

Occupational Therapy Incorporating Animals for Children With Autism

Source: Sams, M. J., Fortney, E. V., & Willenbring, S. (2006). Occupational therapy incorporating animals for children with autism: a pilot investigation. *American Journal of Occupational Therapy*, 60(3), 268-274.

Purpose:

Will children use more language in occupational therapy (OT) sessions which use animals compared to OT sessions which use standard techniques?

Design/Methods:

22 children with autism (2 also had cerebral palsy) ages 7-13 years of age (mean=9.6) participated in the study. Each child received one treatment session for both standard OT treatment and OT treatment with animals for 2-12 weeks. The average length of standard OT treatment session was 26.3 minutes while the average length of OT treatment session with animals was 28.5 minutes. Both treatment sessions used sensory integration, language use, sensory skills, motor skills, and social interaction. Some examples of the standard OT sessions included: teeter-totters and swings, playing with clay, sensory balls, creative artwork, puzzles, asking for toys, and participating in community outings with peers. Some examples of the OT sessions with animals included riding a wagon pulled by llamas, riding and guiding llamas, brushing and feeding llamas, petting dogs and rabbits, throwing balls for dogs, talking with animals, and training llamas to compete in a "llama show". During each session, two undergraduate OT students led sessions with the children and counted the number of "prompted" and "spontaneous" language use. These were further divided up into "signing," "sound," "word," "sentence" and "interaction." The inter-rater reliability of the 2 students for determining the "use of language" was $r = 0.98$, $p < 0.01$ and "social interaction" was $r = 0.91$, $p < 0.01$.

Results:

Paired-sample t-tests showed that the children with autism significantly engage in more "use of language" ($t(21) = 2.18$, $p < 0.05$) and "social interaction" ($t(21) = 4.21$, $p < 0.01$) in the OT sessions which used animals than in standard OT therapy sessions. The mean "use of language" per minute was 0.98 (SD=0.72) and 1.27 (SD=1.10) for standard sessions and sessions with animals respectively with an effect size of $d = 0.31$. The mean "social interaction" per minute was 0.17 (SD=0.09) and 0.27 (SD= .10) for standard sessions and sessions with animals respectively with an effect size of $d = 1.0$. Family members also indicated that they saw an increase in communication at home.

Conclusion:

The results show that children with autism will use more language during treatment sessions when there are live animals present compared to when there are no live animals present. The children did not only communicate more with the animals but the interactions with other humans also increased when animals were present. This could have possibly been due to them wanting access to the animals or they wanted to talk about the animals. In accord with other research findings, this study suggest that children's motivation to actively participate in therapy produces greater treatment gains and intrinsic motivation (wanting to interact with animals) yields better results than extrinsic motivation. Also in line with other research findings is the notion that children with autism like interacting with animals because they have less complex social and behavioral cues compared to the more subtle and complex social and behavioral cues of humans. This could possibly explain why the children in this study were more willing to use language when they were around live animals than when they were completing standard treatment.

Strengths:

Strengths in this study included high inter-rater reliability, trained OT students, and equal amount of sessions with and without animals.

Limitations:

The OT and the OT students were not blind to the purpose of the study or what treatment was being used thus there could have been bias toward creating better treatment sessions with animals. There was no control group so being exposed to therapy with animals could have affected the therapy sessions without animals. There was a large range of how many treatment sessions the children received (anywhere between 4-24 treatment sessions). There was no documentation on which interactions with various types of animals and various degrees of human/animal interactions were the most beneficial.

Practical Applications:

While this study shows that children with autism communicate and interact socially more when there are animals present during a therapy session, it is uncertain which interactions produce the greatest amount of communication and social interaction with other humans. Children would use varying degrees of language if they were holding or petting a bunny for a half hour compared to if they had to lead a llama or dog through an obstacle course. Thus the complexity of the interaction in relation to the end goal is very important to consider when using animals in therapy.

