and the associated "ritual" help to orient oneself in time, providing structure to the sessions.



Video 16: Relaxing together (Task)
https://youtu.be/c6Q2pv3VeXo
Video 17: Evaluation (Task)
https://youtu.be/a8uSwLEF6V4

Video 18: Saying goodbye with a wave (Task)
https://youtu.be/p4Mg632Km70
Video 19: Saying goodbye with a high five (Task)
https://youtu.be/-cMLWKo-mqo

Video 20: Saying goodbye with a test of courage (Logopaedics)
https://youtu.be/sCFveIxTXQM
Video 21: Saying goodbye with petting the dog together (Logopaedics)
https://youtu.be/_5weoP3We5o

At the end of a long period of working together, it is worth dedicating a whole session to saying goodbye. In the case of AAE, this may obviously be limited by the curriculum and the "need" to keep up with it, but in the case of AAD, you can plan more freely. In this case, a good solution could be to let the clients choose from the games they have played together so far. This way, the clients can actively recall the most beautiful moments spent together. Based on the choices, the group leader and facilitator can create an effective sequence

of games for everyone, based on the educational goals and the temperament and needs of the dog.

We recommend the following lesson/workshop template for multi-faceted planning, which is just one possible tool, but in our case, it includes the above-mentioned aspects to facilitate intentional planning.

Lesson/workshop template
Source: own editing based on Falus (2022); Ádámné - Boldis (2013); Köböl – Hevesi – Topál (2015)

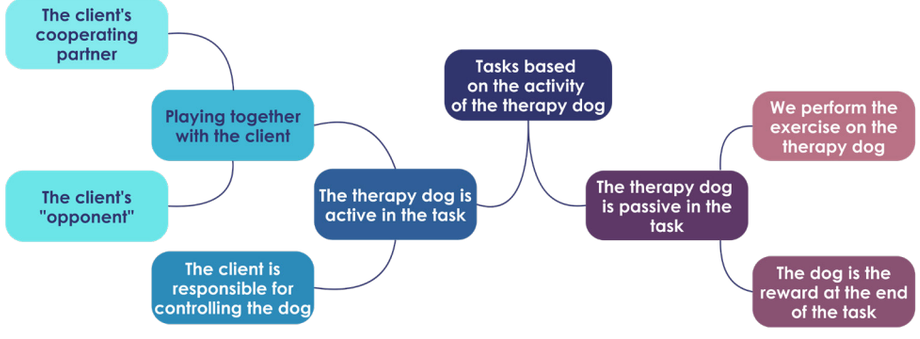
Didactic objectives, the course of the session/lesson	Developmental areas	Working methods	The task and activity of the therapy dog	Tools	Comment
Introductory section: • Attracting attention, providing motivation for learning • - Informing students about the purpose of the lesson • Checking students' prior knowledge of the topic • Warming up Greeting the handler and his/her therapy dog	motor, cognitive, communication, orientation, creative, social skills (or their components)	individual, pair, group, frontal	active (A) or passive (P)		
Main part: • Presenting new knowledge • Analysis of new knowledge • Conceptualisation, formulating a conclusion (rule) • Systematization and consolidation • Application of what has been learned and feedback					
Assessment, evaluation: • Personalized, positive, forward-looking and supportive assessment based on the educational and teaching objectives set • Stretching, resting • Farewell to the therapy dog and its handler					

3.3.3.3 "There is more than one spotted dog in the world"

In the following chapter, we 've arrived to the smallest pieces of the design puzzle: the tasks and games. The question may arise, how can we assign "dog-assisted" tasks to the activities listed so far that are adequate in terms of age, developmental area, and work format, varied, interesting, yet teachable for the therapy dog, taking into account its perspective as well – we are not working with just a few tasks but can provide a diverse repertoire.

First of all, it is worth grouping the tasks according to the temperament and workload (age, experience, etc.) of the therapy dog. (Figure 15)

Figure 15: Tasks based on the activity of the therapy dog.



A therapy dog can be active or temporarily passive in a task. However, it is important to know that the dog is still working, so passivity is not rest. Sometimes these tasks are more challenging for them because they require more discipline.

In some of the active tasks, the dog plays with the clients. (video 22.) In these cases, the dog may also have a different role. It can be a cooperative partner of the client, e.g. in a tunnel tag game (Tunnel tag: A chaser is assigned who tries to touch as many other players as possible in half a minute. Whoever he touches must stand with their legs spread, and if an other player who has not yet been caught crawls through the frozen player's legs, they can rejoin the game (Hocza – Bóka [n.d.]). The therapy dog can be the one who crawls through the caught players' legs in the game, but cannot be caught.)

Video 22: Squirrels, out of the house! (Task)
https://youtu.be/YJUANUAJJjk
Video 23: Playing with the ball (Logopaedics)
https://youtu.be/ubh-P-DpahE

However in other games, the dog can be the children's "opponent", e.g. in a tail tag game. (Each player is given a tail – a scarf, a strip of fabric – which they must tuck into the back of their trousers so that the end hangs down at least to the knee. The therapy dog takes on the role of a hunting dog. Whoever the dog manages to steal the tail from is out of the game.) (video 23.)

The dog also plays an active role when the client is in charge of the dog, for example when they have to walk through an obstacle course together. (videos 24-25.)

The therapy dog is passive in the game (videos 26-27.), where it is used to perform the task on it, e.g. in a petting memory game. (In the game, the teacher tells the first child a body part to stroke on the therapy dog. He or she then chooses another body part to stroke. The second child repeats the first two strokes and then adds another. The chain can be increased or even started again according to the children's ability.)

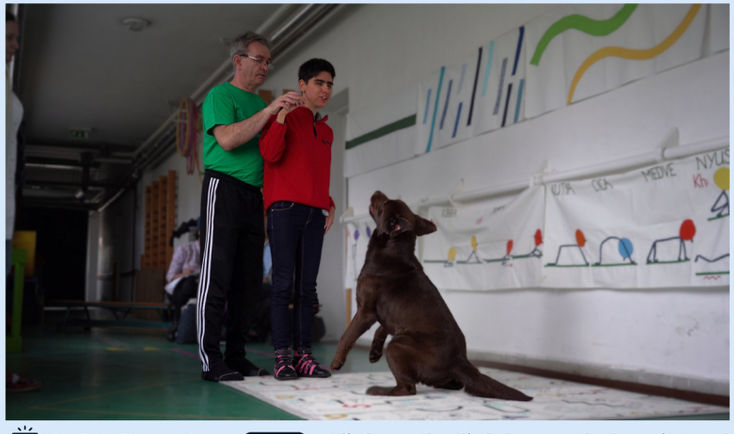
Watch the video! Click on the link beneath the picture!

Video 24: Obstacle! Leading the dog on a leash (Task)
https://youtu.be/Q3BCPBQLL_4
Video 25: Obstacle course (Logopaedics)
https://youtu.be/9PLhj3I8x4Q

Watch the video! Click on the link beneath the picture!

Video 26: „Bathing" – Nursery rhyme with corresponding movements (Task)
https://youtu.be/QkEoVMqAdyo
Video 27: „Getting dressed - undressing" - the dog's tools (Task)
https://youtu.be/ceb5V2njIbc

In other cases, the dog can be a reward, e.g. the child can strok it after a task well done or ask to do a trick. (videos 28-33.)



Watch the video! Click on the link beneath the picture!

Video 28: Tricks (Task)
https://youtu.be/ehKXCCl7iiE
Video 29: Competition and reward trick - complex task (Task)
https://youtu.be/vb_sl_AKEyA

Watch the video! Click on the link beneath the picture!

Video 30: „I want the trick from XY!" (Task)
https://youtu.be/XDq2PPtQFZY
Video 31: Asking for a trick with help (Task)
https://youtu.be/C9lw93FeeTI

Inventing games, adapting them to the therapy dog, the group, an to the educational and developmental objectives is creative work. Several resources can be used. (Figure 16)

Figure 16: Tasks by design

Video 32: *„Sound!" - trick (Task)*
https://youtu.be/jh3IUIxkItY
Video 33: *Trick request (Kindergarten)*
https://youtu.be/fjGKYr_kvsI

We can transform the already known games into activities involving dogs (videos 34-36.) (see above e.g. tunnel tag), we can transform games designed for dogs to the target group (e.g. intelligence games for dogs can be used as memory games first for the child and then for the dog), but we can also invent completely new games.

Video 34: *Nursery rhyme: What do my two hands do? Developing fine motor skills (Task)*
https://youtu.be/PCHsm7DMIrI
Video 35: *Fire! Water! Flying! – saying (Task)*
https://youtu.be/ahByJ4QLzio

Video 36: Playing with the ball (Task)
https://youtu.be/LgbzcbEZ_uo

The following resources are suggested as a source of ideas for the games:

- Wonder Stag School Community Programme's website
- Ágnes Hocza and Ferenc Bóka (n.d.): Physical education and folk games
- Erika Köböl (2023): Developmental activities with four-legged teaching assistants – skill-building games in dog assisted developmental sessions
- Illés Anett (n.d.): AI method in dog therapy
- Judit Lakos: Magic Paws (1-2-3.) Azúr Assistance Dog Association
- Lidi the therapy dog! (blog)
- Edit Szabó and Viola Varga (2017). Methodological material. Dog therapy in developmental education

During planning and implementation, we recommend adapting the following pedagogical aspects specifically to the individual client or group. The ability structure of the group and the individual characteristics of the children determine the number of games planned for the session and the frequency of game changes. While in one group we can plan more activities with faster game changes, in another group we have to allow longer time for one game, so fewer games can be planned for the session. This depends on factors such as the length and nature of the games, the group size, their activity level, familiarity with working with the therapy dog, and the experience level of the educator and therapy dog and its handler. Of course, personal and material conditions may also influence the time planning, e.g. how quickly the space can be packed and set up for the new task, how many helpers are available, etc.

The group's abilities also determine the time and pace at which new games are introduced. It is also worth considering how many new tasks a group can learn in a session. For younger children, or depending on the type of special educational needs, the nature and severity of the disability, the process of learning and understanding the game may be slower, or it may not be effective to introduce several new tasks in one lesson. When planning, also take into account the need for clients to experience a sense of achievement in the tasks, so they should repeat and practise a new activity as many times as necessary to end the session with a sense of achievement.

This may make you wonder whether these constraints will make the session boring. Slower game learning, fewer games, and less frequent game changes primarily need to be considered for students with special educational needs, particularly those with learning and intellectual disability, as well as those with severe and multiple disabilities. However, these children enjoy playing familiar games because they have practice with them, and it doesn't pose disproportionately large challenges for them. It is precisely because of these factors that they can experience competence in these tasks. It is also important to see that group leaders can use differentiation tools, they can make the same task more difficult if necessary, and the therapy dogs participating in the sessions are not robots, so their control and the activity with them is not exactly the same.

3.3.3.4. Relationship between short-and long-term planning, didactic objectives and type of lessons

During the planning process, both the teacher and the facilitator need to keep in mind the length of the planned section. Besides individual lessons and sessions, it's also essential to consciously plan longer pedagogical processes (topics, developmental stages, etc.) during "dog-assisted" activities as well.

The didactic steps (processing new knowledge, putting it into practice, systematization, verification, and evaluation) can appear in larger units as well as within a single lesson, or even multiple times within a lesson, due to the fact, that teaching and learning is a process. The type of a lesson is determined by the didactic step that is most emphasised in the lesson (Figure 17). The main lesson types based on this are knowledge processing, practice, summary, and assessment lessons. (Ádámné – Boldis 2013). For example, during a practice lesson, a new piece of knowledge might come up, but the emphasis will be on recalling existing knowledge and then consolidating it through practical application. At the end of this lesson, there will also be a brief summary and evaluation focusing on the knowledge and performance of that specific lesson.

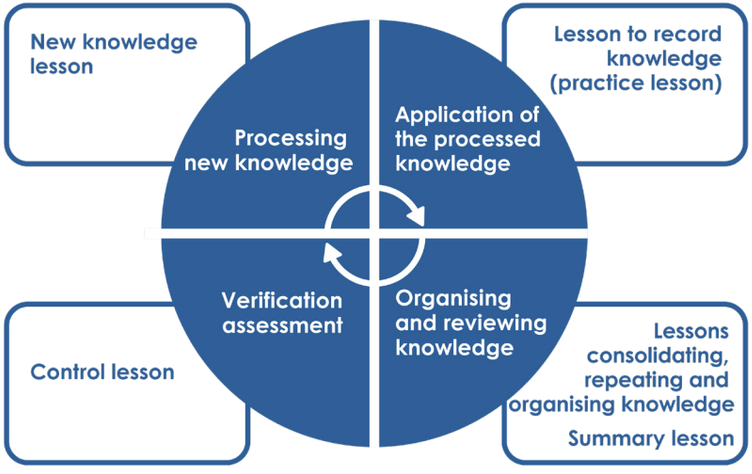


Figure 17: Relationship between the didactic task and the type of lesson.

3.3.4. Goals and pathways

The educational and pedagogical objectives of the lessons are defined in the regulatory documents discussed earlier (e.g. framework curriculum, local curriculum, syllabus, etc.). During lessons, our goal is to achieve changes in students across multiple areas through the teaching-learning process. The child's knowledge can change, his/her skills can develop, his/her attitudes, autonomy and sense of responsibility can change (Fűzné 2016).

The acquired knowledge can consist of factual knowledge (i.e., knowing, listing, recognizing, recalling, identifying, naming, understanding) as well as skill-based knowledge (i.e., selecting, applying, using, creating, operating, engaging, comparing, demonstrating, analysing, communicating, assembling, developing). The student's attitude, along with their motivation, can significantly influence the effectiveness of their work. Their autonomy and responsibility can be manifested in how they make suggestions, adhere to and enforce rules, take responsibility when completing tasks with more or less assistance, lead processes, direct, monitor, make decisions, initiate new solutions, and correct mistakes made by themselves or others. (Csapó 2003; Farkas 2017; Fűzné 2016).

The AAE aims to support this process in the classroom. The content of the tasks is dictated by the curriculum, with the dog (and its handler) acting as a "teaching assistant". Within the team, it is the teacher who decides which stage of the teaching-learning process to involve the dog and its handler based on the curriculum, the knowledge of the group and their capability. There are parts of the curriculum where it is useful to involve the therapy dog, but in our opinion this is not always the case. However, we cannot make a general recommendation on this, so we leave it entirely to the competence of the team leader of the team working together. During practice sessions, the therapy dog can provide motivation, and tasks performed with the dog can add variety and break up the monotony of repetitive practice. The introduction of new material or topics can be exciting in itself or require a complete focus on the subject matter, the same can be true for a knowledge assessment lesson. However, the handler can provide ideas for engaging the dog which may provide a new perspective for the teacher, so it is up to the teacher and handler to be imaginative about whether they can usefully engage the dog in the activity or maybe they decide to have a therapy dog present during an assessment to help relieve tension. As a general rule, the dog should not be involved in lessons for its own sake, but should always have a function and a purpose. (video 37.)

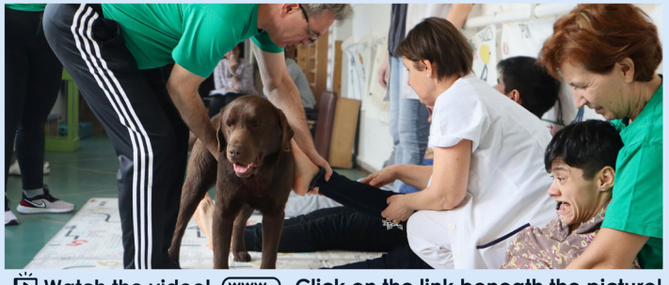
Video 37: Mathematics I (Lessons)
https://youtu.be/kWYhltQ98T4

Therapeutic sessions (AAT) are specific, with a fixed theme and schedule. The time, method and purpose of the dog's involvement are determined by the therapist in consultation with the handler.

AADs are designed to develop a skill or competence, but they can also be targeted during regular lessons, particularly in nursery, kindergarten and primary school, taking into account the characteristics of the subjects and the curriculum. Dog-assisted activities can be used to develop these areas according to age and ability level:

- orientation skills (spatial and time orientation),
- motor skills (coordination and conditioning abilities, gross motor skills, fine motor skills, graphomotor skills) (videos 38-45.)
- communication skills (oral, written and non-verbal communication, expressing and reception) (videos 46-53.)
- cognitive function (sensation, perception, attention; memory, imagination, metacognition), (videos 54-57.)
- creative skills (artistic activities, problem-solving thinking),
- social skills (prosocial behaviour, social communication, and advocacy) (Virányi 2013; Meggyesné – Nagyné 2015; Cziberéné 2015). (videos 58-59.)

Video 38: *Postman game (Task)*
https://youtu.be/WGfMAA1R8cI
Video 39: *Shawl stealing game (Task)*
https://youtu.be/3CfeHBrgD9w



Video 40: *Gross motor development (Task)*
https://youtu.be/iqIf_UclPAc
Video 41: *Bean bag collection game (Task)*
https://youtu.be/olmto8_2Iw4

Video 42: *Package is coming! (Task)*
https://youtu.be/wLIjP4T_ptA
Video 43: *Developmental session in nursery school: Gross motor development (Kindergarten)*
https://youtu.be/QMK9TA1KVwo

Video 44: *Gym class: Lesson I (Lessons)*
https://youtu.be/dCo5Kb7c_u4
Video 45: *Gym class: Lesson II (Lessons)*
https://youtu.be/IFCPtPYSqoU

Video 46: *Hungarian literature and grammar lessons (Lessons)*
https://youtu.be/Qf5pxbiaB4k
Video 47: *Speech and language development – Complex lesson (Logopaedics)*
https://youtu.be/cF-nyc7-a1Y

Video 48: *Speech and Language Development – Short/Long differentiation (Logopaedics)*
https://youtu.be/17TJg3jzmZc
Video 49: *Speech and language development – Rhythm (Logopaedics)*
https://youtu.be/xgIuSnozS78

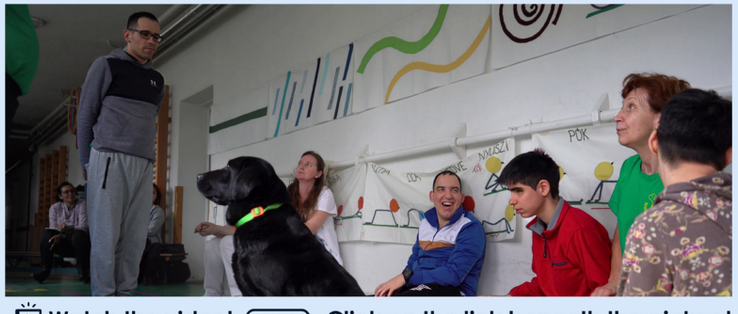
Video 50: *Speech and language development – Reading comprehension (Logopaedics)*
https://youtu.be/7f_XJfID9Y8
Video 51: *Speech and Language Development – Speech comprehension (Logopaedics)*
https://youtu.be/HWF2HDXAg2M

Video 52: *Speech and language development – Vocabulary development (Logopaedics)*
https://youtu.be/Lu9mOomiQs4
Video 53: *Speech and Language Development – Saying with movement (Logopaedics)*
https://youtu.be/6llGfJxsAzA

Video 54: *Mathematics II (Lessons)*
https://youtu.be/rNBhyzPbtdQ
Video 55: *Development activity for preschoolers – Sensory skills (Kindergarten)*
https://youtu.be/LzuuGz3ny1U

Watch the video! Click on the link beneath the picture!

Video 56: *Development activity for preschoolers – Memory (Kindergarten)*
https://youtu.be/1EkAj84exxk
Video 57: *Similar or different? (Task)*
https://youtu.be/7YZTCqd22bI



Watch the video! Click on the link beneath the picture!

Video 58: *'Switch on' the dog – Toy choice game (Task)*
https://youtu.be/FEBM7s6Z9e8
Video 59: *Happy or sad? (Task)*
https://youtu.be/6-aOO9K6Ezk

During knowledge transfer and skill or competency development, it is important to recognize that there can be significant differences in development between children in the same group or class, and these differences can be diverse in nature. Molnár and Csapó (2003) characterize the development of abilities with a logistic growth curve. (Figure 18). Each child's development can be described by a characteristic developmental trajectory. This effectively illustrates the range of differences among children. They can achieve different levels of development, and moreover, they may reach these levels earlier or later. Adding further complexity, these trajectories can intersect, meaning that students can outpace each other during development, and the order among them can change over time.

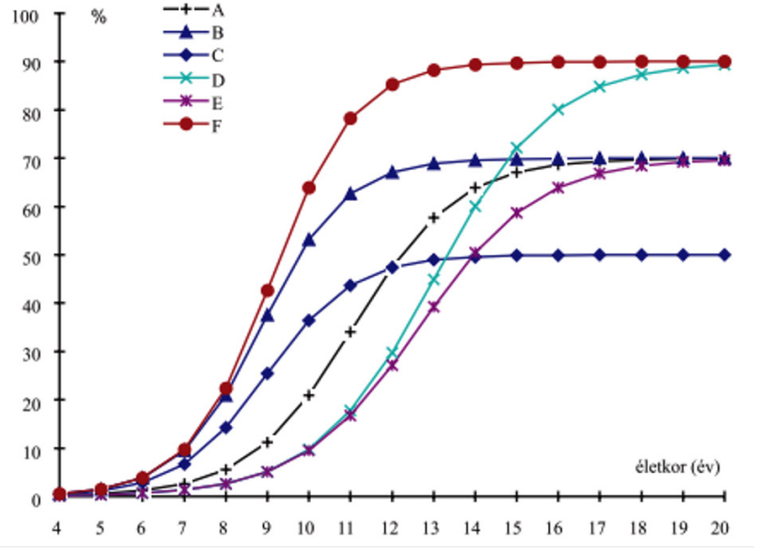


Figure 18: Logistic curves of skill development.

For effective work, it's essential to understand that this diagram—as we have seen—partially characterizes a classroom community. Furthermore, when broken down by specific areas of ability, it can depict the ability structure of an individual at a given moment, their current level, and the progression of these abilities over time. In educational practice, this also means that during, for example, a math class, the class may exhibit one pattern, but during music, art, or other classes, the arrangement can completely change.

In this situation, differentiation is an important pedagogical tool. "The essence of differentiation is: adapting to individual students' needs in order to contribute to students' knowledge and skills, and the creation of pedagogical conditions that enable self-regulated learning (Nádasdi 2010). This involves partly a pedagogical approach, the sensitivity of educators to differences among students, and partly its implementation, adaptation, where educators tailor the teaching and learning process to fit each child or group. (Báthory 1992). Adaptive learning, therefore, is the combined

application of differentiation (educator-directed development and/or student self-directed development) and uniformity realized by understanding the different needs in the pedagogical process. Adaptive learning is based on the cooperation of participants, assuming mutual adaptation to each other and the circumstances–without diminishing the educator's responsibility based on their expertise. The path to adaptive learning leads through differentiation." (Nádasdi 2010). An adaptive teacher is able to *adapt to the learning needs of students*, knows their needs and differentiates accordingly. With the help of these methods, the "school for everyone" can be realized at the institutional level, where all students receive the educational services they need for their studies or careers. (Rapos et al. 2011).

Differentiation can occur on multiple levels. Below, we highlight aspects from the rich literature on differentiation that may be relevant during animal-assisted activities. Differentiation can be implemented at the curriculum level (framework curricula, local curricula), at the social level or according to work forms (frontal, group, small group, pair, individual work, support system), based on Bloom's taxonomy (remembering, understanding, applying, analysing, evaluating, creating) with appropriately challenging tasks that optimally adapt to the student. It can be achieved through methodological differentiation (experiential learning, discovery learning, visual, auditory, and graphomotor support, individualized learning, learning and work pace, duration, number of tasks), at the tool level (auditory, visual, and audio-visual tools, textbooks, worksheets, visual aids, etc.), thematic differentiation for specific goals, or based on interests (e.g., learning a chosen topic, extracurricular activities, supplementation). (Englbrecht – Weigert 1996; Estefánné et al.2011; Meggyesné 2015).

Perhaps one of the greatest advantages of animal assisted activities is that during the sessions children focus on "playing" and working with the dog, so we can differentiate according to the above aspects almost unnoticed by the children. It is also made easier by the fact that the tasks can be very easily adapted to the needs of the learner. Games for experiential learning are easily adaptable, which makes them

an effective tool for differentiation and integration of children with special educational needs, and another positive effect of creative lesson planning is that it can reduce the possibility of burnout among teachers (Kerekes 2017). For example, questions and tasks built into an obstacle course with a dog can be adapted to the child, so that differentiation can be made according to curricular requirements, Bloom's taxonomy or methodological aspects. The 'context' in our case will be the dog, so there will be a shared experience, but everyone can work at their own level. Other possibilities for adapting in this case are the length and difficulty of the obstacle course, the number of tasks included, the quality and quantity of the assistance provided by the teacher or the facilitator.

Assessing the current state helps in planning the sessions, but it is important to recognise that it is very difficult to estimate the level of development that can be achieved from a single early state. Skill development can be influenced by the self-fulfilling prophecy or its positive form, the Pygmalion effect. "If a student is considered talented by their environment–primarily by their teachers–and this is communicated to them through direct communication and indirect metacommunication, the student will fulfil the prophecy formed by these expectations. The special attention and higher expectations provide a surplus of motivation that diverts the student upwards from their otherwise expected developmental path." (Molnár – Csapó 2003: 68). And negative feedback can have a negative impact on the child's development.

Since we are talking about abilities, their development is partly determined by biologically acquired, inherited factors and the environment. Such environmental factors include the school and, in our case, the therapy dog as well. We should build on their impact as much as possible. The therapy dog can be a very effective partner in developing skills because of its non-judgemental, absolutely positive attitude towards everyone. Even children with weaker abilities do not receive negative feedback. Based on this, a positive feedback loop can begin in their development.

In the context of education and skill development, we must not forget about motivation, which acts as the driving force behind progress. Motivation is the foundation and

energy source of our activities, helping us make conscious or unconscious decisions about starting or continuing a behaviour. (Józsa – Fazekas 2007).

József Nagy (2000) defines personality as having two basic components (systems): a system of motives and a system of abilities, thus defining personality as an organization of motives and abilities. The development of motives and abilities cannot be separated (Bickhard 2003); their development can and should be carried out simultaneously. Learning motivation makes the student an active participant in their learning process (Réthy 2003). Reflective self-awareness (Ridley 1991, cited in Mester 2010) is an important characteristic of the student, enabling them to become less dependent on immediate external circumstances.

In the context of learning, it is important to discuss the comfort zone model, which includes three zones: the comfort zone, the learning zone, and the panic zone In the comfort zone, we feel at ease, confident, and calm, acting out of routine. The learning zone presents challenges that are managable; here, anxiety mobilizes us, and learning occurs. In contrast, the panic zone involves overwhelming challenges, causing debilitating anxiety that prevents learning (Kispéter – Sövényházy 2008; Csajka 2022). Different task difficulties induce varying levels of anxiety and stress, which can narrow our thinking, hinder memory recall, and impede logical reasoning. However, mild stress can stimulate brain function. (Mester 2010).

In addition to the level and impact of stress, the individual is also influenced by their attitude to success or failure and the level of aspiration. The level of aspiration refers to an individual's personal goals and expectations for their performance (Levin 1935, cited in Mester 2010). After successful task performance, the level of aspiration usually increases, and in case of repeated failure, the individual lowers the level of aspiration to avoid failure.

The personality traits that provide resilience against stress collectively form our psychological immune system (Oláh 1996, cited in Mester 2010), which is made up of three subsystems. One subsystem's task is monitoring, which involves understanding and controlling the physical and social environment. The other subsystem facilitates and regulates the processes of refining higher level capacities for coping with increasing challenges. The self-regulating subsystem is the third element, ensuring deep engagement in tasks and sustained attention (Mester 2010).

Based on the above, we can agree with what research, literature, and practical experience support: that one of the most significant effects of therapy dogs is reducing stress and increasing motivation. They are accepting, they do not judge based on appearances or financial status, and they do not criticize mistakes, thus helping individuals overcome difficult situations and fostering a relaxed atmosphere. It seems that theraphy dogs are good teachers because they understand that learning is successful only in a sufficiently motivated state and under an ideal level of pressure.

Based on the above, planning and implementation require a highly conscious team effort. During this process, the following areas must be carefully considered:

- the placement of the lesson in the larger thematic unit,
- the material of the session,
- the didactic steps,
- objectives, tasks, requirements,
- characteristics of the group members, differentiation, possible ways of individual assistance,
- planning the structure of the session, the course of the session, the specific tasks,
- methods and tools,
- organisational and work forms,
- the type of target group (age, type of disability),
- the developmental area targeted by the task,
- the dog's abilities and activity level,
- the time planned for the tasks,
- tools, location.

Summarizing the planning process, it can be concluded that in activities assisted by dogs, while pedagogical

considerations are supplemented with specific aspects, the dog can be easily integrated into classical pedagogical processes.

3.3.5. The team

Activities assisted by dogs are implemented through teamwork, requiring close collaboration among participants throughout the planning, implementation and evaluation process. There are permanent members of the team, and others who help only with a specific target group. During the implementation of the sessions, certain team members actively participate in the specific sessions, they are the clients and the direct facilitators. Others contribute to the efficiency of the work from a more distant background, yet they are equally essential participants in the collective activities. These members are interpreted as indirect supporters.

At the heart of the team is of course the client or the group of clients. Sessions can be organized based on participants' ages, ranging from early childhood to elderly individuals. Each group is provided with tasks, activities, and developmental goals relevant to their condition and age. Another essential member of the team is of course the therapy dog itself. We have previously discussed the requirements placed on them. While primarily found in the toolkit of zoopedagogy, an informational board about the therapy dog can be prepared for clients here as well. (picture 67) This can be displayed in the group room to help getting acquainted, linked to a timetable or agenda to help with time orientation, reminding the clients when the therapy dog is coming, it can also be integrated into activities such as reading comprehension, information seeking, etc. The content of the information board can be adjusted as needed based on the abilities and ages of the target group.

Picture 67: Information board in a dental surgery

The team of professionals consists of the group leader and the handler of the therapy dog, who collaborate continuously from planning through implementation to feedback (see Section 3.3.1). The group leader is always a relevant professional considering the composition of the group. For example, in a kindergarten group, it could be a kindergarten teacher, in primary school it's a teacher, while in a group of children with special educational needs, it can be a special education teacher, psychologist, social worker, etc. Regarding the handler, the professional requirement is to possess a valid therapy certification with their therapy dog. Although the requirements for the therapy dog test are universal, it is worth matching the dog's temperament and activity level to the group.

In certain cases, the group leader and the handler can be the same person, but only if the handler's qualifications match the profile of the group. An advantage of this arrangement is that information is less likely to be lost, as the handler leading the group is thoroughly familiar with both the clients and the therapy dog. There is no need for the two professionals to adjust to each other's timelines during the pedagogical process, which can make the planning and evaluation phase smoother. However, it's important to recognize that in this scenario, tasks and responsibilities fall on one individual, without division. This can lead to a loss of diversity in ideas and suggestions during group work. Therefore, this organizational structure may also have its disadvantages. It is advisable to consider these factors carefully in each case. Single-person leadership of the group is recommended primarily for those who already have significant experience as both a group leader and a handler.

Their work can be supported and significantly enhance the effectiveness of sessions by direct helpers. Their role and tasks are always determined by the specific needs of the group. Effective, direct helpers of the sessions are teaching assistants, nursery nurses, parents, etc.

Indirect supporters are professionals who are not physically present throughout the pedagogical process but whose work is essential and contributes valuable information to the process. From the clients' perspective, these may include parents, doctors, psychologists, physiotherapists, etc. From the handler and therapy dog's perspective, they could be the

organization that trained them, the dog trainer, veterinarian, etc. From the group leader's perspective, they might include colleagues, members of the work community, institution management, etc.

Effective and successful work within the team relies on clearly defining and adhering to the competence boundaries of cooperative members. We can only conduct professional and safe work when team members meet the expectations placed upon them, are appropriately trained and prepared, understand their tasks and competencies, and do not overstep these boundaries.

Based on the above, the complexity already defined in relation to animal-assisted activities gains further significance when viewed from the perspective of the team, as it manifests in practical work performed by the working group. Within the team and the workflow, professionals cannot substitute for each other. The leadership role is determined by which stage we are in within the rehabilitation or educational process. Adhering to competence boundaries is essential because each professional can only excel in their own area, and despite goodwill, they cannot effectively perform tasks outside their expertise. This does not assist but rather hinders work in the long run, reducing efficiency. Moreover, crossing competence boundaries poses a significant risk of altering responsibilities. Consequently, it becomes difficult to identify potential issues, the points where intervention in the pedagogical process (see chapter 3.3.1) (Bálint 1991; Pető 2002; Köböl – Hevesi – Topál 2015).

3.3.5.1. Tasks and responsibilities during teamwork

After reviewing the team members who work together in the implementation of therapy dog assisted sessions, let's outline the competencies and tasks of the core team members collaborating in practice. It is important to emphasise that a cooperative team is necessary regardless of the type of work. Expectations of the handler and the therapy dog should not be influenced by the fact that the activity itself is a dog assisted activity, developmental activity, therapy or education. This also does not question the presence of the group leader professional; only the qualification required and the leader’s specific tasks can change.

3.3.5.1.1. Tasks of the team members

The basic tasks of a group leader in our case are:

1. The group leader is primarily responsible for the members of the target group.
2. They know the members of their group, their diagnoses, abilities, potential for development, level of knowledge, and consider these factors in their work.
3. They obtain necessary permissions from parents for participation in sessions and coordinate this with the handler.
4. For AAD and AAT, they conduct an assessment before starting sessions.
5. They prepare a curriculum, development plan, or rehabilitation plan based on the expectations of the profession. This can be for the entire group and/or individually for group members. They define short-term and long-term goals, methods, and work forms, adjusting them at the end of phases or as needed during the process.
6. They share relevant information regarding the developmental activity with the handler during session planning.
7. They collaborate with team members in the planning, implementation and evaluation processes, guiding and directing these activities in the interest of the target group.
8. They plan the pedagogical part of the sessions.
9. They discuss the objectives and tasks with the team members.
10. 1They have a basic understanding of the therapy dog, and its handler, their competencies, expected performance, and the legitimate expectations placed upon them. They may draw the handler's attention to these aspects if necessary, for the sake of effective and safe work.
11. During sessions, they primarily interact with the members of the target group and with the handler. However, if direct helpers are also involved in the session, coordinating them also falls within their responsibilities. (Köböl – Hevesi – Topál 2015).

The expectations of a therapy dog are as follows:

1. The dog participating in the sessions must comply with the current requirements for assistance dog training, examination, and applicability as detailed in the regulations for therapy dogs, as discussed extensively in the previous chapter (27/2009.[XII.13.]).
2. It must possess a valid therapy certification issued by the authorized organization responsible for this task, in this case, MATESZE. Additionally, it must continuously meet the currently prescribed expectations and health regulations for therapy dogs.
3. During the sessions, they interact and cooperate primarily with its handler and the members of the target group (Köböl – Hevesi – Topál 2015).
4. Its role may vary depending on the nature of the games and tasks applied (see section *3.3.3.3).*

The tasks of the handler are also clearly defined to ensure transparent competence boundaries. Their responsibilities are diverse, encompassing various aspects from session preparation to during and after sessions. The most up-to-date guidelines can be found on the MATESZE website. (www.matesze.hu):

1. They possess a valid therapy certification shared with the therapy dog participating in the session.
2. They are responsible for the dog's health, cleanliness, and overall physical and mental well-being during and outside of work hours.
3. They represent the interests of the therapy dog before, during, and after sessions, starting from planning tasks, executing them during sessions, and continuing to care for the dog during its resting periods, attending to its needs, even beyond the dog's working hours. During sessions, they direct the dog.
4. They continuously monitor and regulate the dog's motivation level and observe any signs of stress. Based on these observations, they make decisions and take action. Their responsibility is to maintain the therapy dog's motivation at an optimal level and eliminate stress situations.
5. They adhere to the relevant points of the agreement between the organization they represent and the employing institution.
6. It is their duty to keep the dog's equipment in order so that they are in suitable condition for uninterrupted work during sessions.
7. They clean up any potential mess left by the dog both within and outside the institution's premises.
8. They ensure accident prevention measures for both the members of the target group and the therapy dog.
9. They collaborate with the group leader and other team members during planning, implementation, and evaluation.
10. They have a basic understanding of the conditions and needs of the members of the target group, demonstrating patient, helpful, attentive, open, and accepting behavior towards them.
11. During sessions, they interact equally with the group leader, the dog, and the members of the target group. They provide assistance to the members of the target group based on the instructions of the group leader (Köböl – Hevesi – Topál 2015).

The common principles of rehabilitation for the professionals working in a team can be summarized as follows: The process should be characterized by gradualness, continuity, consistency, and partnership. (Pető 2002; Göllesz 1986)!

Tasks are jointly assigned to both the client and the professionals. All parties must have the following abilities to the expected extent: resilience, adaptability, ability to tolerate change, capacity for learning new things, and social integration skills.

The professionals leading the group must apply the following principles for effectiveness and success: the principle of realism, the principle of appropriate challenge, the principle of adaptation, the principle of individual assessment, the principle of patience, the principle of flexibility, and the principle of self-cultivation.

During developmental and rehabilitative processes, tasks extend to both the immediate and broader environments of clients. It is essential to embrace changes, identify supportive mechanisms, establish necessary protections to maintain achieved results and foster further development, create supportive tools, resources, and cultivate attitudes for adaptation, accept and preserve new opportunities, prevent regression or deterioration to the extent possible, enhance conditions, and establish legal, ethical, and behavioural frameworks. (Pető 2002; Göllesz 1986).

Experience-based activities, including animal-assisted activities, should also be complemented with the following aspects: (Liddle 2019).

The sessions should be characterized by consistency, which applies to the location, the participating professionals, the members of the group depending on the session format, as well as the structure of the sessions and the rules within the group. These rules can be jointly formulated, written down, and even signed by the team members present at the session. A particularly heart-warming moment during these occasions is when the therapy dog "signs" the agreement with its paw print. All of these elements provide safety, protection, and a predictable framework for the clients, allowing them to work more comfortably and effectively.

During the sessions provide tasks that are relevant to the group members. These tasks should be aligned with the children's abilities and goals, while always considering their current state, mood, emotions, fatigue levels, etc. If necessary, don't hesitate to modify the plan based on these considerations!

All forms of therapy dog-assisted activities are particularly suited for cultivating a culture of acceptance and respect. The dog can serve as a role model for children with its openness, acceptance, and non-judgmental nature. Achieving this goal is further aided by listening to and accepting each other's opinions and feelings. Promoting acceptance also involves keeping a child with behaviour problems in the group as long as they do not pose a danger to themselves, others, or the therapy dog.

Let's build upon the power of relationships during the session, which can stem from connections between group members, the relationship between adults and children, and in our case, the bond between the therapy dog and the clients!

Let's engage in joyful and rewarding activities, but let's be cautious about competitiveness! Try to plan the session in a way that everyone can find enjoyable activities! Let's allow space for children's decisions; if a child prefers not to participate in a task, let's respect that! Let's create emotional safety!

Professionals should cooperate in the implementation of the sessions! No team member can deliver a session on their own, as each team member has specialized knowledge.

3.3.6. Specialized educational practices

Within the framework of dog-assisted activities (AAA, AAD, AAT, AAE), it is worthwhile to specifically address those specialized activities that enhance the range of dog-assisted educational practices but do not fit into the classical frameworks of sessions or lessons. These activities cannot be "purely" categorized into a single category; instead, they typically blend various work forms and incorporate specialized methods and tools alongside the dog.

3.3.6.1. Camps

Therapy dogs are frequent guests at themed camps for children. The involvement of dogs can occur in various capacities, with diverse content and purposes.

There are camps specifically organized with the active presence of therapy dogs, where the focus is typically on development and not therapy. In these cases, the dogs spend almost all their time with the children's group. Among the shared activities, you can find activities (AAA), developmental sessions (AAD), and even education (AAE). In the case of camps, therapeutic activities can only be realistically implemented by strictly adhering to specific guidelines. Professionals do not necessarily aim to separate work forms; rather, the camp's program, daily schedule, theme, and goals determine the activities. For example, the first common

welcoming activity after the morning arrival, or the closing farewell activity before going home, can be classified as activities (AAA). Meanwhile, sessions during the day that aim to achieve specific developmental goals or impart knowledge fall under AAD or AAE.

In these camps, although the dog is an important participant and attraction, other activities also take place, such as crafts, cultural and awareness-raising activities, zoo visits, leisure games, etc. These activities support the implementation of comprehensive developmental activities. and provide opportunities for the therapy dogs to rest, incorporating animal welfare and ethical considerations into the planning. The proportion of "dog-themed" activities, and the timing of the therapy dog's presence, should always be adjusted to the needs of the target group and the workload of the available therapy dogs.

Another typical form of using therapy dogs in camps is when a therapy dog and its handler are brought in to provide 1-1 sessions as a supplementary, recreational or leisure activity in a camp with a specific theme (e.g. language, dance, but not "dog-themed"). In this case, these can be considered as AAA level activities.

Based on this, it is always necessary to determine the realistic goals, frameworks, the need for professionals, and the composition of the team on a case-by-case basis.

3.3.6.2. Lectures and awareness-raising sessions

In activities aimed at raising awareness, the goal is to draw the attention of an individual, a group, or even the entire affected population to an important (social) issue. The objective is to inform and educate about a topic or issue. When organizing these activities, it is advisable to conduct them in smaller groups to ensure that participants can engage more actively in the sessions. The special education teacher can actively support attitude formation through their expertise and professional commitment. (Meggyesné – Máténé 2015).

Assistance dogs, therapy dogs, and activities involving them are excellent tools for effective attitude formation. The positive effects observed during animal-assisted activities

also apply in this case. Their ice-breaking and motivating effects are evident here as well. Throughout these programs, professionals and/or individuals with disabilities alongside their assistance dogs authentically introduce the world of people with disabilities and assistance dogs. Specially trained assistance dogs can positively contextualize the challenges faced by their owners simply through their presence and demonstration of their work. As a result, participants feel more open to asking questions, engaging in conversations, and their empathy increases. Experiences gained here transfer to other life situations as well (Loványi – Piczkó 2013; Loványi 2020; NEO Hungarian Public Benefit Organisation for Assistance Dogs 2024). These activities fall within the realm of AAA and AAE sessions.

3.3.6.3. Complex developmental sessions

During the lessons and sessions with the therapy dog, the dog itself becomes an integral part of the session, fulfilling multiple roles. It can help the collaborative work, act as a "teaching assistant," a developmental tool, and a motivational resource. Therefore, the idea of involving them in complex activities is almost self-evident. Complex activities using several tools and methods, especially for younger children, should be given a framework. A characteristic feature of experiential education is that it is easy to embed them in a framework, easy to tailor them to the group, and thus the participating students can more easily settle into the play situation and experience the flow experience (Kádár – Somodi 2011). Dog-assisted activities have a framework for introducing the dog and then releasing it from the group. However, our pedagogical experience also confirms that it is more effective up to the early elementary school age (and even after) if the tasks are not just sequential, but have a 'story' in which they are embedded. We don't just recite a poem, we transform the area above the dog into leafy trees to keep it cool, we don't just play tag, but the dog becomes the releaser in the game. There are countless activities that can be based on a story or fairy tale. "People think in stories, not in facts, numbers, or equations, and the simpler

the story, the better. Every individual, group, and nation has its own stories and myths." (Harari 2024) (video 60.)

Watch the video! Click on the link beneath the picture!

Video 60: Complex developmental activity - RIT (Complex activity)
https://youtu.be/uNQfIG2NwCU

In archaic cultures, fairy tales had a huge significance and role. They were part of the body of knowledge that had to be passed down through the generations. The storytellers took care to pass on this knowledge, but only those tales that the audience accepted as true could live on (Boldizsár 2010). Fairy tales are stories where everything has to be worked for. The hero goes on his journey 'to make everything beautiful, good and functional around him that is ugly, bad or dysfunctional' (Boldizsár 2010: 15). With a task that is based on a story, it is natural that we have work to do. The special, expertise-requiring application of fairy tales is the creative-developmental fairy tale therapy developed by Ildikó Boldizsár. The aim here is to experience the "order" belonging to the "unified and homogeneous worldview" of folk tales. Therefore, alongside the tales, these sessions incorporate other elements of the worldview: rituals, nursery rhymes, folk songs, traditional games, proverbs, riddles, and idiomatic expressions. The

primary goal of creative-developmental fairy tale therapy is to experience the power of collective experience and communal existence, including the communities of bygone eras, due to the preserved worldview of fairy tales. [...]Creative-developmental fairy tale therapy sessions include storytelling and listening in a simple and natural manner, followed by the verbal or playful processing of the tales, depending on age and group composition. (Boldizsár 2019: 14-16). "The creative-developmental storytelling therapy sessions are structured around a predefined script, centred around a tale, and are of short duration." (Boldizsár 2019: 16)

Of course, sessions based on stories are not fairy tale therapy, but the method works well in dog-assisted activities, where we create a story around the task, or embed the tasks in a story.

Watch the video! Click on the link beneath the picture!

Video 61: Complex developmental activity based on a story (Complex activity)
https://youtu.be/vRoHiPuE9UE

This approach enhances children's motivation as they feel comfortable with this mode of thinking. In these cases, the dog is no longer just a "development tool", but part of our story, sometimes a reward for a job well done, sometimes an

opponent, sometimes a helper, just like the helping animals in fairy tales. (video 61.)

When considering a complex activity, we can include visual and creative activities in addition to the above elements (nursery rhymes, folk songs, etc.). We can create something connected to the stories, thus deepening the learning process further. Sándor Éva's methodological approach in art therapy can provide methodological assistance, structured around three progressive stages: "Free Painting under Protection" for children aged 7-10; "Painting on the Basis of a Tale" for those aged 10-12; and "Artistic Pedagogical Developmental Therapy" for 12-13 year olds. (Sándor – Horváth 1995). The method developed by the Igazgyöngy Foundation, known as triple-focused visual education, emphasizes complexity. Child-centred visual education is complemented by disadvantage compensation and social competence development. All three focuses are integrated into each lesson through embedded tasks. (Igazgyöngy Alapítvány 2024).

The toolkit for comprehensive developmental sessions can naturally be customized individually. The above suggestions were intended to provide ideas and open up a wide range of possibilities. In each case, the group leader decides what will best aid in achieving the objectives of the sessions.

Picture 68: Eszter Loványi: Kuku and her friends

3.3.6.4. Stories about dogs who help

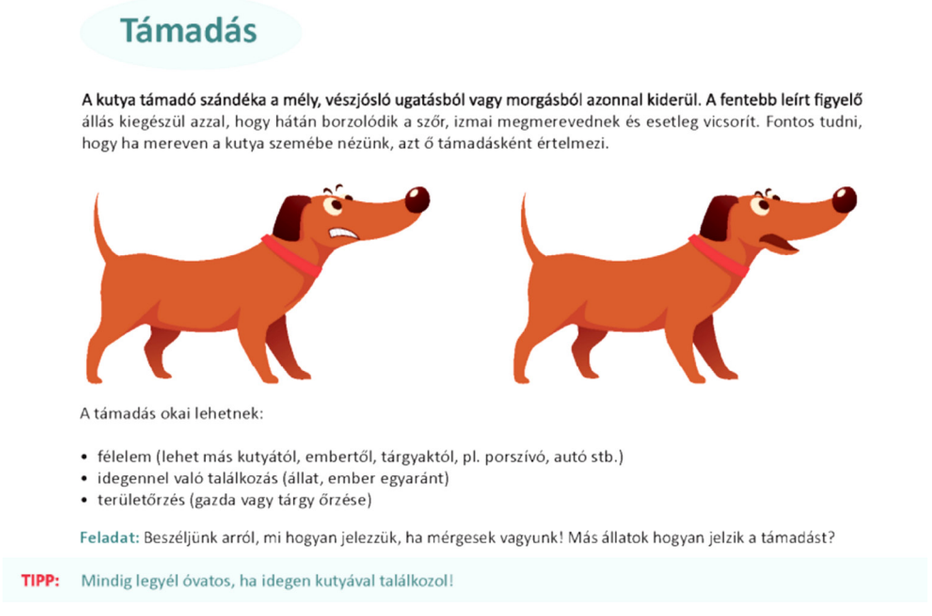
Both animals and fairy tales are close to children. Animals are common characters in folk tales and fairy tales.

In the classification of tales, animal tales constitute a distinct category. In these tales, "animals think, speak, and act on an equal footing with humans, without necessarily invoking a sense of wonder in the human characters of the story, the narrator, or the audience." (Boldizsár 2010:32). In folktales, animal tales serve a distinctly didactic and instructional purpose, often illustrating life wisdom and moral truths (Boldizsár, 2010). In magical tales, animals frequently serve as companions with supernatural abilities. In literary tales, animals are often depicted as loyal companions or domesticated creatures, involved in simple events rather than adventures. (Boldizsár 2010).

Picture 69: Bianka Gulyás: Tale tells.

In our hearts, of course, we have a special place for books about assistance dogs. (pictures 68-69) We can recommend these books for independent story reading, listening, or even for educational activities.

Although it is specifically a didactic publication, the "Together in Harmony" (picture 70) program, created by NÉBIH, aims to prevent dog attacks. Its main topics include dog



Picture 70: Instructional illustration showing the characteristics of dog attacks

communication, responsible pet ownership, and the prevention of dog attacks. The main character of the publication is, of course, a dog, who helps preschool children learn these important lessons.

3.3.6.5. Stories in a different way – Dog assisted reading therapy

Animal-assisted reading therapy is a new opportunity that targets a broad audience, focusing on improving reading and communication skills and fostering a love for reading. (Konti 2017, cited in Frisnyicz 2021). Its history began in the first half of the 1990s in Utah, USA, where the Reading Education Assistance Dogs (R.E.A.D.) programme was first launched. The programme can be implemented in primary schools, libraries, kindergartens and childcare facilities. As the program is popular, various non-profit organizations have been established around the world (Reading Education Assistance Dogs 2019, cited by Frisnyicz 2021). In Australia, Leah Sheldon and Janine Sigley established the Story Dogs Foundation in 2009 (Story Dogs 2021, cited by Frisnyicz 2021), and in the early 2010s, they founded Bark and Read and Reading to Dogs in England (Konti 2017, cited by Frisnyicz 2021).

We conducted therapy dog-assisted reading and comprehension development sessions (AAD) for the students of Bárczi Gusztáv EGYMI, Kindergarten, and Primary School in Szeged during the 2022/2023 academic year. We organized the sessions specifically for children who had a troubled relationship with reading, found it difficult to read, or experienced significant stress from reading aloud. Due to the children's low reading comprehension performance, the sessions were not based on reading long stories. Instead, they focused on short tasks where reading and comprehension were central. The activities involving the therapy dog partly provided the framework for the sessions and partly connected to the tasks' themes, serving as a reward for successfully completed tasks. Additionally, the dog's presence helped alleviate stress. We effectively integrated ICT tools (online tasks, Beebot) into the sessions, which were also highly motivating for the children. The children participated in the sessions with enthusiasm and worked efficiently. We noted as a positive outcome that they were able to overcome their fears related to reading.

3.3.6.6 "... it can be taught everywhere, from kindergarten to university"[44]

In reviewing the pedagogical application of animal-assisted activities, we covered multiple age groups from the youngest children to school-aged students. However, we also feel it is important to mention initiatives (without aiming for completeness) where assistance dogs appear as "teachers" in higher education as well.

At the Faculty of Child Education and Special Education at the University of Debrecen, students can study animal-assisted pedagogical development activities as part of the teacher certification program and the Animal-Assisted Activities Coordinator specialized training program. Additionally, the faculty regularly organizes Responsible Pet Ownership Week and various programs for Researchers' Night. Since 2023, it has operated as an Animal-Friendly University Faculty (picture 71). The professional background for assistance dogs is provided by the AURA Assistance Dog Foundation. (picture 72)

Picture 71: Animal-friendly University Faculty logo

Picture 72: AURA Foundation for Assistance Dogs logo

The sensitization programme for university students at the University of Debrecen's Faculty of Education for Children and Special Educational Needs was launched in 2021, coinciding with the introduction of an academic training course of the animal-assisted intervention. This initiative allows students to interact daily with Dagda, the university's campus service dog. Animal-assisted interventions for students first emerged in the United States of America, but are now increasingly utilized worldwide, supported by numerous examples

44 Tamás Cseh – Géza Bereményi: Attila József

Picture 73: Dagda, the dog serving to sensitize university students at the University of Debrecen

of their effectiveness (Binfet, 2017; Barker – Barker – Schubert 2017; Crossman – Kazdin 2015). These interventions aim to enhance students' mental health (Bell, 2013)

At this faculty based in Hajdúböszörmény, animal-assisted activities include not only the practical tasks that Dagda assists with but also serve a socialising function. The presence of this dog helps reshape prospective educators' perceptions of animal care. Training in new perspectives on the animal-human relationship, coupled with the presence of a sensitizing dog with university education, will enable students to grasp the benefits and opportunities of Animal-Assisted Interventions. Equipped with this experience and knowledge in their field, they can consciously involve incorporate animals into their pedagogical practices (picture 73).

At the campuses of the Hungarian University of Agriculture and Life Sciences in Budapest and Kaposvár, a preparatory training program for pedagogical professional examination in the field of animal-assisted pedagogical development activities is also offered.

At the ELTE Bárczi Gusztáv Faculty of Special Education, a course titled "Assistance Dogs in Special Education" is organized under the principle of "Nothing About Us Without Us!" and an inclusive approach. The implementation of this course involves the NEO Hungarian Assistance Dog Association.

Since 2015, students at the Department of Special Education at the JGYPK API of the University of Szeged have the opportunity to learn about the methods of using therapy dogs through the course titled "Animal-Assisted Activities." Additionally, the department regularly organizes events during the Researchers' Night aimed at raising awarness. Alongside the AURA Assistant Dog Foundation, the city's and the region's assistance dog foundations participate in these initiatives.

I am organizing an awareness raising lecture at Budapest University of Economic Sciences titled "How Can Therapy Dogs Help?" Universities consider education, scientific research, and/or raising awareness and informing as part of their mission. We hope that in the future, the above list will significantly expand to promote more conscious utilization of therapy dogs.

In addition to the opportunities mentioned above, numerous initiatives continually emerge in response to users' needs. Using therapy dogs, activities such as museum education, individual or group personality development sessions, team-building exercises, and playgroups are held. In addition to pedagogical applications, there is an even more varied offer, for example in organisational development and coaching.

3.4. Dog-assisted activities as a non-zero-sum game

In this chapter, starting from the new challenges that pedagogy faces, we systematically reviewed the characteristics of reform pedagogy, alternative education, experiential education, and zoo-pedagogy, aiming to identify points that also manifest in animal-assisted activities. Summarizing these characteristics, we believe that the emergence of animal-assisted activities is partly grounded in these new pedagogical trends, furthermore, its connection to experiential education and zoo-pedagogy can convincingly be demonstrated.

Common points of reform and alternative education, experiential education, zoopedagogy and animal-assisted activities. (Source: own editing)	
independent action	independent experience gaining
an active, proactive school	addresses the whole personality of the child
usable, practical knowledge	experimentation
free self-expression	acceptance of diversity and its naturalness
the dynamics of the learning process are adapted to the child's development	everyone can learn and develop independently or in groups at their own pace
realistic tasks based on the child's interests	learning is as autonomous as possible, adapted to the individual development of the learner
project-based learning	integration of children with disabilities
play	work
equality	equal opportunities
liberal education	collaborative conflict resolution
free, alternative, active, cooperative	individual treatment
special attention	multifacated skill development
engaging activities	continuity
involvement of participants in complex biological, psychological, and social aspects.	learning in adventurous and/or experiential situations
interaction	learning based on practical experience
"head, heart and hands"	specific tasks
not passive reception	planning, implementation
Application	the body and the mind, the self and the other
social relationships	emotions, emotional involvement
the external and internal world	accumulation of experiences
complexity of planning, implementation, reflection, interpretation, and drawing conclusions.	various methods, tools (e.g., storytelling, visual arts, music)
complex, integrated, interdependent application	motivation
education about, in, by and for the environment	problem-solving, value-creating
complexity	local and global
current and forward-looking	activity focused
Comprehensiveness	comprehensive, convertible knowledge
rethinking the learning process	innovative educational programme
recreational opportunities	provides an emotional basis
developing independent learning strategies	act responsibly

communication	conservation and animal welfare campaigns
animal therapy and petting zoos	observation of the animal
animal welfare, ethical behaviour towards animals	animal welfare and health considerations
	innovatív oktatási program
the individuals are sorted	suitable location, transport and housing of the animal
accident prevention	taking into account allergies or phobias
handwashing	appropriate visitor behaviour
„See it, sense it, save it!”	

Examining the network of animal-assisted activities, it can be said that these – in our case, activities assisted by dogs – can be integrated into experiential education, for example, alongside outdoor activities and forest bathing. (Figure 19).

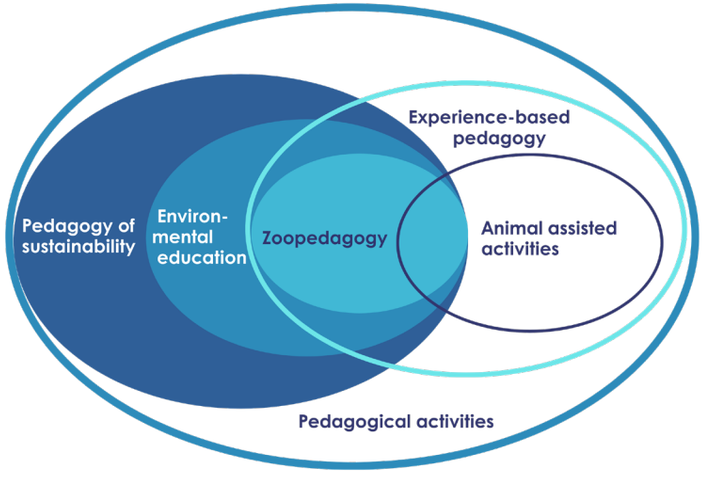


Figure 19: Linkages between animal-assisted activities.

The link between dog-assisted activities and the objectives of sustainability, including environmental education, is strong, but they are not fully compatible. In our view, zoo-pedagogy is best placed at the intersection of the two fields, as it is part of environmental education, but also belongs to animal-assisted activities as a pedagogical activity with animals and nature.

From the perspective of our educational planning and practice, this means that each type of activity assisted by dogs (AAA, AAD, AAT, AAE) incorporates the benefits of experiential education and can be effectively combined with other areas such as storytelling, drama games, artistic activities, etc., to enhance effectiveness. With zoo-pedagogy, we can expand the range of therapeutic animals to include species from the wild, and even animals traditionally perceived as "not liked" can support our goals.

At the same time, the relationship and impact are mutual and bidirectional. Animal-assisted activities and zoo-pedagogy can effectively contribute to achieving the goals of sustainability education and environmental education, considering specific themes. They can facilitate experiential transmission of these goals to the target audience regardless of age.

Throughout the chapter, perhaps one of our most frequently used expressions was "complexity." We discussed the complexity interpreted from various aspects of pedagogy, experiential education, the complexity of teamwork in the application of therapy dogs, the complexity inherently connected to pedagogical processes, and the multifaceted nature and complexity of their effects. Importantly, this complexity does not diminish the value of individual elements. Based on these discussions, we confidently say that animal-assisted activity is a non-zero-sum game, meaning the parties involved can gain not only from each other but also from some external source (Forgó et al., 2005). The sum of the parts working together is always greater than the sum of the parts individually (Kagan, 2001).

Dear Reader,

Thank you for reading this book.
As you may have noticed, this volume differs from previous works on animal assistance in many respects. Therefore, we are particularly interested in what our readers think about this volume.
By following the link below and answering a few questions, you can share your ideas and views about the volume with the authors.

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Sincerely,
the Authors

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American Pet Products Association (APPA) 2021-2022 Industry Trends and Stats
https://www.americanpetproducts.org/press_industrytrends.asp
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Assistance Dogs International (ADI) The largest umbrella organisation for the training of special assistance dogs, bringing together organisations from all continents:
https://assistancedogsinternational.org/main/assistance-dogs-international-europe-regional-chapter-adeu
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https://assistancedogsinternational.org/main/assistance-dogs-international-europe-regional-chapter-adeu
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Wonder Deer School Community Programme Budapest Zoo and Botanical Garden website
https://www.csodaszarvasprogram.hu/jatekok
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Erdőfürdő Hungary website
https://www.erdofurdo.org/
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European Society for Animal Assisted Therapy (ESAAT) Az ADI the website of its umbrella organisation in the German-speaking world.
https://www.esaat.org/en/
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https://igazgyongyalapitvany.hu/muveszeti-iskola/
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kéTTé Hungarian Experiential Learning Foundation website
http://tapasztalati-tanulas-kepzes.hu/
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www.komplexalapprogram.hu
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Number of dogs in the European Union in 2023, by country
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Dr. Antal Lovas Kiss, anthrozoologist, cultural anthropologist, currently serves as Associate Professor at the Department of Social Sciences, Faculty of Education for Children and Special Educational Needs of the University of Debrecen. His research focuses on the cultural anthropological aspects of the dog-human relationship and the socio-cultural aspects of dog keeping in consumer societies. He is credited with establishing the field of anthrozoology in Hungary. He is the director of the Anthrozoology Research Group of the University of Debrecen and the Chair of the Animal Assisted Pedagogical Development Activities and Animal Assisted Activity Coordinator programs at the University's Hajdúböszörmény campus.

Dr. József Topál is a behaviourist, ethologist, a Doctor of the Hungarian Academy of Sciences. He has been researching the similarities between the social behaviours and cognitive mechanisms of humans and dogs for more than 25 years. He is currently conducting his research at the HUN-REN TTK Research Centre for Natural Sciences. He is the author of nearly 150 publications in international scientific journals, and his works have also appeared in several edited volumes published both in Hungary and abroad. Together with his colleagues, he introduced assistance dogs in Hungary, providing essential help to people with mobility impairments, hearing impairments, and epilepsy. He currently serves as the President of the Hungarian Association of Assistance Dog Training and Employing Organizations. He teaches at several Hungarian universities, and regularly gives scientific and public lectures.

Erika Köböl, master teacher, has been working in the field of special education since 1999. She teaches students with learning disabilities at the Bárczi Gusztáv Unified Methodological Institute for Special Education in Szeged, where she has also been supervising student internships for several years. She has been a staff member and master teacher at the Department of Special Education Teacher Training, Institute of Applied Pedagogy, Juhász Gyula Faculty of Education of the University of Szeged for more than 10 years. Since 2008, she has been holding animal assisted activities with her therapy dogs for children and adults with learning and intellectual disabilities, and she also participates in the training of handlers, assistance dogs, and teachers who wish to use the method as a volunteer of the Aura Assistance Dog Foundation. She also teaches in the related programs of the Faculty of Education for Children and Special Educational Needs of the University of Debrecen and the University of Szeged.

Essentially, we have known for seventy years that animal assistance "works", we just do not know how. We cannot promise that the book will answer this question, but perhaps it will bring the reader closer to understanding the background and practice of animal assistance. In the past thirty or so years, since animal assistance has been present in Hungary, several articles were written on this topic. This volume differs from previous ones in that it tries to examine the topic from an anthrozoological perspective, i.e. it provides an interdisciplinary approach of several academic fields. Readers are provided insights into the special relationship between dogs and humans from a cultural anthropological, ethological, and pedagogical perspective. The volume focuses not only on dog-assisted activities, but offers a holistic view of the roles of dogs in our societies, types of canine behaviour that strengthen the relationship between humans and dogs, and the potential uses of dogs in pedagogical activities. In addition to the interdisciplinary approach, the volume also contains practical presentations of dog-assisted pedagogical activities through more than sixty videos.