

**N**o one reading *The Latham Letter* would question the value of personal contact with animals in our daily lives. We enjoy learning about the shared experiences of people and their companion animals in numerous magazine, book and newspaper articles (Coudert, 1998; Hiby, 1998; Sanders, 1999; Smith, 1999; Thomas, 2000). Tales of the heroic behavior of an animal can bring us to tears. Stories that describe endearing behaviors we observe in our own pets bring smiles to our faces. These narratives ring true and serve to confirm our beliefs about the mutual benefits that both animals and people derive from close personal contact with one another. Although there are many compelling anecdotal accounts of how animals contribute to the health and well being of humans, there are few research studies that actually validate this phenomenon within a therapeutic milieu. Studies that do exist in the professional literature tend to

address the efficacy of animals in a medical context where physiological outcomes, such as heart rate, are more easily defined and measured (Friedman, Katcher, Lynch & Thomas, 1980; Lynch & McCarthy, 1969). Research in medical settings is essential and should be encouraged. However, little attention has been focused on the increasing number of programs that have been established in community-based settings such as schools, farms, homeless shelters, counselor offices, and humane societies. They are designed to enhance functioning in less defined domains, such as social, emotional, and psychological functioning (Katcher, 2000; Lynch, 1998; Melson, 2001; Raphael, Colman & Loar, 1999). Functioning along the psychosocial continuum is more difficult to measure and these settings rarely offer opportunities to establish controls that meet the assumptions of traditional experimental designs. In spite of the challenges, research across settings and across areas of human functioning, can and

should be done. Establishing credibility through research is essential if one is to gain access to funding that will enable us to sustain and expand programs.

**T**his article will describe some of the challenges and possibilities of research using a hypothetical example of a humane education program offered to individuals who temporarily reside in a center for the homeless. We will assume that (1) the center offers children the opportunity to pet animals that visit from a local humane society, and (2) the center offers a humane education program to families in hopes that the parents will expand their parenting skills. If the goal is to promote the use of animals in this therapeutic milieu, the first impulse is to document positive events that occur during the intervention. For example, we might want to document the amount of sustained contact time a child has with the animal, or the number of times the

# Measuring the Efficacy of Humane Education: Methodological Challenges and Possibilities



by Gretchen Van Mater Stone

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child strokes the animal, initiates conversation with the animal, or talks about the animal between sessions. Perhaps we decide to carefully describe an incident when the child plays out aggression by attempting negative physical contact with the animal, or we might want to focus on parents' attendance at humane education classes.

On the surface these all seem like good things to record because they document dynamics between humans and animals. Capturing what is happening at the moment can be a very valuable process; however, it falls short of establishing that the benefits of these interactions carry over to other parts of the child's life. That is, measuring how the child interacts with the animal is measuring the intervention, not the outcome

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of the intervention. This distinction is significant. Of interest is what happens after the intervention. Presumably the underlying assumption is that by stroking the animal the child gains a sense of psychological well being that will carry on even when animals are not present. If overall enhanced sense of well being is the desired outcome, then "sense of well being" needs to be measured directly. Thus we are challenged to describe how a person acts or feels when they experience a sense of well being. Once we have described these phenomena, we can measure it.

To develop a viable research design researchers commonly use a line of questioning such as the following:

1. What is the problem? (Research question)
2. Why is this a problem? (Statement of the problem)
3. What underlying factors contribute to this problem?
4. What is the desired outcome?
5. What observable behaviors typify the desired outcome? (Dependent variable)
6. How can this behavior be measured? (Unit of measurement)
7. What is the nature of the intervention? (Independent variable)
8. How can I assure the stability of the intervention? (What controls are offered?)
9. To what extent can I generalize these findings to the population at large? (Reliability and validity)

For purposes of illustration, let's assume that an eight-year-old girl is living in a homeless shelter and it is decided that she should be included in a humane education project. Let's call her Mary. The director of the program wants to see if the program is making a difference. She addresses the questions identified above.

What is the problem?

*Mary is inattentive and unfocused during play with other children.*

Why is this a problem?

*Mary is becoming increasingly more socially isolated due to the lack of interpersonal skills.*

What are underlying factors that contribute to this problem?

*Mary does not have access to a stable environment and therefore has not had the opportunity for sustained relationships with other children.*

What is the desired outcome?

*Mary will take turns while playing a game with another child.*

What observable behavior typifies the desired outcome?

*While engaged in a game involving physical activity (such as four-square in which each person takes a turn bouncing a ball into a particular quadrant of a square) Mary demonstrates the following behaviors:*

- Remains at the site of the game while her partner is taking a turn
- Anticipates when it is her turn by reaching for appropriate objects
- Hands appropriate objects to her partner when her turn is finished
- Acknowledges when the rules of the game require her to miss a turn
- Points out when the rules of the game require her partner to miss a turn

- Initiates conversation with her partner
- Establishes eye contact with partner

If Mary is inattentive and poorly focused when playing with other children, a person who works at the Center could join in the play session to try to elicit the behaviors identified above. However, the presence of an adult may be perceived as intrusive by Mary and her friend. The playmate could decide to leave the game. Her playmate may also decide that it is not fun to play with Mary. Children can be intolerant of one another. Without the full and patient participation of her partner, Mary might not have the opportunity to develop her skills. In contrast, under the auspices of playing with a dog, or teaching a dog to do a trick, the adult could teach Mary the same skills she needs to be a successful playmate with her human friends. For example, Mary could play a retrieval game with the dog. The animal would provide consistent and positive feedback needed to develop each of the targeted behaviors. When Mary experiences success with the animal, it is likely that she would engage in a similar, related play activity with another

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child. Her behavior as she plays with other children is the variable of interest, not her behavior with the animal. If she plays well with other children we will know that the intervention is a success.

Playing with an animal also gives personnel at the shelter the opportunity to include adult family members in play. For example, Mary's mother can observe her behaviors as she plays with a dog, can play with the dog herself, and can teach Mary to play with a dog. In doing so, Mary's mother may become more aware of the value of establishing eye contact (to cue the dog that she is about to throw the ball), of giving praise (when the dog retrieves the ball, Good job!), and of giving clear instructions and being patient (when the dog makes a mistake). Perhaps Mary's mother could develop increased awareness of the importance of taking turns with Mary during conversations and during shared daily activities.

The good news is that studies of this type are not difficult to do and they are defensible in scientific circles. A non-parametric, repeated measures design could be used to measure relative change (Portney and Watkins, 1993). That is, even though we cannot assume that Mary is like all other children her age, we can hypothesize that her behavior before she interacts with an animal will be different than after she plays with an animal. Asking useful research questions and collecting evidence that either supports or fails to support these questions helps to establish the value of including animals in settings where humans may not be enough.



## References:

- Burch, M.R. (1996). *Volunteering with Your Pet*, New York: Macmillan.
- Coudert, J. (1998). *The Good Shepherd*, Kansas City: Andrews McMeel Publishing.
- Friedmann, A., Katcher, A., Lynch, J., Thomas, S. (1980). Animal companions and one-year survival of patients discharged from a coronary care unit. *Public Health Reports*, 307-312.
- Hiby, L. (1998). *Conversations with Animals*, Troutdale, Oregon: NewSage Press.
- Katcher, A. (2000). The future of educational research on the animal-human bond and animal-assisted therapy, In Aubrey H. Fine, ed., *Handbook on Animal-Assisted Therapy*, New York: Academic Press, 468-469.
- Lynch, J.J. & McCarthy, J.F. (1969). Social Responding to Dogs: Heart Rate Changes to a Person, *Psychophysiology* 5, 389-393.
- Lynch, J. (1998). Decoding the language of the heart: Developing a physiology of inclusion, *Integrative Physiological and Behavioral Science*, 33:130-136.
- Melson, G.F. (2001). *Why the Wild Things Are*, Cambridge: Harvard University Press.
- Portney, L.C. & Watkins, M.P. (1993). *Foundations of Clinical Research: Applications to Practice*, Norwalk, Connecticut: Appleton & Lange.
- Raphael, P.; Colman, L.; & Loar, L. (1999). *Teaching Compassion: A Guide for Humane Educators, Teachers, and Parents*, Latham Foundation: Alameda, California.
- Sanders, C.R. (1999). *Understanding Dogs: Living and Working with Canine Companions*. Philadelphia: Temple University Press.
- Smith, P. (1999). *When Animals Speak: Advanced Interspecies Communication*, Hillsboro, Oregon: Beyond Words Publishing.
- Thomas, E.M. (2000). *The Social Lives of Dogs: The Grace of Canine Company*, Simon & Schuster: New York.

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