Research

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Parents' Perceptions of Everyday Animal Interaction and Animal-Assisted Therapy in Individuals with Autism Spectrum Disorder

Otizm Spektrum Bozukluğu Olan Bireylerde Günlük Yaşamda Hayvanlarla Etkileşim ve Hayvan Destekli Terapi Deneyimlerine Yönelik Ebeveyn Algıları

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ABSTRACT

Objective: This study aimed to qualitatively explore parents' perceptions of everyday animal interactions and Animal-Assisted Therapy (AAT) among individuals with autism spectrum disorder (ASD)..

Method: This qualitative descriptive study was based on in-depth semi-structured interviews with 20 parents of individuals with ASD. The sample comprised parents of individuals with everyday animal interaction (n=13), parents of individuals who had received or were currently receiving AAT (n=5), and parents of individuals with no previous animal interaction (n=2). Interview transcripts were analyzed using reflexive thematic analysis with the support of ATLAS.ti 24.0 software.

Results: Three main themes emerged: Everyday Animal Interaction, Perceived Impact of Everyday Animal Interaction, and Experiences with AAT. Parents described a wide range of experiences related to everyday animal interaction, including differences in animal preferences, emotional responses, and opportunities for communication, caregiving, and emotional bonding. Parents whose children had participated in AAT reported improvements in social engagement, communication, sensory experiences, and environmental awareness.

Conclusion: Parents regarded both everyday animal interaction and AAT as important aspects of the lives of individuals with ASD. However, these findings reflect parental perceptions and should not be interpreted as evidence of the effectiveness of either everyday animal interaction or AAT.

Keywords: Autism spectrum disorder, animal-assisted therapy, animal interaction, qualitative study

ÖZ

Amaç: Bu çalışmanın amacı, otizm spektrum bozukluğu (OSB) olan bireylerde günlük yaşamda hayvanlarla etkileşim ve hayvan destekli terapiye (HDT) ilişkin ebeveyn algılarını nitel olarak incelemektir.

Yöntem: Bu nitel tanımlayıcı çalışma, OSB'li bireylerin 20 ebeveyni ile gerçekleştirilen derinlemesine yarı yapılandırılmış görüşmelere dayanmaktadır. Örneklem; günlük yaşamda hayvanlarla etkileşimi olan bireylerin ebeveynlerinden (n=13), daha önce HDT almış veya almakta olan bireylerin ebeveynlerinden (n=5) ve daha önce hayvanlarla herhangi bir etkileşimi bulunmayan bireylerin ebeveynlerinden (n=2) oluşmuştur. Görüşme kayıtları, ATLAS.ti 24.0 yazılımı kullanılarak refleksif tematik analiz yöntemiyle analiz edilmiştir.

Bulgular: Üç ana tema belirlenmiştir: Günlük Yaşamda Hayvanlarla Etkileşim, Günlük Yaşamda Hayvanlarla Etkileşimin Algılanan Etkileri ve HDT Deneyimleri. Ebeveynler, günlük yaşamda hayvanlarla etkileşime ilişkin hayvan tercihlerindeki farklılıklar, duygusal tepkiler ile iletişim, bakım verme ve duygusal bağ kurma fırsatlarını içeren çeşitli deneyimler tanımlamıştır. Çocukları HDT almış olan ebeveynler, sosyal etkileşim, iletişim, duyusal deneyimler ve çevresel farkındalık alanlarında olumlu değişiklikler gözlemlediklerini ifade etmiştir.

Sonuç: Ebeveynler, hem günlük yaşamda hayvanlarla etkileşimi hem de HDT'yi OSB'li bireylerin yaşamında önemli deneyimler olarak değerlendirmiştir. Bununla birlikte, bu bulgular ebeveyn algılarını yansıtmakta olup hayvanlarla etkileşim veya HDT'nin etkinliğine ilişkin doğrudan kanıt olarak yorumlanmamalıdır.

Anahtar sözcükler: Otizm spektrum bozukluğu, hayvan destekli terapi, hayvanlarla etkileşim, nitel araştırma

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Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental condition that typically becomes apparent during early childhood and is characterized by persistent difficulties in social interaction, communication, and restricted or repetitive patterns of behavior (APA 2022). These characteristics may interfere with the acquisition of daily living skills, adaptive functioning, and participation in social environments (Yu et al. 2024; Lancioni et al. 2024). Early diagnosis and intervention play a critical role in improving the quality of life for individuals with ASD (Okoye et al. 2023). Accordingly, behavioral interventions, special education programs, and complementary therapeutic approaches are widely used to promote social, communication, and motor development in this population (Masi et al. 2017).

One such approach is Animal-Assisted Therapy (AAT), a goal-directed intervention in which animals are intentionally incorporated into the therapeutic process to facilitate the achievement of specific therapeutic goals (Fine 2010, Rehn et al. 2023). Although the therapeutic use of animals dates back to the eighteenth century, research on the effectiveness of AAT has expanded considerably over the past two decades (Fine et al. 2019). AAT has been applied in the management of various psychiatric conditions, including depression, anxiety, schizophrenia, post-traumatic stress disorder, and attention-deficit/hyperactivity disorder (Barker and Dawson 1998, Hawkins et al. 2019, Arsovski 2024). More recently, interest in AAT has increased in the field of ASD. A systematic review of six randomized controlled trials suggested that AAT, when used as an adjunctive intervention, may improve communication, social skills, and adaptive behaviors while reducing irritability and hyperactivity (Cedeno-Bruzual et al. 2023).

Everyday interaction with animals may also contribute to the physical, emotional, and social well-being of individuals with ASD (Çetin and Çuhadar 2021). Animals are capable of responding to emotional cues such as excitement, happiness, and sadness, whereas individuals with ASD may experience difficulties recognizing and interpreting emotions in others. Consequently, regular contact with animals may provide opportunities for emotional expression and facilitate the development of emotional understanding (Çetin and Çuhadar 2021). In addition, animals may serve as social facilitators, helping individuals with ASD engage more effectively with their surroundings. For example, dog-assisted interventions have been associated with improvements in social interaction, whereas hippotherapy has been reported to enhance motor coordination and balance (Grigore and Rusu 2014, Srinivasan et al. 2018).

Pet ownership, everyday interactions with animals, and participation in AAT have all been associated with beneficial outcomes for individuals with ASD (Çetin and Çuhadar 2021). Growing attention has therefore been directed toward the potential role of animal-assisted interventions in the education and daily lives of children with ASD. Although previous studies have reported positive effects on social-emotional functioning, physical development, quality of life, behavioral outcomes, and adaptive functioning, the available evidence remains heterogeneous, and further high-quality research is required before definitive conclusions can be drawn (Beavers et al. 2023, Chan et al. 2026).

The present study aimed to explore parents' perceptions of both everyday animal interaction (e.g., pet ownership and contact with animals in natural settings) and AAT among individuals with ASD, with particular attention to the perceived social, emotional, and behavioral influences of these experiences. Despite the growing body of literature on AAT in ASD, qualitative studies simultaneously examining parents' perspectives on both naturally occurring animal interaction and professionally delivered AAT remain scarce. By distinguishing between these two forms of animal exposure, this study provides a broader understanding of families' experiences and perceptions. Rather than evaluating treatment effectiveness, the study sought to explore how parents described their children's everyday interactions with animals, how they perceived the influence of these interactions on their children's social, emotional, and behavioral experiences, and how they described changes following participation in AAT.

Method

This study is qualitative descriptive research using reflexive thematic analysis. Ethical approval was obtained from Clinical Research Ethics Committee of Marmara University, Faculty of Medicine (approval

number: 03.11.2023/09.2023.1443), and informed consent was obtained from all participants. The study adhered to the ethical principles of the Helsinki Declaration.

Sample

The study population consisted of parents of individuals diagnosed with ASD who were living in İstanbul, Türkiye. Participants were initially recruited through an autism-focused foundation in İstanbul and subsequently through purposive and snowball sampling, both non-probability sampling methods. The foundation facilitated the initial contact with eligible eight participants, and the remaining participants were recruited through referrals from these initial participants. Participation was voluntary. Recruitment continued until data saturation was achieved. Parents were eligible for inclusion if their child had a confirmed diagnosis of ASD, they were willing to participate in an in-depth interview, and they were able to communicate in Turkish. To capture a broad range of experiences, the sample intentionally included parents of individuals who had everyday interactions with animals, parents of individuals who had previously received or were currently receiving AAT, and parents of individuals who had no previous experience of animal interaction. No additional exclusion criteria were applied because the study aimed to explore diverse parental experiences related to animal interaction. No participants were excluded after recruitment, as all met the eligibility criteria and contributed experiences relevant to the research questions.

The final sample comprised 20 parents: 13 whose children had everyday interactions with animals, 5 whose children had previously received or were currently receiving AAT, and 2 whose children had no previous experience of animal interaction. These groups were intentionally included to reflect different forms of animal exposure and a broad range of parental perspectives. The inclusion of two parents whose children had no previous animal interaction provided insight into families' awareness, perceptions, and experiences in the absence of animal exposure and allowed comparisons across different experiential contexts. During data analysis, everyday animal interaction, AAT, and the absence of animal interaction were treated as distinct experiential contexts rather than as a single category of animal exposure.

No prior relationship existed between the interviewers and the participants before recruitment. Before the interviews, participants were informed about the purpose of the study and the researchers' professional backgrounds.

Data collection and analysis were conducted concurrently. Throughout the coding process, the research team continuously evaluated whether successive interviews generated new codes or themes. After the 18th interview, no new codes that substantially expanded the existing thematic framework were identified, and thematic saturation was considered to have been achieved through consensus among the researchers. To confirm the stability and consistency of the thematic structure, two additional interviews were subsequently conducted, resulting in a total sample of 20 participants.

Interviews

In-depth face-to-face interviews were conducted between February 15 and March 15, 2024, using a semi-structured interview guide. All interviews were conducted by the first author, a physician and public health researcher experienced in qualitative research, together with a co-researcher who had previous experience in qualitative interviewing. Both researchers followed the same semi-structured interview guide throughout the study. Each interview lasted approximately 20–30 minutes.

The first eight interviews were conducted in a private room at the autism-focused foundation. The remaining interviews were conducted in a private room in the participants' homes. To minimize interruptions and facilitate an open discussion, interviews were scheduled in advance at a time when the individual with ASD was either at school or cared for by another family member or caregiver. This arrangement provided a quiet and comfortable environment for the interviews.

Research Team and Reflexivity

All interviews were conducted by the first author, a physician and public health researcher experienced in qualitative interviewing with the support of a co-researcher. No prior relationship existed between the interviewers and participants before recruitment. Participants were informed about the purpose of the study and the researcher's role before the interviews. Throughout data analysis, coding decisions and theme development were discussed among the research team to encourage reflexivity and minimize the influence of individual assumptions. Disagreements were resolved through discussion until consensus was achieved. Participant transcript checking was not performed.

Data Collection

Semi-structured interview questions were developed based on previous literature and expert opinion. The interview guide was designed to progress from general to specific topics while remaining flexible enough to follow the natural flow of the conversation. The same interview guide was used throughout the study; however, additional probing questions were asked whenever clarification or further elaboration was required.

With participants' consent, interviews were audio-recorded and supplemented with reflective field notes. When audio recording was not permitted, detailed written notes were taken instead. Interviews were transcribed on the same day they were conducted. All interview recordings, transcripts, and field notes were anonymized immediately after data collection by assigning unique participant identification codes. Electronic files were stored in a password-protected computer accessible only to the research team. Personal identifiers were removed from the transcripts before analysis to ensure confidentiality and data security. Participant checking was not performed, and interview transcripts were not returned to participants for comments or correction.

Data Analysis

Transcripts were analyzed using thematic content analysis with the aid of Atlas.ti 24.0 (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany). After an initial transcript was coded by five researchers, a shared coding framework was developed. Researchers then independently applied this framework. Final codes and themes were determined through consensus and expert consultation. A confirmation meeting was held, and theme saturation was confirmed before finalizing the thematic structure. For data analysis, Braun and Clarke's six-phase thematic analysis method was used: (i) dataset familiarization, (ii) data coding, (iii) initial theme generation, (iv) theme development and review, (v) theme refining, (vi) writing up (Braun and Clarke 2019).

In the study, triangulation was ensured through the use of expert opinion, analysis of a single transcript by multiple researchers, and purposive sampling methods. Participants' identities and responses were anonymized in the presentation of findings. During coding and theme development, experiences related to everyday animal interaction and AAT were analyzed separately to preserve the conceptual differences between naturally occurring animal contact and therapeutic interventions. Themes were developed inductively from the interview data through iterative discussions among the research team. The study followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Tong et al. 2007).

Results

A total of 20 participants were included in the study. All children had previously received or were currently receiving special education. Additional demographic characteristics of the participants and their children are presented in Table 1.

Content analysis generated a total of 67 codes, which were organized into three main themes: Everyday Animal Interaction, Perceived Impact of Everyday Animal Interaction, and Experiences with AAT (Table 2). The findings distinguished parents' experiences of everyday animal interaction from those related to AAT.

Everyday animal interaction encompassed pet ownership and contact with animals in natural environments such as villages, farms, or public spaces. In contrast, AAT referred to professionally supervised therapeutic interventions involving animals and delivered to achieve specific therapeutic goals, as described by the participants.

Table 1. Participant characteristics

Participant	Parent	Sex of Individual with ASD	Age of Individual with ASD (years)	Age at ASD Diagnosis (years)	Type of Animal Exposure	
					Everyday Animal Interaction	AAT
P1	Mother	Male	5.5	3	Yes	No
P2	Mother	Female	10	3	Yes	No
P3	Father	Male	3.5	3	No	No
P4	Mother	Male	10	2.5	Yes	No
P5	Father	Male	5	2.5	Yes	No
P6	Mother	Male	9	5	Yes	No
P7	Mother	Male	13	2	Yes	No
P8	Father	Male	13	5	Yes	No
P9	Mother	Male	16	3	Yes	No
P10	Mother	Male	9	2.5	Yes	No
P11	Mother	Male	12	1.5	Yes	No
P12	Mother	Male	8	2	Yes	No
P13	Mother	Female	21	4	Yes	Yes
P14	Mother	Female	22	4	Yes	No
P15	Mother	Female	18	4	Yes	Yes
P16	Mother	Male	26	1.5	No	No
P17	Father	Male	10	1.5	Yes	No
P18	Mother	Male	12	3.5	Yes	Yes
P19	Mother	Male	20	3	Yes	Yes
P20	Mother	Female	16	3	Yes	Yes

AAT: Animal-Assisted Therapy, P: Participant

Note: Everyday animal interaction refers to non-therapeutic contact with animals in daily life, such as pet ownership, village/farm visits, or contact with animals in natural settings. AAT refers to Animal-Assisted Therapy as reported by parents; detailed characteristics of the intervention were not systematically collected.

Table 2. Themes and sub-themes

Themes	Sub-Themes
1. Everyday Animal Interaction	1.1. Interest and Preferences Toward Animals
	1.2. Forms of Everyday Animal Contact
	1.3. Emotional responses During Contact
2. Perceived Impact of Everyday Animal Interaction	2.1. Perceived Developmental and Behavioral Contributions
	2.2. Challenges and Safety Concerns
3. Experiences with AAT	3.1. Access to and Awareness of AAT

AAT: Animal-Assisted Therapy

Participant quotations are presented with identifying information in parentheses, including the participant number, parental role, and the child's gender.

Everyday Animal Interaction

Interest and Preferences Toward Animals

Parents reported that individuals with ASD demonstrated varying levels of interest in animals. Most participants indicated that their children were particularly interested in birds, while others described strong preferences for cats and dogs. Some parents also noted that their children were curious about smaller animals and insects, including ants, ladybugs, and fish. In contrast, a few parents stated that their children were reluctant to approach animals or avoided physical contact with them, particularly unfamiliar animals. These accounts highlighted considerable individual differences in both the type of animals their children preferred and the ways they interacted with them.

"He likes birds; he throws bread to seagulls outside. But he loves dogs more; he has a closer bond with the dog than with the bird we have at home." (Participant 8, Father, Male)

"He places sticks or sugar on ants. Then he does the same inside the house... He loves ladybugs and enjoys talking to them. He says, 'don't be afraid' and just talks and talks. He even mimics a dog's bark." (Participant 4, Mother, Male)

1.2. Forms of Everyday Animal Contact

Parents described a wide range of opportunities through which individuals with ASD interacted with animals. These interactions occurred in various contexts, including pet ownership, encounters with stray animals, and visits to natural environments such as villages or farms. While some parents reported that their children actively participated in caring for household pets, others indicated that contact with animals occurred primarily during visits to rural settings or through spontaneous encounters with animals in public spaces.

Several parents observed that natural environments encouraged their children to approach and explore animals they would typically avoid in urban settings. Others emphasized that their children consistently sought interaction with familiar animals, particularly cats, regardless of the setting.

"We went to the village this year. Normally, my daughter is afraid of flies, but there she played with worms, tried to touch hedgehogs and cows. A child who fears flies ended up playing with animals there." (Participant 2, Mother, Female)

"My son has a special bond with cats. No matter which cat he sees—on the street or at home—he wants to approach and touch it." (Participant 1, Mother, Male)

1.3. Emotional Responses during Contact

Parents described a broad spectrum of emotional responses displayed by individuals with ASD during interactions with animals. While some reported that their children were fearful of certain animals, particularly unfamiliar or larger ones, others described their children as approaching animals with curiosity, affection, or little hesitation. These accounts illustrated that emotional responses varied considerably across individuals and often depended on both the type of animal and the context of the interaction.

"He's very afraid of dogs. Almost climbs on top of me in fear. But he's not afraid of cats, for example." (Participant 9, Mother, Male)

In contrast, some parents reported that their children approached animals confidently and were eager to establish physical contact.

"Children with ASD are not afraid of animals. He wants to hug them. They want to respond—they're reactive kids." (Participant 8, Father, Male)

Parents also reflected on how their own attitudes and beliefs about animals appeared to shape their children's opportunities for interaction and their emotional responses. One mother explained that her son's limited interest in animals had been influenced by the messages she repeatedly conveyed at home.

"Whenever she saw a dog, I would always move her away. In fact, she had never had any negative experience with one, but I kept telling her, 'It will bite you; be careful, it's a dog.' She generally thinks animals are dirty because that was the message we gave her. More accurately, it was the message I gave her." (Participant 16, Mother, Male)

Overall, parents' narratives reflected a wide range of emotional responses to everyday animal interaction, extending from fear and avoidance to curiosity, affection, and emotional attachment, rather than a single, consistent pattern.

Perceived Impact of Everyday Animal Interaction

Perceived Developmental and Behavioral Contributions

Parents described a range of perceived developmental and behavioral changes that they associated with their children's everyday interactions with animals. They reported that these interactions provided opportunities for communication, emotional expression, and participation in simple caregiving activities. Several parents noted that their children willingly assumed responsibilities such as feeding, watering, or caring for household animals. Others believed that interacting with animals encouraged more frequent communication, greater expression of affection through physical contact, and development of stronger emotional bonds with animals.

"When we go shopping, we bring seeds to birds. He throws the seeds and tries to touch the pigeons, even talks to them. He's not afraid of their sudden movements." (Participant 1, Mother, Male)

"We have two cats and a bird. We used to have a dog too. He takes care of them—feeds and waters them. He squeezes them, hugs them—he really loves them." (Participant 6, Mother, Male)

"He has a bird—a budgie. They're like soulmates. He sees it as his own child and says, 'I'm his big brother, he's my son.' He talks to it with such tenderness. He's truly bonded with it and believes the bird depends on him. There's a deep emotional connection between them." (Participant 11, Mother, Male)

"For example, I intentionally took him into the cowshed so he could interact with the cows. That was where we managed to overcome his sensitivity to smells. Through interacting with the animals, we also improved his tactile sensitivity. He is completely comfortable around animals. In fact, he loves animals more than people." (Participant 7, Mother, Male)

Overall, parents viewed everyday interactions with animals as providing opportunities for emotional engagement, communication, and participation in caregiving activities. Nevertheless, these observations reflect parental accounts and should be interpreted as subjective experiences rather than objective

Challenges and Safety Concerns

Parents also described several challenges and safety concerns associated with everyday animal interaction. While some reported that their children were hesitant or fearful when approaching certain animals, others described the opposite pattern, with their children approaching animals without recognizing potential risks. Parents suggested that these differences were influenced by individual experiences, previous encounters with animals, and each child's behavioral characteristics.

Several parents also noted that their children sought close emotional connections with animals, whereas others described behaviors that unintentionally placed either the child or the animal at risk during interaction.

"He'll go near animals but doesn't understand if the animal will hit him or not. He'll approach anyway. Once, even though he was very little, he remembers being stung by a bee. But still, he goes near animals and doesn't hesitate." (Participant 8, Father, Male)

"I think he seems to crave affection, bonding, like he's seeking a maternal presence to the animals." (Participant 11, Mother, Male)

"He acts too rough with animals and ends up hurting them. Then the animal bites him. At school, he pulled a cat's fur, and the cat scratched him. We had to get a rabies vaccine afterward. Unfortunately, he has no sense of danger toward animals." (Participant 9, Mother, Male)

Experiences with AAT

Access to and Awareness of AAT

Parents reported varying levels of awareness and experience regarding AAT. Although five parents stated that their children had previously participated in AAT, many others had only limited knowledge of this intervention or had never heard of it before the interview. Some participants explained that AAT had been recommended by healthcare professionals, but they had been unable to access these services because of limited availability. Others expressed interest in AAT after learning about it but emphasized that such services were not readily available in their region.

"A psychiatrist once recommended it—he said animal interaction would help. But we never had the chance." *(Participant 11, Mother, Male)*

"There's nothing like that around here. I've never come across such a thing. I heard that there's something in S... for a week-long stay, but nothing like that exists here." (Participant 12, Mother, Male)

Several parents also indicated that they had little or no prior awareness of AAT before participating in the study.

"Animals are good for them? Let me look into that—I actually like the idea." (Participant 8, Father, Male)

Parents' Perceived Outcomes Following

Parents whose children had participated in AAT described a range of positive changes following the intervention. They reported improvements included greater comfort with physical contact, reduced fear of animals, enhanced sensory experiences, increased social engagement, and greater participation in everyday activities. These observations represent parental perceptions of their children's experiences following AAT rather than objective evidence of therapeutic effectiveness.

"She used to avoid eye contact, didn't respond to her name, and had no social interaction. After three months of AAT, she began arriving with a smile, greeting others, and showing awareness of her surroundings. Interaction with the dog marked a turning point—she moved from being withdrawn to playing with dolls, peers, and eventually her sibling. Noticeable progress was observed within a few months." (Participant 13, Mother, Female)

Another parent similarly described improvements in communication and self-confidence following interaction with the therapy dog.

"My daughter had difficulties with socialization and was reluctant to speak, believing others wouldn't understand her. Through interaction with the dog—who listened, responded, and followed commands—she gained confidence and gradually began communicating with peers and others." (Participant 20, Mother, Female)

Parents also reported improvements in sensory experiences following AAT. One mother explained that her son's growing curiosity about the therapy dog's grooming and hygiene appeared to coincide with a reduction in his sensitivity to smells.

"My son had a strong sensitivity to smells and was recommended sensory integration therapy. During sessions with animals, his curiosity about the dog's hygiene gradually replaced his sensitivity. His interest in grooming and related odors helped reduce his smell-related discomfort over time." (Participant 19, Mother, Male)

Discussion

This qualitative descriptive study explored parents' perceptions of everyday animal interactions and AAT among individuals with ASD. Parents described diverse experiences with everyday animal interactions and perceived positive social, emotional, and behavioral changes associated with these experiences. Families whose children had participated in AAT also reported perceived benefits, while highlighting limited awareness of and access to AAT services. Because everyday animal interaction and AAT represent conceptually distinct experiences, they were considered separately throughout the interpretation of the findings.

Most parents described that their children had opportunities to interact with animals in everyday settings, particularly with birds, cats, and dogs. According to parents, these interactions were often accompanied by curiosity, emotional engagement, and opportunities for communication. Families also perceived considerable individual differences in both the types of animals preferred and the ways individuals approached them. Similar observations have been reported by O'Haire et al., who found that children with autism displayed more social behaviors when interacting with animals than with toys (O'Haire et al. 2013). Likewise, studies have suggested that interactions with animals may facilitate social engagement and provide opportunities for communication in some individuals with ASD (O'Haire et al. 2013). Our findings are consistent with this literature in that parents frequently associated everyday animal interaction with positive social and emotional experiences; however, these observations represent parental perceptions and should not be interpreted as evidence that animal interaction itself produces these outcomes. This interpretation is consistent with a recent systematic review indicating that, although human–animal interaction appears to promote social engagement and emotional well-being in some children with ASD, the available evidence remains methodologically heterogeneous and further robust studies are required (Chan et al. 2026).

Parents also perceived that caring for household animals and interacting with animals in everyday environments were associated with greater participation in caregiving activities, increased communication, and stronger emotional attachment. Similar observations have been reported in previous studies indicating that pet ownership may encourage responsibility, communication, and empathy among children with ASD (Lisk and Lawson 2023). In addition, parents in that study reported that animals contributed to emotional comfort and reduced stress in daily life (Lisk and Lawson 2023). Our findings extend these observations by illustrating how families describe these experiences in their everyday lives; however, the reported changes should be interpreted cautiously because they are based on parental accounts and may also reflect developmental maturation, concurrent educational interventions, or other contextual factors.

Unlike previous studies that have predominantly focused on positive outcomes, parents in our study also described challenges related to everyday animal interaction. Some families reported that their children had difficulty recognizing potential dangers, approached animals impulsively, or displayed overly intense physical contact, occasionally resulting in injuries to themselves or the animals. These findings highlight that everyday animal interaction may involve both opportunities and challenges and underscore the importance of supervision and individualized guidance according to each person's behavioral characteristics.

Regarding AAT, parents reported markedly different experiences from those describing everyday animal interaction. While some families had participated in AAT, many reported limited awareness of the intervention or difficulties accessing appropriate services. These findings are consistent with previous reports suggesting that professionally delivered AAT remains limited in Türkiye and that scientific evidence and service availability are still developing (Çetin and Çuhadar 2021). Increasing awareness among families and healthcare professionals may therefore facilitate informed decision-making regarding AAT. Recent literature has highlighted the need for greater integration of evidence-informed animal-assisted interventions into rehabilitation services, improved professional training, and increased accessibility to these services (Arsovski 2024). Furthermore, a recent meta-analysis reported that although animal-assisted interventions may improve certain outcomes, particularly social communication

and hyperactivity, the overall evidence remains inconclusive because of methodological limitations and heterogeneity among studies, emphasizing the need for well-designed future research (Xiao et al. 2024). At the same time, clinicians should provide balanced information regarding both the potential benefits and the current limitations of the available evidence (Hangül and Tufan 2022).

Parents whose children had participated in AAT described perceived improvements in areas such as social engagement, communication, sensory experiences, and environmental awareness. Similar findings have been reported in previous studies investigating dog-assisted therapy and hippotherapy among individuals with ASD (Bass et al. 2009, Grandin et al. 2010, Silva et al. 2011, Ajzenman et al. 2013, Fung and Leung 2014, Akkuş et al. 2018, Galvany-López et al. 2024). The perceived positive changes described by parents may also be considered in light of the proposed neurobiological mechanisms underlying human–animal interaction. Previous research suggests that interaction with animals may influence social and emotional functioning through multiple pathways, including modulation of the oxytocinergic system, reduction of physiological stress responses via the hypothalamic–pituitary–adrenal (HPA) axis, and enhancement of social motivation and emotional regulation (Beetz et al. 2012, Fine et al. 2019). Although these mechanisms have been proposed to explain some of the observed benefits of animal-assisted interventions, the present study was not designed to investigate neurobiological outcomes. Therefore, the parents' observations reported in this study should be interpreted as perceived experiences rather than evidence supporting these biological mechanisms. Future interdisciplinary studies combining qualitative findings with objective behavioral and biological measures may help clarify the mechanisms through which animal interaction may influence the lives of individuals with ASD.

However, the present findings should be interpreted cautiously. The study was based on parental perceptions, detailed information regarding AAT interventions (e.g., duration, frequency, therapeutic goals, therapist qualifications, and concurrent interventions) was not collected, and the study design does not allow conclusions regarding the effectiveness of AAT. Therefore, the findings should be viewed as reflecting parents' experiences rather than demonstrating therapeutic benefit. This cautious interpretation is consistent with recent systematic reviews emphasizing that, despite encouraging findings, the overall certainty of the evidence for animal-assisted interventions in ASD remains limited because of methodological heterogeneity and small sample sizes (Galvany-López et al. 2024).

Unlike previous studies that have primarily focused on structured AAT, this study contributes to the literature by qualitatively distinguishing parents' perceptions of everyday animal interaction from their perceptions of professionally delivered AAT, thereby providing a broader understanding of animal-related experiences in the lives of individuals with ASD. Overall, the findings suggest that parents perceive both everyday animal interaction and AAT as meaningful experiences associated with social, emotional, and behavioral benefits. However, these findings reflect parental perceptions and should not be interpreted as evidence of the effectiveness of either everyday animal interaction or AAT. Furthermore, everyday animal interaction and AAT represent conceptually distinct forms of animal exposure and should not be considered interchangeably. Future research should employ longitudinal, mixed-methods, and intervention-based designs involving larger and more diverse samples. In addition, the use of standardized outcome measures and detailed reporting of intervention characteristics and participants' clinical profiles will be essential for strengthening the evidence base and better understanding the potential contribution of animal interaction and AAT to the lives of individuals with ASD.

This study has several limitations. First, the use of audio recordings during the interviews may have caused discomfort for some participants, potentially limiting the depth and openness of their responses. Second, because of the qualitative descriptive design, the findings reflect parents' perceptions and are not intended to be generalized to the broader population of individuals with ASD. In addition, detailed clinical and contextual characteristics of individuals with ASD were not systematically collected. These included ASD severity, co-occurring conditions, language level, intellectual disability, duration of special education, medication use, socioeconomic status, and detailed characteristics of AAT (e.g., type of animal, number and duration of sessions, therapeutic goals, therapist qualifications, mode of delivery, and concurrent interventions). Consequently, parents' accounts should not be interpreted as indicating that the perceived changes were solely attributable to everyday animal interaction or AAT, as developmental maturation,

ongoing educational programs, family support, and other concurrent interventions may also have influenced these observations. Future studies should incorporate detailed participant characteristics and standardized descriptions of AAT interventions to better understand the context of families' experiences and to further explore the potential role of both everyday animal interaction and AAT among individuals with ASD.

Conclusion

This qualitative descriptive study explored parents' perceptions of everyday animal interaction and AAT among individuals with ASD. Parents described everyday interactions with animals as meaningful experiences that were often associated with social engagement, emotional expression, communication, and participation in caregiving activities. Parents whose children had participated in AAT also reported perceived positive changes in social interaction, communication, and sensory experiences. However, these findings reflect parental perceptions and should be interpreted within the context of this qualitative study rather than as evidence of the effectiveness of animal interaction or AAT.

The findings also suggest that awareness of AAT varies among families and that access to AAT services remains limited. Improving access to reliable information and facilitating communication between families and healthcare professionals may help families make informed decisions regarding animal-assisted interventions.

Future research should employ longitudinal, mixed-methods, or intervention-based designs to better understand the potential effects of both everyday animal interaction and AAT on individuals with ASD. Studies incorporating standardized outcome measures, detailed descriptions of intervention protocols, and diverse participant characteristics are needed to strengthen the evidence base. In addition, future research should explore the perspectives of individuals with ASD, healthcare professionals, educators, and AAT practitioners to provide a more comprehensive understanding of the role of animal interaction in supporting individuals with ASD. Such evidence may contribute to the development of evidence-informed clinical practices and policies aimed at improving access to appropriate animal-assisted interventions.

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