

Chapter 32

The Role of Animals and Animal-Assisted Therapy in Stressful Life Transitions

Jeanine M. Miller Adams

Animals and pets have often played a significant role in the lives of humans. Animal-assisted therapy (AAT) has touched the lives of many people experiencing stressful life transitions. It is a growing form of therapy that benefits both the humans and the animals involved. This chapter describes AAT and how it impacts people and animals, provides case examples of how it has affected individuals during the stressful life transitions they have experienced, and explores theoretical perspectives applicable to this form of therapy.

Historically, William Tuke was the first to document the use of animal therapy in the eighteenth century. He believed the people in asylums received inhumane treatment and helped to make their lives better by encouraging them to take care of animals (Moore 1984). More recently, Boris Levinson (1962, 1969) began documenting therapeutic benefits for individuals receiving contact with pets and discussed the use of animals as adjuncts to his psychology practice. Currently, there are animal therapy programs across the country, and national and local organizations to sponsor and provide them, such as Therapy Dogs, Incorporated; the Delta Society; Therapy Dogs, International; and the National Center for Equine Facilitated Therapy.

In formal therapeutic situations, AAT is defined as an “interaction between patients and a trained animal, along with its human handler, with the intent of facilitating individuals’ progress toward therapeutic goals” (Barker and Dawson 1998). However, in a broader sense, AAT is a process that simply “brings animals and people with physical and/or emotional needs together” (Carmack 1984). AAT has an interdisciplinary base and is viewed as an adjunct to other therapies, such as occupational, physical, speech, and psychological therapy. It has also been termed “animal-facilitated therapy” (AFT; Moore 1984), “pet-facilitated therapy” (PFT; Altschuler 1999), “pet therapy” (Zisselman et al. 1996), and “animal therapy” (Willis 1997).

AAT can occur in groups (Reichert 1994) or individual (Reichert 1998) settings. Programs have been implemented with a wide variety of populations, including those with psychiatric/emotional disturbance and behavioral disorders (Bardill and Hutchinson 1997; Banman 1995; Granger et al. 1998);

elderly people in homebound (Harris et al. 1993), outpatient, institutional (nursing home/long-term care: Katsinas 2000; Crowley-Robinson and Blackshaw 1998; Fick 1993; Taylor et al. 1994; Gammonley and Yates 1991), and adult day care (Holcomb et al. 1997) situations; hospitalized individuals in psychiatric settings (Barker and Dawson 1998; Holcomb and Meacham 1989), cancer centers, children's hospitals, rehabilitation, hospice (Doyle and Kukowski 1989), coronary care, intensive care (Cole and Gawlinski 1995), and acute care settings (Barba 1995; Counsell et al. 1997); people with mild to severe physical and cognitive disabilities of all ages (Farias-Tomaszewski et al. 2001; Law & Scott 1995; Nathanson et al. 1997); individuals with autism and autism spectrum disorders (Law and Scott 1995) and learning disabilities (Limond et al. 1997); prison inmates (Cushing and Williams 1995; Walsh and Mertin 1994); people with HIV/AIDS (Allen et al. 2000; Angulo et al. 1996); those in therapy for sexual abuse (Reichert 1994, 1998) and anger management (Hanselman 2001); individuals with depression (Holcomb et al. 1997; Folse et al. 1994); and individuals undergoing dental/medical procedures (Havener et al. 2001; Hansen et al. 1999).

The Influence of Animals on Humans

Baker (1992) studied the effects of animals on human blood pressure levels to compare risk factors for cardiovascular disease in pet owners and nonowners. Accepted risk factors for cardiovascular disease were measured in 5,741 participants attending a free, screening clinic at the Baker Medical Research Institute in Melbourne. Blood pressure, plasma cholesterol, and triglyceride values were compared in pet owners ($n = 784$) and nonowners ($n = 4,957$).

On the basis of the results obtained, pet owners had significantly lower systolic blood pressure and plasma triglycerides than nonowners. In men, pet owners had significantly lower systolic but not diastolic blood pressure than nonowners, and significantly lower plasma triglyceride levels and plasma cholesterol levels. In women over 40 years old, systolic but not diastolic pressure was significantly lower in pet owners and plasma triglycerides also tended to be lower. There were no differences in body mass index and self reported smoking habits were similar, but pet owners reported that they took significantly more exercise than nonowners, and ate more meat and "takeaway" foods. The socioeconomic profile of pet owners and nonowners appeared to be comparable.

On the basis of the results of this study, findings suggest that pet owners had lower levels of accepted risk factors for cardiovascular disease, and this was not explicable on the basis of cigarette smoking, diet, body mass index, or socioeconomic profile. The possibility that pet ownership reduces cardiovascular risk factors was inferred.

Similarly, Crosby (2006) indicates that the bond between pets and humans can be an intervening variable in reducing cholesterol, lower blood pressure, reduced stress levels, and better mental health for those living with pets. Pets require attention. The physical activity they require in humans may be a significant factor and be exemplified in going for a walk, dropping everything for a game of Frisbee or hide and seek, going on a trail ride, and providing the everyday pet care encourages owners to interact and get out.

Pet therapy often involves small animals most often dogs and cats but there is a role for large animals as well. Horses and horse riding is also part of pet therapy. Riding horses teaches balance and flexibility to the handicapped, and gives a sense of accomplishment and companionship to those involved. Some programs are related to the care of horses as well, teaching responsibility and horsemanship skills. Services provided by dogs for humans include: dogs that guide the blind, assist the deaf, assist the mobility-impaired, even alert epileptic owners that a seizure is imminent, so the owners can sit down/take their medications before the seizure strikes. Dogs can be trained to turn on/off lights, pick up objects, and even pull wheel chairs for those who are disabled. Police dogs serve as protection for officers, as well as for sniffing out drugs, explosives, and other dangerous chemicals long before a human can. Search and Rescue dogs use their powerful sense of smell to locate people lost or injured.

Various types of animals and people work in or are involved with AAT. Researchers have studied the effects of therapeutic relationships between humans and dogs (Katsinas 2000; Barker and Dawson 1998; Limond et al. 1997; Cole and Gawlinski 1995; Folse et al. 1994; Walsh and Mertin 1994), horses (Farias-Tomaszewski et al. 2001), cats (Turner and Rieger 2001; Rieger and Turner 1999; Wells et al. 1997), birds (Holcomb et al. 1997), monkeys (Ianuzzi and Rowan 1991), fish (Law and Scott 1995), dolphins (Lukina 1999; Nathanson 1998), rabbits (Law and Scott 1995), Guinea pigs (Nielson and Delude 1994; Carmack and Fila 1989), cows (Mallon 1994), and snakes (Shalev and Ben-Mordehai 1996). Also involved are the animals' handlers or trainers and professionals, such as occupational (Allen et al. 2000; Fick 1993; Taylor et al. 1994; Fine (2000)), physical (Nathanson et al. 1997), and speech (Adams 1997) therapists (Dossey 1997), activities directors/therapists (Wilkes et al. 1989), recreation therapists (Wilkes et al. 1989), psychologists/psychiatrists (Barker and Dawson 1998; Zisselman et al. 1996; Walsh et al. 1995), social workers (Hanselman 2001; Reichert 1994, 1998; Mallon 1994), health educators (Doyle and Kukowski 1989), teachers (Granger et al. 1998; Limond et al. 1997; Law and Scott 1995), nurses (Willis 1997; Carmack and Fila 1989), doctors and other health care practitioners (Hansen et al. 1999), dentists (Havener et al. 2001), and veterinarians (Crowley-Robinson and Blackshaw 1998).

There are four major categories involving therapeutic approaches with the use of animals: visiting animal programs, residential programs, service animal programs, and nondomesticated animal programs. Visiting animal programs involve animals entering an institution, home, or other facility to visit participants for a short period of time. Popular programs include those using dogs. The animals may simply be visiting to provide companionship and cheer, or they may be involved in a more structured therapy session with, for example, an occupational, physical, or speech therapist. Not only do the animals positively affect the *patients*, but family members and staff also reap the benefits (Carmack and Fila 1989).

Residential programs involve animals living where the therapy occurs. In this situation, the animals reside on the unit or in the facility in which the program participants are housed, such as in a psychiatric unit (Bardill and Hutchinson 1997), a prison (Walsh and Mertin 1994), or a nursing home (Crowley-Robinson and Blackshaw 1998). This type of program differs from a visiting

animal program in that the individuals involved may have more contact with the animals and greater responsibilities for them, such as grooming, training, exercising, and feeding.

Service animals provide therapy in various ways to humans. There are several types of assistance dogs. *Guide dogs* work for people with visual impairments; *hearing dogs* are trained to help people with hearing impairments in awareness of certain important sounds, such as a fire alarm, a knock at the door, or a baby crying; *service dogs* are trained to assist individuals with disabilities, such as spinal cord injury, multiple sclerosis, or cerebral palsy, with mobility enhancement and object retrieval (Sachs-Ericsson et al. 2002).

Nondomesticated animal programs include hippotherapy, or therapeutic horseback riding, dolphin assisted therapy, and the use of farm animals in AAT. Wells et al. (1997) used feral cats as adjuncts to psychotherapy. Regardless of the category of AAT, these programs impact participants in many positive ways.

The therapeutic use of animals impacts humans' health and wellness. There are several dimensions to our health and wellness and researchers have documented benefits of AAT in every area:

- *Physical/physiological* wellness involves the health of our physical self, eating well, exercising, recognizing symptoms of disease, and monitoring physical disorders. Benefits of AAT in this area include sensory stimulation (Counsell et al. 1997); satisfying the universal need for physical touch; improved gross and fine motor skills (Nathanson 1997); significant increases in neurochemicals (prolactin, oxytocin, B-endorphin, phenylacetic acid, and dopamine) in both the humans and dogs involved (Odendaal 2000); decreased muscle rigidity, blood pressure (Harris et al. 1993), triglyceride levels, and heart rate (Walsh et al. 1995; Harris et al. 1993); and stress reduction (Nielson and Delude 1994).
- *Social* wellness includes having satisfying interpersonal relationships, good communication skills, and a supportive network. Researchers have found that AAT has contributed to increased communication, speech/language (Nathanson 1997), responsiveness (Adams 1997), laughter, conversation (Bernstein et al. 2000; Nielson and Delude 1994), smiles (Marr et al. 2000), interaction (Adams 1997; Fick 1993), eye contact (Granger et al. 1998); speech elicited from nonverbal individuals; decreased social isolation (Adams 1997; Holcomb and Meacham 1989), and noise levels (psychiatric ward; Walsh et al. 1995); companionship, comfort, break down of social barriers; and AAT has acted as a catalyst for positive social behavior.
- *Emotional/psychological* wellness involves how we feel about ourselves, self-esteem, having healthy emotional relationships. Benefits of AAT include unconditional acceptance/positive regard (Bardill and Hutchinson 1997), no fear of rejection; increased positive mood, feelings of love, self-esteem (Gammonley and Yates 1991), self-worth (Walsh and Mertin 1994), self-efficacy (Farias-Tomaszewski et al. 2001), compassion, security; improved attitude, self-concept, feelings of relaxation and pleasure; reactions from those who have been withdrawn; sustaining our emotional balance (Banman 1995); providing something to look forward to (Harris et al. 1993), memories of former pets (Banman 1995), emotional support for staff/family (Dossey 2005; Carmack and Fila 1989), building staff morale and decreasing turnover rates; decreased anxiety (Barker and Dawson 1998), depression (Holcomb et al. 1997),

learned helplessness (Granger et al. 1998); the animals are viewed as nonjudgmental, friends, listeners, therapists, distracters, and uniquely sensitive (Bardill and Hutchinson 1997).

- *Cognitive/mental* wellness involves critical and creative thinking, mastering new skills, being open to new ideas, and learning and storing new information. AAT has benefited individuals in this area by acting as a catalyst for teaching and learning; contributing to increased concentration/focusing skills, attention span (Limond et al. 1997), knowledge, self-respect, and control of environment (Gammonley and Yates 1991); decreased distractibility (Granger et al. 1998); and relief from boredom.
- *Environmental* health involves the quality of our surroundings. AAT deinstitutionalizes a facility, making it feel more home-like (Bardill and Hutchinson 1997).
- *Spiritual* health is having a purpose or meaning in life, believing in a higher power, or in oneness with nature. AAT provides a feeling of oneness with life and creation (Gammonley and Yates 1991), fosters the human–animal bond, and provides the healing power of a pet’s presence (Banman 1995; Harris et al. 1993).
- *Occupational/vocational* wellness involves being satisfied with ones daily activities. In AAT studies, pet ownership and care have been found to be an avenue for enabling meaningful occupation (Allen et al. 2000).
- From a *behavioral* perspective, benefits include increased play and laughter (Banman 1995); decreased disciplinary reports for violent offenders (Cushing and Williams 1995); decreased aggressiveness (Walsh and Mertin 1994), violent behavior, and drug use (Moneymaker and Strimple 1991); reduced behavioral distress (Hansen et al. 1999); increased calmness and outward expressions of happiness (Walsh and Mertin 1994); learning nurturance and caring/responsibility (Banman 1995; Mallon 1994); and nurturing and affection have been elicited from violent-prone individuals.

The following case studies provide a glimpse of the impact that the therapeutic use of animals has had on three people and those involved in their lives.

Case Study 1

Harris et al. (1993) reported on the case of Mr. H, a 73-year-old man with severe arthritis in one shoulder, legal blindness, and in recovery from a stroke, who lives alone and receives home health aide service for basic activities of daily living. He was described as “abrupt, difficult, depressed, and lonely ... frowning most of the time with a very flat affect” by the visiting nurses and aides. With the initiation of a visiting AAT program, Mr. H’s blood pressure decreased and his shoulder mobility improved, as he stroked, kissed, played with, and focused on the dog, and anticipated and enjoyed the visits. The aides stated that the only time they saw him smile was when the dog visited (Harris et al. 1993).

Case Study 2

Clarence is confined to a wheelchair and until he received a dog trained through the Prison PUP Partnership, he had to wait for help for simple tasks, such as retrieving fallen objects, turning on lights, and opening doors.

His dog, “Blitz,” has greatly improved his quality of life (Gardner 1998). In these types of programs, dogs are paired full-time with carefully selected prison inmates and trained for 8–18 months. The dogs are later placed as assistance dogs with a person with disabilities. The inmates who train the dogs feel as though they’re giving something back to the community they once violated. They gain skills training, boarding, and grooming the dogs. In addition, they learn valuable pet industry-related vocational skills to use when seeking employment after prison (Prison Pet Partnership Program 2003).

Case Study 3

Adams (1997) described the case of “WA,” a 72 year-old woman recovering from two strokes and battling diabetes, epilepsy, right hemiplegia (paralysis), dementia, and apraxia, a speech problem in which one knows what they want to say, but cannot actually say it. She had good speech comprehension. Her writing abilities were moderately impaired, as she was required to change her dominant hand from right to left due to her hemiplegia. She became frustrated as she struggled to verbalize her thoughts and recognized the errors and distortions in her speech. A visiting AAT program was initiated with her in her facility during speech therapy sessions to work mainly on appropriate and correct word initiation. WA showed improvement with one-word answers, object identification tasks, and verbalization behaviors. Her behavior and outlook markedly improved, and her desire to interact increased, as noted by her increased participation in facility activities and spending more time outside of her own room. She held the leash of one dog as she was pushed in her wheelchair through the facility and spontaneously answered questions from interested staff and residents. Also noted were mild sensations and limited spontaneous use of her hemiplegic side and extremities (Adams 1997).

In order to understand how AAT provides the benefits discussed in this chapter, it is important to explore theoretical perspectives applicable to this form of therapy. One is *attachment theory*, which holds that emotional well-being is largely affected by personal relationships throughout life. In this theory, individuals who do not form secure attachments develop negative ideas about themselves and the world, seeing themselves as powerless and worthless and their caregivers as unreliable, unavailable, and rejecting. Pets can be considered a significant attachment figure in the promotion of general mental health and in the treatment of disturbed populations (Hanselman 2001). For example, in Bardill and Hutchinson’s (1997) study with a residential therapy dog and adolescents hospitalized in a psychiatric unit, the dog was found to “reach unreachable kids” as he was described as being a friend, listener, and distracter from problems. The adolescents viewed him as “touchable,” calm, and having a unique sensitivity to them. The adolescents did not have to worry about being rejected in the relationship and found him to be available and reliable. The dog helped the adolescents have increased feelings of self-worth and less emptiness in their lives. In this case, the adolescents formed a meaningful *attachment* to the dog, which helped them to feel trust, safety, and comfort.

Abraham Maslow (1970) discussed the importance of and need for *self-esteem*, which is satisfaction with, confidence in, and the valuing of oneself. Animal assisted therapy contributes to the development or enhancement of self-esteem. Examples of this include the use of AAT in prisons (Gardner 1998)

and with farm animals (Mallon 1994). In these situations, program participants not only receive the benefits of having the animals as companions, but also learn about nurturing and caring for other living creatures through their responsibilities to train, groom, feed, and/or care for the animals. The skills they learn contribute to increased self-esteem for the participants.

From a *biomechanical* perspective, animals working in AAT with, for example, an occupational or physical therapist, can help a patient recovering from a stroke as the patient pets or brushes the animal to increase movement in an affected arm or holds the dog's leash for motivation as walking is addressed. From a *sensory* perspective, animals provide sensory stimulation and satisfy the universal need for touch.

Animal assisted therapy (AAT) helps many individuals in a wide variety of situations. It is a growing form of therapy with benefits for both the humans and the animals involved. It is hoped that this field continues to grow and flourish, touching the lives of many people and animals, helping them to better cope with the stressful life transitions they experience.

References

- Adams, D. L. (1997). Animal-assisted enhancement of speech therapy: A case study. *Anthrozoos*, 10(1), 53–56.
- Allen, J. M., Kellegrrew, D. H., & Jaffe, D. (2000). The experience of pet ownership as meaningful occupation. *Canadian Journal of Occupational Therapy*, 67(4), 271–278.
- Altschuler, E. L. (1999). Pet-facilitated therapy for posttraumatic stress disorder. *Annals of Clinical Psychiatry*, 11(1), 29–30.
- Angulo, F. J., Siegel, J. M., & Detels, R. (1996). Pet ownership and the reliability of the companion animal bonding scale among participants of the multicenter AIDS cohort study. *Anthrozoos*, IX, 5–9.
- Baker, A. (1992). Pet ownership and risk factors for cardiovascular disease. *Medical Journal Australia*, 157, 298–301.
- Banman, J. K. (1995). Animal-assisted therapy with adolescents in a psychiatric facility. *The Journal of Pastoral Care*, 49(3), 168–172.
- Barba, B. E. (1995). The positive influence of animals: Animal assisted therapy in acute care. *Clinical Nurse Specialist*, 9(4), 199–202.
- Bardill, N., & Hutchinson, S. (1997). Animal-assisted therapy with hospitalized adolescents. *Journal of Child and Adolescent Psychiatric Nursing*, 10(1), 17–24.
- Barker, S. B., & Dawson, K. S. (1998). The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services*, 49(6), 797–801.
- Bernstein, P. L., Friedmann, E., & Malaspina, A. (2000). Animal-assisted therapy enhances resident social interaction and initiation in long-term care facilities. *Anthrozoos*, 13(4), 213–224.
- Carmack, B. J. (1984). Animal-assisted therapy. *Nurse Educator*, 9(4), 40–41.
- Carmack, B. J., & Fila, D. (1989). Animal-assisted therapy: A nursing intervention. *Nursing Management*, 20(5), 96–101.
- Cole, K. M., & Gawlinski, A. (1995). Animal-assisted therapy in the intensive care unit. *Nursing Clinics of North America*, 30(3), 529–536.
- Counsell, C. M., Abram, J., & Gilbert, M. (1997). Animal assisted therapy and the individual with spinal cord injury. *Scinursing*, 14(2), 52–55.
- Crosby, J. T. (2006) The human-animal bond. *Your Guide to Veterinary Medicine*. Retrieved June 06, 2006, from <http://vetmedicine.about.com/cs/diseasesall/a/humananimalbond.htm>

- Crowley-Robinson, P., & Blackshaw, J. K. (1998). Nursing home staffs' empathy for a missing therapy dog, their attitudes to animal-assisted therapy programs and suitable dog breeds. *Anthrozoos*, *11*(2), 101–104.
- Cushing, J. L., & Williams, J. D. (1995). The wild mustang program: A case study in facilitated inmate therapy. *Journal of Offender Rehabilitation*, *22*(3/4), 95–112.
- Delta Society. <http://www.deltasociety.org>
- Dossey, L. (1997). The healing power of pets: A look at animal-assisted therapy. *Alternative Therapies in Health and Medicine*, *3*(4), 8–16.
- Dossey, L. (2005). Resident and therapist views of animal-assisted therapy: Implications for occupational therapy practice. *Australian Occupational Therapy Journal*, *52*(1), 43–50.
- Doyle, K., & Kukowski, T. (1989). Utilization of pets in a hospice program. *Health Education*, *20*, 10–11.
- Farias-Tomaszewski, S., Jenkins, S. R., & Keller, J. (2001). An evaluation of therapeutic horseback riding programs for adults with physical impairments. *Therapeutic Recreation Journal*, *35*(3), 250–257.
- Fick, K. M. (1993). The influence of an animal on social interactions of nursing home residents in a group setting. *The American Journal of Occupational Therapy*, *47*(6), 529–534.
- Fine, A. (2000). *Animal-assisted therapy. Theoretical foundations and guidelines for practice*. San Diego, CA, US: Academic Press.
- Folse, E. B., Minder, C. C., Aycok, M. J., & Santana, R. T. (1994). Animal-assisted therapy and depression in adult college students. *Anthrozoos*, *7*(3), 188–194.
- Gammonley, J., & Yates, J. (1991). Pet projects: Animal assisted therapy in nursing homes. *Journal of Gerontological Nursing*, *17*(1), 12–15.
- Gardner (1998). A con's best friend: State program pairs pups with prisoners to provide companions for the disabled. North Central Massachusetts, MA: Sentinel & Enterprise.
- Granger, B. P., Kogan, L., Fitchett, J., & Helmer, K. (1998). A human-animal intervention team approach to animal-assisted therapy. *Anthrozoos*, *11*(3), 172–176.
- Hanselman, J. L. (2001). Coping skills interventions with adolescents in anger management using animals in therapy. *Journal of Child and Adolescent Group Therapy*, *11*(4), 159–195.
- Hansen, K. M., Messinger, C. J., Baun, M. M., & Megel, M. (1999). Companion animals alleviating distress in children. *Anthrozoos*, *12*(3), 142–148.
- Harris, M. D., Rinehart, J. M., & Gertsman, J. (1993). Animal-assisted therapy for the homebound elderly. *Holistic Nursing Practice*, *8*(1), 27–37.
- Havener, L., Gentes, L., Thaler, B., Megel, M. E., Baun, M. M., Driscoll, F. A., et al. (2001). The effects of a companion animal on distress in children undergoing dental procedures. *Issues in Comprehensive Pediatric Nursing*, *24*, 137–152.
- Holcomb, R., Jendro, C., Weber, B., & Nahan, U. (1997). Use of an aviary to relieve depression in elderly males. *Anthrozoos*, *10*(1), 32–36.
- Holcomb, R., & Meacham, M. (1989). Effectiveness of an animal-assisted therapy program in an inpatient psychiatric unit. *Anthrozoos*, *2*(4), 259–264.
- Ianuzzi, D., & Rowan, A. N. (1991). Ethical issues in animal-assisted therapy programs. *Anthrozoos*, *4*(3), 154–163.
- Katsinas, R. P. (2000). The use and implications of a canine companion in a therapeutic day program for nursing home residents with dementia. *Activities, Adaptation, and Aging*, *25*(1), 13–30.
- Law, S. & Scott, S. (1995). Tips for practitioners: Pet care: A vehicle for learning. *Focus on Autistic Behavior*, *10*(2), 17–18.
- Levinson, B. (1962). The dog as "co-therapist". *Mental Hygiene*, *46*, 59–65.
- Levinson, B. (1969). Pets and old age. *Mental Hygiene*, *53*(3), 364–368.
- Limond, J. A., Bradshaw, J. W. S., & Cormack, K. F. M. (1997). Behavior of children with learning disabilities interacting with a therapy dog. *Anthrozoos*, *10*(2/3), 84–89.

- Lukina, L. N. (1999). Influence of dolphin-assisted therapy sessions on the functional state of children with psychoneurological symptoms of diseases. *Human Physiology*, 25(6), 56–60.
- Mallon, G. P. (1994). Cow as co-therapist: Utilization of farm animals as therapeutic aides with children in residential treatment. *Child and Adolescent Social Work Journal*, 11(6), 455–474.
- Marr, C. A., French, L., Thompson, D., Drum, L., Greening, G., Mormon, J., et al. (2000). Animal-assisted therapy in psychiatric rehabilitation. *Anthrozoos*, 13(1), 43–47.
- Maslow, A. (1970). *Motivation and Personality* (2nd ed.). New York: Harper & Row.
- Moneymaker, J., & Strimple, E. (1991). Animals and inmates: A sharing companionship behind bars. *Journal of Offender Rehabilitation*, 16(3–4), 133–152.
- Moore, D. (1984). Animal-facilitated therapy: A review. *Children's Environments Quarterly*, 1(3), 37–39.
- Nathanson, D. E. (1998). Long-term effectiveness of dolphin-assisted therapy for children with severe disabilities. *Anthrozoos*, 11(1), 22–32.
- Nathanson, D. E., de Castro, D., Friend, H., & McMahon, M. (1997). Animal-Assisted Therapy for Children with Pervasive Developmental Disorder. *Western Journal of Nursing Research*, 24(6), 657–670.
- Nathanson, D. E., de Castro, D., Friend, H., & McMahon, M. (1997). Effectiveness of short-term dolphin-assisted therapy for children with severe disabilities. *Anthrozoos*, 10(2/3), 90–100.
- National Center for Equine Facilitated Therapy. <http://www.nceft.com>.
- Nielson, J. A., & Delude, L. A. (1994). Pets as adjunct therapists in a residence for former psychiatric patients. *Anthrozoos*, 7(3), 166–171.
- Odendaal, J. S. J. (2000). Animal-assisted therapy: Magic or medicine? *Journal of Psychosomatic Research*, 49, 275–280.
- Prison Pet Partnership Program (2003). <http://members.tripod.com/~prisonp>.
- Reichert, E. (1994). Play and animal-assisted therapy: A group-treatment model for sexually abused girls ages 9–13. *Family Therapy*, 21(1), 55–62.
- Reichert, E. (1998). Individual counseling for sexually abused children: A role for animals and storytelling. *Child and Adolescent Social Work Journal*, 15(3), 177–185.
- Rieger, G., & Turner, D. C. (1999). How depressive moods affect the behavior of singly living persons toward their cats. *Anthrozoos*, 12(4), 224–233.
- Sachs-Ericsson, N., Hansen, K., & Fitzgerald, S. (2002). Benefits of assistance dogs: A review. *Rehabilitation Psychology*, 47(3), 251–277.
- Shalev, A., & Ben-Mordehai, D. (1996). Snakes: Interactions with children with disabilities and the elderly – some psychological considerations. *Anthrozoos*, 10(4), 182–187.
- Taylor, E., Maser, S., Yee, J., & Gonzalez, S. M. (1994). Effect of animals on eye contact and vocalizations of elderly residents in a long term care facility. *Physical and Occupational Therapy in Geriatrics*, 11(4), 61–71.
- Therapy Dogs, Incorporated. <http://www.therapydogs.com>
- Therapy Dogs, International. <http://www.tdi-dog.org>
- Turner, D. C., & Rieger, G. (2001). Singly living people and their cats: A study of human mood and subsequent behavior. *Anthrozoos*, 14(1), 38–46.
- Walsh, P. G., & Mertin, P. G. (1994). The training of pets as therapy dogs in a women's prison: A pilot study. *Anthrozoos*, 7(2), 124–128.
- Wells, E. S., Rosen, L. W., & Walshaw, S. (1997). Use of feral cats in psychotherapy. *Anthrozoos*, 10(2/3), 125–130.
- Wilkes, A. N., Shalko, T. K., & Trahan, M. (1989). Pet Rx: Implications for good health. *Health Education*, 20, 6–9.
- Willis, D. A. (1997). Animal therapy. *Rehabilitation Nursing*, 22(2), 78–81.
- Zisselman, M. H., Rovner, B. W., Shmuely, Y., & Ferrie, P. (1996). A pet therapy intervention with geriatric psychiatry inpatients. *The American Journal of Occupational Therapy*, 50(1), 47–51.