



Animal Assisted Therapy and Social Outcomes for Children with Autism

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Background

In the United States, 1 in 68 children are diagnosed with an Autism Spectrum Disorder (ASD; CDC, 2016) and due to this prevalence, a large majority of speech language pathologists will work with individuals with ASDs, providing social, behavioral, and language interventions.

An important outcome for this population is to enhance social skills because individuals with ASDs have communication deficits which make it difficult to engage in conversation, make friendships, and understand social cues. People with ASDs may follow specific routines, be overly sensitive to environmental stimuli, engage in repetitive behaviors, have limited and persistent interests, and engage in repetitive speech or motor movements (American Psychiatric Association, 2013).

These social goals are typically targeted via traditional speech and language therapy using developed protocols (e.g., Applied Behavior Analysis, DIR Floortime). However, recent research has shown that the use of animals in therapeutic sessions has benefits that are worthy of attention; for example, added desire for social contact occurred after human-animal interaction via animal assisted therapy (Friesen, 2009; Esposito et al. 2011).

The purpose of this project is to present an evidence based systematic review that examines how animal assisted therapy influences improvements in social skills for children (ages 4-16) with an Autism Spectrum Disorder.

The specific **research question** was:

Is there evidence to support the use of animal assisted therapy for children with autism to improve social outcomes?

Literature Search

13 articles were found that answered the research question.

The following databases/search techniques were used to retrieve articles: PubMed, ScienceDirect, ERIC, CINAHL, Google Scholar, EBSCOhost, PsycINFO, Academic Search Complete, and Scopus.

The search terms/key words used were: animal-assisted therapy, autism, animal therapy, pet therapy, speech language therapy, children with autism, animal therapy for children with autism, speech therapy, occupational therapy, horses, language therapy, animal assisted interventions for children with autism, dogs, animal assisted activities, social, language, autism spectrum disorder.

Additional search criteria included: children with a primary diagnosis of ASD, published in peer-reviewed journals, written in English, published between 1993-2016, measured social outcomes, reported pre-post treatment measures.

Articles were excluded based on the following criteria: primary diagnosis other than ASD, participants younger than 4 and older than 17, outcome measures unrelated to social outcomes.

Results

Results table with outcome measures across by studies listed below.	SRS						VABS	Single Participant Study (ASI)	PedsQL-4		SSRS	PDDBI			Social Interactions	GARS-2
	Social Cognition	Social Communication	Social Awareness	Social Motivation	Autistic Mannerisms	SRS (Overall)			Social Functioning	Psychosocial Functioning		Social Skills	Social Approach Behavior	Social Withdrawal		
Bass et al. (2009)				0.72		0.39										
Gabriels et al. (2015)	0.48	0.89	0.47	0.72	0.45		0.14									
Grigore & Rusu (2014)								2.95								
Lanning et al. (2014)									.44 (parent) .49 (child)	1.0 (child)						
O'Haire et al. (2013)											0.07					
O'Haire et al. (2014)											.45 teacher 0.33 parent	.64 teacher .35 parent	.59 teacher .40 parent			
Sams & Willenbring (2006)															1	
Ward et al. (2013)																0.36



Horse	Guinea Pig	Dog	Multiple Animals
0.54	0.4	2.95	1

List of outcome measures with citations used across studies reviewed:	PedsQL-4 = Pediatric Quality of Life 4.0 (Limbers et al. 2011)
SRS = Social Responsiveness Scale (Constantino, 2002)	SSRS = Social Skills Rating System (Gresham & Elliott, 1990)
VABS = Vineland Adaptive Behavior Scale (Sparrow et al. 1984)	PDDBI = Pervasive Developmental Disabilities Behavior Inventory (Cohen et al. 2003)
ASI = Appropriate Social Interactions (Researcher created measure; Grigore & Rusu, 2014)	GARS-2 = Gilliam Autism Rating Scale-2 (Gillam, 2006)

Patient Characteristics

- Across studies participants ranged in age from 4 to 16 years old where 4 is the youngest person across studies and 16 is the oldest person across studies.
- Participants had primary diagnosis of an Autism Spectrum Disorder.
- Participants had not received previous exposure to animal assisted therapy.

Dosage

- An average of 14.5 treatment sessions, with a range from 9-25 sessions were administered.
- Sessions ranged from 15 minutes to 4 hours, with an average of 62.5 minutes per session.
- Animals used in therapy included horses, guinea pigs, dogs, llamas, and rabbits.

What is Animal Assisted Tx?

Animal Assisted Therapy (AAT) is when a professional uses animals as a specific part of intervention to reach patient goals (Fine, 2015). Many different animals can be used during AAT; however, a child's interests and abilities must be considered before incorporating animals into therapy.

During the 60s and 70s, child psychologist, Boris Levinson, began to use dogs in his therapy sessions and found that they "acted as a 'social lubricant'" to help in making the therapy environment more relaxed (Friesen, 2009). Recent research has shown that use of animals in therapeutic sessions has many benefits for children with autism; however, much of this literature is anecdotal and based on short term observations (Friesen, 2009; Esposito et al. 2011).

Clinical Recommendations

- Findings suggest that the use of AAT as an add-on therapy to traditional therapies for children with ASDs will result in positive social skill gains. This is supported by effect sizes reported across studies.
- Considerations for using AAT include previous exposure to animal therapy, child's interest and sensitivity to animals, and child's accessibility to the use of an animal.
- Limitations across studies include: small sample sizes, evaluation of pre-post measures only (i.e., non-experimental designs), focus solely on social skills, and lack of carryover measures.
- Future directions for research include: experimental designs, effects on additional outcome measures for speech and language, carryover measures beyond the clinical environment, benefits of particular animals, and larger sample sizes.