



Shelter Cat adoption in families of children with autism: Impact on cat stress and child's social skills/anxiety



Pia Gomez, MU College of Veterinary Medicine
Gretchen K. Carlisle, PhD, MEd, RN, CHES; Research Scientist, MU Research Center for Human Animal Interaction
Rebecca A. Johnson, PhD, RN, FAAN, FNAP; Millsap Professor of Gerontological Nursing, MU Sinclair School of Nursing;
Director Research Center for Human-Animal Interaction
Willie A. Bidot, DVM, Comparative Medicine Resident/Research fellow, MU College of Veterinary Medicine

Background

- Autism Spectrum Disorder (ASD) occurs in one of 68 children.
- ASD; social skill deficits, repetitive behaviors, and anxiety. Symptoms impact child and family functioning. There is no cure for ASD, and treatment approaches aim to lessen the symptoms.
- Extant literature on children with ASD and Companion Animals found animals to be an alternative/adjunctive method of alleviating social skill deficits and anxiety (O'Haire, 2013).
- Previous research has focused on the interaction of dogs with children who have ASD, but dogs may not provide the best fit for all children and their families. This is especially possible given that hypersensitivities to sound are common among these children (Carlisle, 2014).
- Cat's quieter demeanor has not been studied in families of children with ASD.
- Approximately 3.2 million cats enter U.S. animal shelters nationwide every year. One of the main explanations of why cats are given up is for behavioral reasons.
- Cat behavior problems often result from stress, such as entering a new family. Cats respond to stressful stimuli with increased cortisol levels (Botchkarev, 2003).
- Cortisol concentrations decreased significantly in dogs quietly interacting with a person (Odendaal, 2000). Hyper-reactivity to sound in is common in children with ASD.
- Calm, quiet interaction with a cat may mitigate this.
- No study of cat stress living in families of children with ASD.

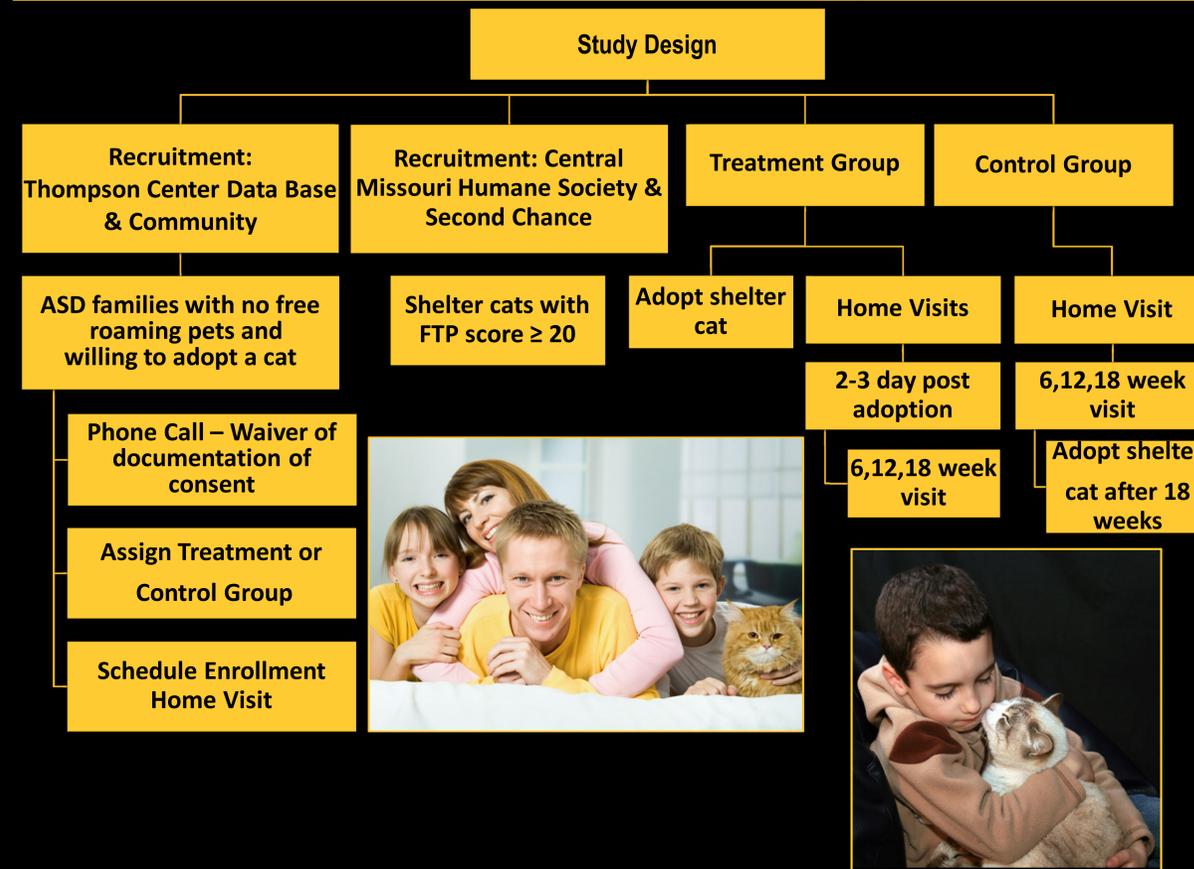
Objectives

1. To investigate stress in cats introduced into the family of a child with ASD.
2. To examine the impact of a cat on the social skills/anxiety of a child with autism and bonding with the cat by the child and parent.

References

1. Botchkarev, V. A. (2003). Stress and the Hair Follicle. *The American Journal of Pathology*, 162(3), 709–712.
2. Carlisle, G. K. (2014). Pet dog ownership decisions for parents of children with autism spectrum disorder. *Journal of Pediatric Nursing*, 29(2), 114–123.
3. Odendaal, J.S. (2000). Animal-assisted therapy- magic or medicine? *Journal of Psychomatic Research*, 49 (4), 275-280. <https://doi.org/10.1016/s0022-1606-1622>
4. O'Haire, M. E. (2013). Animal-assisted intervention for autism spectrum disorder: A systematic literature review. *Journal of Autism and Developmental Disorders*, 43(7), 1606–1622. <https://doi.org/10.1007/s10803-012-1707-5>

Design and Methods



- Two-group randomized, repeated measures design with a delayed treatment control group.
- In Phase One, shelter cats (n=32) adopted into households of families randomized to the treatment group, while the control group (n=32) will have no cat.
- In Phase Two, (after 18 weeks) control group will adopts a cat.
- Measurements/Instruments:
 - Cats will be assessed via Feline Temperament Profile (FTP) and must score ≥20.
 - Cat Stress measured via Cat Stress Score Test (CSS), Fecal Cortisol, and weight.
 - Changes in child's social skills measured via "Social Skill Improvement System Rating Score" test (SSIS-RS).
 - Anxiety measured via "Screen for Child Anxiety Related Emotional Disorders" test (SCARED).
 - Bond of families to cats measured via Lexington Attachment to Pet Scale (LAPS) and Companion Animal Bonding Scale (CABS).

Data Collection	Screening & Baseline	Treatment Group			Control Group			
		2-3 day after adoption	Week 6	Week 12	Week 18	Week 6	Week 12	Week 18
FTP (cat scoring tool)	X							
Family Screening for cat adoption	X							
CSS	X	X	X	X	X			
Fecal Sample	X	X	X	X	X			
Cat weight	X	X	X	X	X			
Demographic Questionnaire	X							
SSIS-RS	X					X	X	X
SCARED	X					X	X	X
LAPS, CABS		X	X	X	X			
Child Open Ended Questions		X	X	X	X			

Conclusions

- We expect cats will have no significant increase in stress levels (fecal cortisol concentrations, stress behavior and body weight).
- We expect children with ASD living with cats will have more social skills and less anxiety than those living without cats.
- We expect caregivers and their children with ASD will bond with their cat.

This study is made possible by:

