Human Animal Interaction and Interaction Involvement

A Thesis by

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DEDICATION

Life is not a journey to the grave with the intention of arriving safely in a pretty and well-preserved body, but rather to skid in broadside, totally worn out and proclaiming, “Wow, what a ride!” –Unknown

Thank you for this journey I walk. It has not been easy, or so difficult without a way of escape. Yet, it is probably not one that I would have asked for with foreknowledge; for I am not sure I could have borne it. But, I am grateful.

In this life, no matter who we are, we have never “done it ourselves”; there is always a social aspect, an interdependency of sorts whether it is the horse that assists my old neighbor in plowing his field (yes, some still do this), the person who made the bicycle I ride to work, or the person who owns the gas station from which we purchase fuel for our cars. There is always someone (or something) in the recesses who has made our lives possible. It might be a spoken “yes” when the person might have wanted to say “no” because it was safer; but, they said “yes” anyway. It might have been as horrendous as an unexpected life altering event, which forever changes one’s life; and through it, the new road traveled ends up crossing someone else’s road. These interconnecting roads and new pathways shape and hone us into the individuals we become, oftentimes for the better if we let it.

There is one thing I cannot understand however, and that is this: The more I learn in life, the more I am forever humbled in knowing I “don’t know so much”. All in all though for the journey I am grateful. Although the wind blows one old, I am renewed in my vision to live life to its fullest, to embrace it, to love others, and hopefully leave a legacy of Love that others paths would forever be altered in His light.
I dedicate this project to Lily, willing to travel with me and come to this place we had never been, to follow a dream. Thank you. I am forever grateful to you and for you. God knew when you were born you and I would walk this way together. I am so glad you are here. I love you.

To Luke, your experience last year reminded me of the preciousness of love, the importance of seizing each day, and the need to take the risks, because I may not have tomorrow. You remind me each day you go forward, to go “for the dream” to love and help people, and to not let the past hamper your way.

Thank you, Caleb and my family, although not always understanding what I did nor why, you all still care about me.

Thank you to everyone in this life I have had the privilege of walking with on the journey. I have had the best of friends who have supported and helped me to get to this place. Thank you for the prayers and support. Thank you for always being there when I needed you and even when I just wanted you to be there. You were…

And finally, to my students, thank you. I have learned so much from you all. To this end, I would like to leave a word from Martin Luther King Jr. I have told you that sometimes we may have or feel an ethical responsibility to act regardless of the outcome because it is the right thing to do. We will not always speak out because we win, or get something in return. We do it because it is the right thing to do. Leaders will not always do everything right, but they will do the right things.

“In the end, we will remember not the words of our enemies, but the silence of our friends.” Martin Luther King Jr.
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Speaking of interdependency and not “doing it ourselves”, I would like to extend some special acknowledgements to those who helped this study arrive at this juncture. Thank you to the team of professors who took their time to assist me in completing this project. You were willing to explore where many would not. Dr. Ferrante, you believed in a project and inspired me to go forward. A special thank you to Dr. Bodor, who spent countless hours assisting me in this quantitative study helping me to learn more than when I started in SPSS and Excel. You shared the excitement and interest in the project that it took to keep going. Dr. Halkowski, thank you for your willingness to serve on my committee. Your expertise and reputation at this university I value. Also, sitting under your tutelage, I see why you have gained this reputation and I have learned much from you in understanding conversation. As well, my medical experience of last year, and your insight into the medical field has broadened my knowledge base.

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Abstract

With increasing use of animals for therapeutic intervention, learning assistance, and health promotion, it becomes increasingly important to understand potential outcomes. Although animals are currently used as tools to increase, improve, and teach communicative skills, little to no documentation of the outcome of human animal interaction (HAI) on people’s communication exists within the communication literature.

This study lays groundwork for such documentation by exploring the link between humans’ interaction with animals and their interaction involvement in human relationships, measuring attentiveness, perceptiveness, and responsiveness. The findings show that the degree of animal interaction (DAIS) is a significant predictor of human interaction involvement (IIS), and the components of attentiveness and perceptiveness. In addition, having utilized a measure presented by Poresky, Hendrix, Mosier, and Samuelson (1987), the researcher modified their contributions to present a more statistically reliable measure in which to measure human animal interaction.

Keywords: human animal interaction, interaction involvement, communication, bond
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“Although companion animals do not speak our language, they clearly understand and communicate with us in a myriad of ways.”
-Froma Walsh (2007) Human-animal bonds I: The relational significance of companion animals (p. 469)

People who have a pet know what it is like to stroke the animal, or even talk with it, building trust with this four- or two-legged friend. Such interaction with animals can provide significant health benefits (Becker, 2002; Fine, 2006; Walsh, 2007). Capitalizing on these benefits, many doctors, psychology professionals, and others have been turning to therapy animals for therapeutic intervention and learning for their clients and patients (Arkow, 2006; Bauer, 1972; Engel, 1997; Esordi, 2000; Katcher and Beck, 2006; Mallon, 1994; Taylor, Kielhofner, Smith, Butler, Cahill, Ciukaj, and Gehman, 2009; Tolson, 1997). As the uses of animals for therapeutic intervention, health improvement, learning of social and reading skills, and healthy behaviors increases, it becomes imperative to understand what is transpiring.

**Statement of the Problem**

Prior to the 1980’s, negligible research existed on the role of animal interaction in human development (Robin and ten Bensel, 1985). However, current research, particularly in psychology, documents the benefits of working with animals and the healing outcomes (Becker, 2002; Esordi, 2000). Earlier research during the 1980’s focused primarily on the benefits of working with pet type animals (Karol, 1988), but more recent work includes equine therapy and other larger animals (Taylor et al., 2009).

Some feel the research is overall still not enough. According to Walsh (2009), of the Center for Family Practice in Chicago, Illinois, the therapeutic value of animal companionship is under researched. “As a topic of research, it is marginalized and grossly underfunded” (Walsh, 2009, p. 476). Fine (2006), who specializes in treating children with ADHD, learning disabilities, and developmental disorders, notes a lack in reliable empirical evidence on the effectiveness of
animal-assisted therapy and activities. In particular, animal therapy research has been neglected in some fields such as sociology (Bryant, 1979), mental health, where “attachments with companion animals have been undervalued and even pathologized in the field” (Walsh, 2009, p. 462), and communication, where the researcher found nothing.

While psychologists move to analyze and record the benefits of working with animals (Fournier, Geller, and Fortney, 2007), there appears to be little documentation of communicative benefits in communication research. In particular, no quantitative research exists on the relationship, between involvement with animals and interpersonal relationships. It will be useful to ascertain what association, if any, there is between human animal interaction and communication within human relationships. Once a baseline relationship is established, it will be possible to explore the complexities of communication development in the process of animal interaction. The modest purpose of this research is to document the most basic relationship between these variables.

**Purpose and Intent**

Although animals are currently used to teach, increase, and improve communicative skills, the lack of documentation of the relationship between human animal interaction and communicative behaviors within the communication literature is disconcerting. Horses and other animals have been utilized with school children (Tribovich, 2009), children with autism (Taylor et al., 2009; Tolson, 1997), emotionally and behaviorally disordered (EB/D) children (Mallon, 1994), people with learning disabilities (L/D) (Katcher and Teumer, 2006), nurses in need of therapeutic intervention (Rose, 2008), CEO’s of companies (Lehman, 2009), and incarcerated teens and adults (Fournier et al., 2007) among others, to teach communication and social skills. The evidence of benefits ought to be systematically analyzed and documented from a
communication perspective. There is a need for scholarly research in communication to document work done with human animal interaction. This study explores the extent to which interacting with animals is associated with future interactional involvement with other people.

This study explores associations between Human Animal Interaction or HAI (Fournier et al., 2007) with interactional involvement in human communication. Something transpires when a human and an animal interact. Could the reciprocity that exists in this interaction, that mimics communication between persons, motivate future behaviors or help someone interact with others? Answers to this question lay in future research on communication in animal therapy. The purpose of this thesis is simply to lay the groundwork for such research by gathering basic empirical data and beginning to document the relationships between key variables.

In the current study, the researcher seeks to discover whether there is a basic relationship between human animal interaction and the dimensions of attentiveness, perceptiveness, and responsiveness in human interactions. Once documentation of such a relationship is established, it will be possible to begin to explore the complexities of communication within the therapeutic process, and ways that animal interaction may play a role in solving communication related problems. It is hoped there will be heuristic value in introducing research on human animal interaction into the communication literature.
Chapter I (continued): Literature Review

Symbolic interaction theory suggests that humans create shared meaning through face to face communication. Future communicative actions of individuals are dictated by how individuals interpret the present ones (Blumer, 1969; Cooley, 1962; Dewey, 1991; Kidd, 1998; Mead, 1934; Manis and Meltzer, 1967; Winefield, Black, and Chur-Hansen, 2007). Oftentimes however, loneliness, emotional wounds, handicaps, or busy lives, make the reciprocity of a human relationship seemingly impossible. For many people, it seems that involvement with animals may be useful in helping them to interact with others. This can be understood through the theoretical framework of symbolic interaction theory. Through the lens of symbolic interaction, it will be possible to understand how change is facilitated within individuals by interacting and bonding with animals (Mead, 1934; Blumer, 1969).

Symbolic Interaction as a Theoretical Foundation

“Symbolic interaction” (Mead, 1934; Manis and Meltzer, 1967) was coined by Blumer (1969) to describe the interpretive process involved when individuals apply meaning to their encounters with society and the environment (Joas, 2001). Symbolic interaction is one of the major theories of the sociological discipline, and has been used extensively in other disciplines such as psychology and communication. Contributors to the research are George Herbert Mead, John Dewey, Charles Horton Cooley, W.I. Thomas, William James, Robert E. Park, and James Mark Baldwin, Robert R. Redfield, and Louis Wirth (Blumer, 1969). Blumer, a former student of Mead, took Mead’s ideas posthumously and established the theory; other students published his teachings through their notes in Mind, Self, & Society (Mead, 1934).

The three basic premises of the theory are 1) Humans act toward things based on the meanings they have for them. 2) Current interaction is based on pre-knowledge of prior
interaction. 3) Meaning is an interpretive process. Each encounter modifies meaning for individuals (Blumer, 1969). Each contributor offers concepts that assist in describing the process of symbolic interaction.

Mead (1934) noted recognition of “significant symbols” that help a person to respond or anticipate another’s behavior, structuring one’s own behavior to the potential reactions of others. According to Sandstrom, Martin, and Fine (2001), “We determine what meaning to give to a situation and how to act through taking account of the unfolding intentions, actions, and expressions of others” (p. 219). Mead (1934) explained how significant symbols could help humans to foretell a person’s action or to anticipate it. He referred to this process as a role. Mead noted people need to get to the point where they anticipate how someone will respond when they do this or that action. Only then has the place of role-taking capability been fully developed (Mead, 1934).

Mead (1934) saw role taking as the ability to take on others’ perspectives. Individuals who understand themselves are able to take up different roles, which Mead referred to as the “I” (instinct of who one is) and “Me” (who we form ourselves into in social groups-a self image). People are not trapped in perspectives of their own, but can see through someone else’s, which he called the “generalized other” (Joas, 2001, p. 93).

Mead (1934) saw a group in cooperation rather than an individual organism in a social encounter. He referred to this as the human society, one in which humans assist or hinder others in actions or gestures where one action counters another (“syncopated act’’) by manipulation of physical things. The physical things and the people interacting are both integral elements of the situation within social interactions and are referred to as “situated identities” (Clagett, 1988, p. 104). According to Joas (2001), Mead’s model sees action as made up of four stages: impulse,
perception, manipulation and (need-satisfying) consummation. For animals, interaction is solely about satisfying needs. For humans, it is much more; humans are able to manipulate without a need (Joas, 2001).

According to Mead (1934), when interaction takes place, the past experience of individuals is important because it shapes “templates” of meaning as people react to their experiences or environments. He further argued that there is dependence between the individual and society in that self-identity is developed by these interactions in the cognitions of the individual (Mead, 1934).

Dewey (1991), a pragmatist, applied Mead’s concepts to learning. He described reflective thought as “active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it, and the further conclusions to which it tends (p. 6).” For Dewey knowledge was not absolute; it always changed. People develop with each new encounter. The world sends a problem and people must respond in the form of a solution--it is more than the five senses. This change and response caused Dewey to see value in ambiguity or uncertainty because it thrust people into reflective thinking (Dewey, 1991).

Dewey (1991) was fascinated with the power of role models and imitating. He believed that everyone can excel at something even if they may appear obtuse in other areas; being a good example is important because while teaching a school lesson, a teacher may inadvertently display a significant character trait that can evoke imitation of it by students (Dewey, 1991).

Cooley’s (1962) contribution centers on how self concept develops through a person’s social consciousness. Through social consciousness, people develop a sense of who they are as individuals and how they perceive society’s expectations of how they should look or behave. Cooley (1962) defines recognition of self through society with Mead’s (1934) idea of “I” by
describing how a toddler around age two develops “I” consciousness by being aware of others as different from them. Cooley (1962) defines “we” as mutual togetherness, “personalities of commonality” (p. 7) and his idea of love was sacrificial action. Cooley (1956) referred to an awareness of how people perceived others expected them to look and behave as the “looking glass self” or “reflected self” (p. 458). This is the conscious awareness of how one’s own actions and looks will influence another or have power over them or how an expectation of what another desires of us can influence our choice of look and behavior. One example from Cooley (1956) explains that a sensitive man will become his own interpretation of what he thinks a more imposing personality expects of him. Conscious awareness of self makes imitation possible.

The individual interprets another’s action within the context of shared judgments of what is acceptable and unacceptable (Blumer, 1969; Dewey, 1991). Blumer referred to “joint action” as a cause-effect response through repetitious action within groups defining the acceptable and unacceptable (p. 17). With the emphasis on interpretation, further actions are based on these continually modified shared meanings (Blumer, 1969). Blumer and Mead (1934) agreed on the position that social interactions or responses to others may vary based on prior interpretations of the environment and social interactions.

Symbolic interaction theory has a two-fold outcome for individuals—uniqueness and unity through interaction. Individuals not only develop a sense of identity of who they are as persons; they develop a sense of unity with the people with whom they interact, thus creating cohesion within a group. Unity is accomplished through the process of sharing meanings for certain terms or actions within a group and individuals in turn establish their uniqueness within the group.
Some see face to face communication as approximated by parasocial symbolic interactionism which is grounded in the theory of symbolic interactionism (Rubin, Perse, and Powell, 1985). For example, television plays a significant role in creating social reality (Hawkins and Pingree, 1981). The inundation of constant imaging and persuasion on television in which the construction of relations with non-human elements exists, makes the idea of human-animal parasocial relationships plausible. If humans can construct social realities through television, then why not through animals? Plato’s allegory of the cave environment alerts one to the construction of social existence through the interaction with shadows on a wall. Unaware of what is outside the cave, it reminds one of the menace of being trapped in a box of thought, the paradigm that communication exists only through and about humans (Langer, 1989; Mead, 1934; Morgan, 1997).

Significant symbolic interaction with animals could meet communicative needs through the process of internalization (Berger and Luckmann, 1966; Mead, 1934). By utilizing symbolic interaction within the context of human animal interaction, an individual can replace an old framework of their identity with a new one. If an individual’s response is based on prior communication experience (Blumer, 1969; Burke, 1966; Mead, 1934), then future responses can be based on new social interaction within a safe environment where new shared meanings are made. A new understanding of the self develops, and the individual acquires a position within a social group.

**Filling in Gaps with Ambiguity**

Research shows use of ambiguity in human relationships can be a tool to create connection (Bamberg, 1991; Batteau, 2001; Berger, 1979; Dibner, 1958; Eisenberg, 1984, 2007; Komesaroff, 2005; McLoughlin, Badham, and Palmer, 2005; Norton, Frost, and Ariely, 2007;
Philip and Gold, 2005; Putnam and Sorenson, 1982). People are attracted to relationships where they perceive similarity to others (Clore and Byrne, 1974). Limited information, one way communication (such as television), or vague or ambiguous messages all leave gaps in communication. Typically, the receiver will fill in gaps in their understanding based on their preknowledge of an issue or situation (Eisenberg, 1984). The vaguer a message is the more presumed information is filled in by the receiver. Because gaps are filled in by a receiver’s projection of their own thoughts and beliefs, it leaves them believing they are more similar than may actually be the case. According to Norton, Frost, and Ariely (2007), when information is limited between people, individuals fill in the gaps with assumptions of similarity, finding justifications for these assumptions.

Another instance where ambiguity can be seen in relationships is where an individual begins to care for another being. Human relationships and responsibility involved in relationships make a person feel less lonely (Davis and Juhasz, 1995). They help a person feel a sense of allegiance interpersonally and dictate their importance to another being. According to Goffman (1967), “Lack of effort on the part of one person induces compensative effort from others; a contribution by one person relieves the others of the task (p. 27).” Taking care of an animal may well leave a person feeling responsible and less lonely, giving the person a sense of importance. Animals give no spoken responses, but they tend toward allegiance to an individual. The lack of information could leave a person projecting onto an animal a sense that the animal understands (Norton et al., 2007). Thus, people with a high degree of involvement with animals may interpret their encounters with animals in a positive way that may in turn help them interact interpersonally with other people.
Human Issues, the Parasocial, and the Issue of Transferability

When the kinds of human interactions needed for individuals are missing, gaps in the communication may be ameliorated through involvement with animals. Fine (2006) reports success in the treatment of children with attention, behavioral, adjustment, and developmental disorders with his four therapy dogs and birds. Owning and interacting with pets seems to be good for people in general. Some studies support a strong relationship between pet ownership and overall health (Katcher and Beck, 2006; Ross, 2005; Wilkinson and Marmot, 2003), although some see inconsistency in the relationship (Friedman, 2000).

Still others see the relationship between a human and an animal as a type of parasocial or imitation of human relationships with the propensity of transfer. McNicholas and Collis (2006) argue that the interaction between animals and humans mimics social interactions with humans. People describe human animal interaction in the “language of relationships” (McNicholas and Collis, 2006, p. 54). The experience with an animal is admittedly different than with a human; yet, the experience is representative of Mead’s (1934) description of imitation such as a child imitating a mommy or a reader “getting into” a fictional, suspenseful book. The caretaker of an animal attaches identity to the animal (e.g. calls it by name) and augments their own identity to include the animal (e.g. Bob is Lily’s dog). The animal may become a member of the family, being included in family events and may even receive birthday presents.

Being with animals does appear to help people in a number of ways. Documentation exists of the transferability of skills and improvement from animal interaction to other areas of individuals’ social interaction (Burgon, 2003) and of negative transference between animal abuse and interpersonal violence (Arkow, 2006). Animal-assisted therapy helps children control their behavior and like themselves; this transfers to other living creatures and social settings as well.
HUMAN ANIMAL INTERACTION AND INTERACTION INVOLVEMENT

(Gonski, 1985; Ross, 2005). Care for an animal teaches nurturing behavior (Beck and Katcher, 1984). The nonjudgmental animal allows patients to change without fear of others; people learn from the animals and about them (Samuels, 2004). Arkow (2006), of the American Humane Association in Englewood, Colorado and The Latham Foundation in Alameda, California, insists animal-assisted therapists know animals are “catalysts for communication” (p.446). Social integration is increased with school children (Kotrschal and Ortbauer, 2003). In addition, researchers document improved desire to communicate among the elderly (Levinson, 1972); long-term care patients increase their initiation of social interaction (Bernstein, Friedmann, and Malaspina, 2000).

Within the study of autism, there is evidence of a decrease in self centered behaviors and an increase in motivation to engage in communication, all seemingly transferred from working with animals. Autism, a cause of delays and deviance in the development of children, has effects on communication and social skills (Dewey, Lord, and Magill, 1988; Taylor et al., 2009; Tolson, 1997). Autism may be associated with a lack of volition or “level of engagement” needed to achieve successful communication and social skills. Such problems can be greatly improved through working with horses (Taylor et al., 2009, p. 193). Children with autism interact with animals more readily than with people (Nebbe, 1991) because the animals are more engaging. Moreover, the additional structure required or boundaries that a child must observe in interacting appropriately with an animal seem to have a positive influence on communication (Dewey et al., 1988). One eight week therapeutic horseback riding study documented a decrease in echolalic speech (the compulsive repetition of words or sounds) and self-directed behaviors, and increased other directed behaviors (Dewey et al., 1988).
Developmental Need for Interaction

Research shows having no human contact or interaction with others can cause people to cease to thrive. This is seen in orphanages where babies are mentally handicapped from being left in beds without human contact for long periods of time. It is also apparent in people with agoraphobia who become isolated from human contact within their homes and struggle with the resulting paranoia. Human contact is important to development and mental and physical health. This section discusses the importance of human contact in developing communication skills and the role human animal interaction can play in overcoming shyness.

Communication is a major part of children’s development. Researchers found the age at which a person had their first pet has a role in development of a person’s self-concept (Poresky, 1997b; Poresky, Hendrix, Mosier, and Samuelson, 1988). The crucial years are prior to the age of six and after age 10 (Poresky et al., 1988). Bonding with an animal and caring for the animal may serve to aid in this process. According to McCroskey (1982), “The Federal government recently has identified five basic skills deemed essential for all children (and by implication, all adults): reading, writing, speaking, listening, and mathematics. Four of these are communication skills” (p. 1). Children raised with pets are better at decoding body language and are more empathic, which can directly affect their writing, speaking, and listening. They must develop skills to decode the body language of an animal (Becker, 2002) and these decoding skills may be transferred for use in interaction with humans. Purdue University professor of child development, Melson, Schwarz, and Beck (1997) observe that animals are full of information and the non-verbal communication that transpires within interaction helps a child to experience the social and physical world (Becker, 2002). Interaction with an animal combats egocentrism within children. It necessitates development of empathic skills, understanding that the animal has
differing needs from their own. Children also learn the importance of good behavior through their own actions. Moreover, a Swiss study of children aged four to eight found higher scores in self-reliance as a result of caring for a cat. In addition, cat and dog caretakers scored higher in prosocial behavior (Becker, 2002). In Poresky and Hendrix’s (1990) study of preschoolers, the stronger the bond with an animal, the higher the development of social competency in the child (Becker, 2002, p. 32).

There is evidence to suggest that interaction with animals may help shy people to engage more fully with others. Shyness or introversion, usually considered a personality trait, according to research, is really more about poor social skills than genetics; in clinical practice it is related to loneliness (Kalliopuska, 2008). Tests reveal a tendency for shy persons to engage in empathic listening while withholding self-disclosure (Kalliopuska, 2008). Self-disclosure constitutes the balance or the reciprocating part of the dyad in relationships—it is the “re” in relationships, the two way direction or symmetry in communication. A study of internet use revealed extroverted personalities sought websites designed for social interaction while introverted personalities preferred the sanctuary of the Internet as a protective buffer from the outside world (Amichai-Hamburger, Kaplan, and Dorpatcheon, 2008). For the introverted personality, symmetrical interaction with others is avoided. Interaction with animals can provide a template for greater responsiveness in subsequent interactions with humans.

Moreover, there is strong evidence of the need for contact with nature for healthy development (Ulrich, 1993). Animal interaction promotes biophilia which is the interaction with and learning of life processes (Wilson, 1984). Levinson (1997), a pioneer in the use of animals for psychotherapy, stated the benefits of being close with an animal include increases in self-esteem, self-control, and autonomy. Yet these days, with the advent of social media, many
children are spending less time outdoors, rarely having contact with nature at all and too often developing a dislike for or fear of nature in general. Louv’s (2005) book entitled, *Last Child in the Woods: Saving our Children from Nature-deficit Disorder*, reinforces this thought by sharing his observation that children may know all the characters from a television show or video game, but could not identify an otter or beaver. They prefer the solace of technology to the unknown outdoors. Fine (2006) asks the question, “How does the lack of experience with animals and nature affect our capacity for language, narration, and metaphor?” (p. 45). In the context of such a stressed and technologically driven environment, the need for human animal interaction is greater than ever.

**Human Animal Interaction**

Human animal interaction (HAI) is understood to be what it is with no definition offered by some researchers (Fournier et al., 2007). According to Wilson (2006) there is no definition in MEDLINE the “most commonly used database in the United States for health-related topics” (p. 504). She defines HAI as “interactions” between humans and animals (Wilson, 2006, p. 503). Psychology research reveals it is not simply ownership of a pet or animal that has any bearing on the individuals; it is the connection shared with an animal that has influence (Poresky et al., 1987). It is about connection with animals, most of which is *not* considered pet therapy.

When human animal interaction is sought out or arranged specifically for these reasons, it is referred to as “animal-assisted interventions” or animal therapy (Kruger and Serpell, 2006, p. 21). According to Kruger and Serpell (2006), animal therapy stems back to 1699 when John Locke encouraged caring for an animal to teach responsibility and empathy to children.

McNicholas and Collis (2006) look to two terms to describe HAI—“social relationship” and “social interaction” (p. 56-57). Social interactions are the basic unit of social relationships.
Social relationships are built upon the interactions. Interactions are in the present; relationships are historical. The current interaction takes into account the relationship history. Relationships are made in the cognitions of the individuals, with expectations having developed from the past experiences; unseen, these expectations help to define the future interactions. How people talk to animals is an indicator of relationship and a building of identity of the pet.

Significant beneficial outcomes have been attributed to HAI in many articles and books. Some uses of HAI are communicative, social, and medical. Research and success stories of therapeutic interventions have resulted in changes for individuals in their communication and social skills.

**Communication outcomes.** Documentation from other disciplines records the uses of human animal interaction for increasing and improving communicative behaviors towards others. Between 2003 and 2005, a pilot study of 63 children showed improved Global Assessment of Functioning (GAF) scores for all children, with a significant improvement in those with history of neglect and abuse and younger children. GAF scores are a subjective ranking of scores ranging from 0-100 that reflect the psychological, social, and occupational functioning of individuals. A significant correlation was observed between the number of visits and increased improvement (Schultz, Remick-Barlow, and Robbins, 2006).

Another example of improved communication was through a 4-year trial of animal-assisted therapy conducted with public school special education students. According to researchers, the program is structured as a farm environment, where each child must meet “requirements for license” to teach that skills must be kept up in caring for animals, and interaction was a privilege earned (Katcher and Teumer, 2006, p. 228; Walsh, 2009). Requirements were altered for differing abilities. Participating children were bused in weekly
from local schools; and involvement was based on the individual education plan (IEP) issued by the school. This works as symbolic interaction in that the child is asked, “to draw inferences from the needs of animals to his own needs and the needs of other children and adults” (Katcher and Teumer, 2006, p. 228). The environment of the farm rapidly causes a cognitive effect of focusing attention toward the environment as opposed to internally, which does not diminish over time. The effect is contextual.

Riding therapy has improved not only mobility but also communication for hemiplegic patients. The Association for Riding for the Disabled, a non-profit charitable organization, was established through Bauer (1972) a previous horseman, then a stroke victim who rehabilitated himself through riding horses, and Dr. R. E. Renaud, a consulting physiatrist at the Toronto Western Hospital. Their organization began by addressing medical issues and later expanded to working with social and communicative needs and the resulting communicative outcomes. Bauer (1972) reveals a story from 1965 of Mrs. L. a hemiplegic who could not even stand on her own. With her right leg in a brace, her right arm limp, and impaired speech, she rode a horse four times per week. With no prior riding experience, she carried out specific exercises designed by Dr. Renaud with Bauer’s assistance. She and her family saw the direct effects on her mobility and her attitudes helping her communication with others. From this success, word spread, people volunteered and four more hemiplegic riders began therapeutic riding (Bauer, 1972).

Riding is also used in therapy with children. Psychotherapists recommend riding for children with “timidity and nervous behaviors” of either “physical, mental, or emotional nature” (Bauer, 1972, p.119). According to Bauer (1972), achievement is a large part of their encounters at the farm, just mounting a horse involves a fair amount of exercise. The horses are utilized to encourage self-reliance and to build confidence. Bauer has set up programs for these children. To
begin, lessons are accomplished privately with the instructor to avoid further ridicule. Later, the child is added to a class where she or he is beyond the other pupils in skill. Overdependence on the instructor is avoided by changing instructors at that point (Bauer, 1972).

Another program works with aggressive and rebellious children (what we now refer to as emotional behavioral disorder, E/BD) where the initial approach changes. Orders of how to care for a horse are not given because these children reject all authority; being told what to do would cause them to actually care less for the horse. Giving orders would only further increase the negative behavioral patterns. Initially, the horse is made ready, and beautiful riding is demonstrated by an instructor with a “take it or leave it” attitude. Interest is sparked in the child, although it may not be visible; and then, an offer is made to teach, with the exception that no abuse is allowed (the latter point being inflammatory to the child). After the lesson, the PRIVILEGE of unsaddling and caring for the horse in a gentle manner is allowed. “Pride of achievement and appreciation of praise will overcome the resentment of advice and orders” (Bauer, 1972, p. 125). Eventual enrollment in a class where the child does not excel in skill is appropriate to avoid domineering. These methods have proved effective with children within a few months where prior to this psychiatrist, educators, and parents had not made progress (Bauer, 1972).

**Social benefits.** Social benefits related to interpersonal behaviors have also been documented. Esordi (2000) observes that people’s communication with pets resembles the talk of a human with an infant. He discusses the similarity of “touch talk” with animals and children. Touch talk is basically using non-verbal interaction and accompanying words making reference to the specified object or thing. Other research supports having pets during adolescence as transitional agents in interpersonal functioning (Wolfe, 1977). Hyde, Kurdek, and Larson (1983)
report empirical evidence that pet ownership can improve adolescents’ empathy and interpersonal trust.

Animals are also used to socially reconnect trauma victims (e.g. Columbine) with the world. According to Schultz, Remick-Barlow, and Robbins (2006), research suggests children who have witnessed violence may respond well to equine therapy as a relationship building experience focusing on trust and communication. Research has shown that these children have difficulty in the developmental representations of relationships. Horses share some similar characteristics of non-verbal behavior and social structures with humans which might facilitate this development. Horses reflect back the non-verbal behavior of a human. Thus, the modality of body language is used to help with expression of feelings and identification (Schultz et al., 2006).

**Medical benefits.** Medical research has also documented the health benefits of pets in relieving stress. Allen, Blascovich, Tomaka, and Kelsey (1991) conducted a study in which stress levels in stock brokers suffering from hypertension in New York City dropped dramatically when a pet was brought into their homes (Becker, 2002). Animals are known to improve morale in people and people display more relaxed behaviors. Animal Assisted Therapy (AAT) studies showed “significant increase in confidence, self-esteem, motivation, and coordination, and a decrease in anxiety and blood pressure levels” (Esordi, 2000, p. 14). Neurophysiologic healing takes place in the mind from animal interaction (Sebeok, 1981). According to Walsh (2009), “One of the strongest areas of research evidence correlates pet ownership with positive physiological measures” (p. 466). A study at Duke University of postoperative heart patients documented self-care performance as better in patients with a pet that they cared for regularly. Usually, these patients make a speedier and full recovery. Animals
are also beneficial in regard to cancer (Becker, 2002). Pickel trains bomb sniffing dogs to sniff melanoma. Long before humans can see a melanoma, a dog can be trained to sniff it out. Moreover, people with pets experience a lower incidence of cancer (Becker, 2002).

**Animals, therapy, and organizations.** Documentation of the benefits abound, and many facilities and groups using animals for meeting needs through therapy and as assistive resources for learning have been established all over the United States (Bauer, 1972; Engel, 1997; Fine, 2006; Hallberg, 2008; Tribovich, 2009). Equine-assisted Therapy (EAP) is becoming more utilized as a useful therapeutic tool and as a training mechanism to address many communication aspects of people’s lives including intrapersonal and interpersonal effectiveness and skills (Schultz et al., 2006; Karol, 1988; Tribovich, 2009).

The most common therapeutic uses of animals are the work of organizations with dogs. One particular group that works with dogs offering emotional service only is Therapy Dogs International, Incorporated. Another, Delta Society, is an organization that provides therapy dogs and handlers for the dogs working with Pet Partners Therapy Dog award winners. At Delta Society, dogs are trained in obedience through eye contact and rewarded with high praise (Butler, 2004). Green Mountain Humane Society (GMHS) is another organization which has done pet visitation since 1989, with dogs, cats, even a llama serving special needs children, schools, hospitals, senior centers and extended care facilities. They have 45 teams serving 21 sites and making 700 visits per year (Esordi, 2000).

Other organizations throughout the U.S. and other countries, such as Camp Oakland Girls’ and Boys’ Ranch in Oxford, Michigan, Pet-A-Pet Incorporated in Detroit, Michigan, Green Mountain Humane Society of White River Junction in Vermont, and Buffalo Woman Ranch in Dove Creek, Colorado all have one thing in common (Fournier et al., 2007. They all
see the benefit of humans working with animals for healing, stress relief, conflict management, motivation, life skills improvement, and more. A weakness of such programs is that evidence of benefits of human animal interaction is almost entirely anecdotal. There is a need for basic documentation of a correlation between human animal interaction and interaction involvement with other humans.

**Interaction Involvement**

Interaction involvement is part of communicative competence which is the ability to engage in logical conversations (Goffman, 1967; Villaume and Cegala, 1988; McCroskey, 1982). The origin of the ideas for communicative competence is Goffman’s work on face engagement (Goffman, 1963). It is defined by researchers as “the extent to which an individual participates with another in conversation” (Cegala, Savage, Brunner, and Conrad, 1982, p. 229). Some believe it to be an internal cognitive trait and others see it as situational (Cegala and Sillars, 1989). Cegala (1989) states this “affects the relative engagement versus detachment an individual generally has in conversation” (p. 311).

Individuals can be categorized as high involved or low involved people depending upon the situation (Cegala, 1984). According to Rubin, Palmgreen and Sypher (1994), “Involved interactants are aware of the demands of the interaction and respond to others appropriately, while the uninvolved are preoccupied with their own thoughts and concerns rather than their partner’s” (p. 187). Highly involved people are aware of the circumstances of interaction and respond appropriately (Cegala and Sillars, 1989). It is the intentionality of a person that makes up whether they have high or low involvement. Whether cognitive or situational, highly involved individuals are more outwardly focused than less involved individuals who are more self-focused.
Interaction involvement consisted originally of two parts—attentiveness and perceptiveness. Attentiveness is “the extent to which an individual is cognizant [sic] of stimuli that comprise the immediate environment” (Cegala et al., 1982). It is the degree to which one is cognitively in the moment with another, the individual is aware of the ongoing interaction (Duran and Kelly, 1988). Perceptiveness is “the extent to which one is knowledgeable of the meanings that others assign to one’s own behavior, and the meanings that one ought to assign to others’ behavior” (Cegala et al., 1982).

Later, perceptiveness was further developed by adding the dimension of responsiveness. Cegala (1984) defines responsiveness as “an index of an individual’s certainty about how to respond in social situations” (p. 321). Responsiveness is the ability to know the right thing to say in any given circumstance. It involves the dialogic part of the interaction.

The three specific parts of interaction involvement, attentiveness, perceptiveness, and responsiveness, comprise the necessary parts that an individual must have to make up this part of communicative competence, being aware of one’s self, the other, and the situation or context. If attentiveness is being aware of the stimuli in the environment, then a person taking care of an animal could exhibit this by acknowledging the ring of a bell. Knowing the ringing of the bell means the dog wants to go outside is what Cegala (1984) referred to as perceptiveness. Responsiveness to this ringing involves going to the door and letting the animal outside, telling the animal that they are good for communicating to you by ringing the bell. Thus, the possibility exists that these three subsets of interaction involvement could be developed within the context of human animal interaction and possibly transferred.
Hypothesis

Many realized it was not ownership of an animal, but the established bond between the human and animal (Levinson, 1982; Kellert and Westervelt, 1983; Poresky et al., 1987). Ainsworth (1973) defines attachment as the “affectional tie that one person forms to another specific person, binding them together in space and enduring over time” (p. 1). Attachment in this study is considered with any animal or pet, and involves the strength of the bond and age at which the human and animal bonded. Research shows children raised with pets must develop skills to decode the body language of an animal and are empirically better at decoding body language and are more empathic. The interaction combats egocentrism and necessitates development of empathic skills, understanding that the animal has differing needs from one’s own. Just caring for an animal creates a bond, in addition to how a person feels about the animal. (Poresky et al., 1987). Human animal interaction resulting in a bond will be positively associated with people’s interaction involvement the subcategories of attentiveness, perceptiveness, and responsiveness. Social relationships are built upon interactions and it is the intentionality of a person that makes them high or low involved.

Therefore, with this understanding, and that whether cognitively or situationally, highly involved individuals are more outwardly focused than less involved individuals who are more self-focused, it is hypothesized that people with high involvement with animals will have higher interaction involvement scores than people who have no or lower involvement with animals.

Summary

The need for human interaction is a necessity for life. The framework of symbolic interaction describes the creation of shared meaning in face to face interaction. When there are gaps in human interaction due to life occurrences such as trauma and abuse or shyness, such gaps
may be bridged through interaction with an animal. When there is a bond created with an animal, individuals may experience a transfer of the social connection from animal to human relationship. It appears that the benefit of social connection can be transferred from human animal interaction to other human interaction. This study seeks to explore associations between human and animal interaction and human involvement.
Chapter II: Method

With increasing use of animals for therapeutic intervention, learning assistance, and health value, it becomes increasingly important to understand potential outcomes. Although animals are currently used to increase, improve, and teach communicative skills, little to no documentation of the outcome of human animal interaction (HAI) on people’s subsequent communication with humans exists within the communication literature.

This study lays the groundwork for such documentation by exploring any association between humans’ involvement with animals and their involvement in human relationships, measuring attentiveness, perceptiveness and responsiveness. The independent variable was animal interaction, which was measured using a modified version of Poresky et al.’s (1987) Companion Animal Bonding Scale (CABS) which measures past and present behaviors and additional questions designed to measure involvement. The dependent variable was interaction involvement, which was measured using the Interaction Involvement Scale which includes measures for attentiveness, perceptiveness, and responsiveness. The Introversion Scale by McCroskey (1982) was also included to control for influences of personality predisposition. The research uncovered any associations between degree of animal involvement as the independent variable and interaction involvement as the dependent variable. It was hypothesized that people with high involvement with animals have higher interaction involvement scores than people who have no or lower involvement with pets.

Instruments and Measures

The major variables in this study were animal interaction and interaction involvement. Respondents completed one survey that included an array of measures. One measure for human animal interaction included Poresky et al.’s (1987) Companion Animal Bonding Scale which
covers both past and present. Modifications to the instrument included: The words companion animal were changed to animal(s). Questions were changed to statements. For example, the first question for past involvement read, How often were you responsible for your companion animal’s care? This question was changed to the statement, Responsible for care of animal(s). There was an option of non-applicable added to compensate for questions that did not apply to the particular animal (e.g. Traveled with animal(s) does not apply to a goldfish or horse). In addition, six statements were added by the researcher that measured more interactive behaviors with the animal and the felt attachments.

Another measure in the survey was Cegala’s (1981) Interaction Involvement Scale which was used to measure interaction involvement (Appendix B, part 2). This measure consisted of 18 statements on a seven point Likert scale that progressed from Not at all like me to Very much like me. It measures the degree to which individuals are engaged in human interaction by self-report of respondents.

The survey used in this study measured three variables. Two variables were used to test the hypothesis. The remaining variable, introversion/extroversion, was used as a control measure. McCroskey’s (1982) Introversion Scale was used to control for influences of personality predisposition (Appendix B, part 2, #19, statements 1-18 only). This measure also consisted of 18 questions. Modifications to the instrument included changing questions to statements. For example, the first question read, Are you inclined to keep in the background on social occasions? This question was changed to I am inclined to keep in the background on social occasions. The intent was to explore any association between the level of animal interaction and interactional involvement by self-report of respondents. This part of the survey was on a five point Likert scale which read, Strongly Disagree to Strongly Agree.
Animal involvement. In this research, there was a need to measure human animal involvement. Many measures have been developed by researchers and scholars in psychology (Johnson, Garrity, and Stallones, 1992; Kafer, Lago, Wamboldt, and Harrington, 1992; Winefield, Black, and Chur-Hansen, 2007; Staats, Miller, Carnot, Rada and Turnes, 1996) with only a very few having tested validity and reliability (Anderson, 2007; Poresky et al., 1987). Even fewer are designed to measure the dynamics of various types of animals. Thus, a need exists for a reliable instrument to measure human animal involvement, including pets and other animals. According to Fournier (2010), Assistant Professor of Psychology at Bemidji State University:

There is a great need for a valid and reliable measure of human animal interaction. People request my scale often to use in their research because there is not a published scale that has been scientifically validated, although there are countless research projects happening today investigating the effects of human animal interaction. (Oral communication, 2010).

Animal involvement, the independent variable, was measured in the first part of the survey (Appendix B). It began by filtering respondents with a series of questions designed by the researcher to establish the respondent’s feeling about animals and their history with animals. The questions differentiated between a respondent with animal involvement and those with no animal involvement with statements such as, *I have no significant involvement with animals now or in the past.* Respondents with no current or past involvement with animals were directed to skip the section on animal involvement and go directly to the human interaction involvement scale. Those claiming either current or past connections with animals continued on with questions derived from Poresky et al.’s (1987) Companion Animal Bonding Scale and additional questions taken
from the Pet Attitude Inventory (Anderson, 2007, p. 82) as well as ones developed by the researcher.

The Companion Animal Bonding Scale (CABS) developed by Poresky, Hendrix, Mosier, and Samuelson (1987) is an instrument completed by respondents’ self-reports. Designed to measure a person’s relationship with a companion animal, it measures how responsible a person feels for the animal. This is important because caring for an animal creates a bond, in addition to how a person feels about the animal. (Poresky et al., 1987). Although other measures have been developed, there are few that have the reputation of reliability as the CABS. According to Poresky et al. (1987), “An SPSS-X reliability analysis of the internal reliability of the scale yielded a Cronbach alpha of 0.77 for the eight-item childhood scale and 0.82 for the contemporary scale” (p. 744). The measure was developed by using behaviors that are observable and therefore measurable. It uses a five point Likert type scale where 5 means “always”, and reduces to 1 which means “never”. The scale asks questions such as “How often did you clean up after your companion animal?” for the childhood scale and “How often do you clean up after your companion animal?” The CABS measure was later adapted to measure both retrospective and contemporary bonds. Poresky and Hendrix (1990) utilized CABS in a study of 88 children. In this study, parents answered the questions about their children. “Benefits for social development were found for the children’s social competence, empathy, and cooperation” (Poresky and Hendrix, 1990, p. 54). In addition, Poresky (1997b) utilized CABS to measure the bonds with childhood pets and adult self-concept scores. Of a study of 394 students, “The boys with dogs, girls with cats, and girls with dogs had higher adult Social Self-concept scores than boys with cats” (Poresky, 1997b, p. 375).
However, this author shares a concern expressed by other researchers that the statements in CABS do not adequately represent bonds with different types or larger animals such as horses (Walsh, 2009). Also, the scale refers to the animal referenced in the scale as “companion animal” and does not take into account that the animal may be a larger animal such as a horse and unable to travel with them (question #7), nor sleep with them (question #8), which represent two of the eight question scale (Poresky et al., 1987, p. 744). Due to this, the researcher adapted the measure. First, the language of companion animal was changed to animal. There was also a “not applicable” column added to account for questions such as 7 and 8 that may not apply to larger animals such as horses. Questions were turned into statements. For instance, “How often were you responsible for your companion animal’s care?” was changed to “Responsible for care of animal(s)”. Finally, the initial scale was changed to the numbers 1-5 with 1 meaning “always” and 5 meaning “never” which were terms in reverse of Poresky et al.’s (1987) original 5-point Likert Scale.

Additional questions added by the researcher in this section included demographic questions taken from the Pet Attitude Inventory (PAI), an instrument which was abandoned by the developer for measures with more reliability and validity, yet, were useful for this study to control for other factors (Anderson, 2007, p. 82).

**Interaction involvement.** Interaction involvement, the dependent variable, was measured using Cegala’s (1981) Interaction Involvement Scale (IIS) in the second part of the survey (Appendix B, part 2). This scale developed by Cegala (1981) is “a useful scale for measuring a general tendency toward, or the state of, involvement during interpersonal interaction” (Rubin et al., 1994, p. 189). It is an indicator of how aware people are with the demands of their interactions. It measures the degree to which people are involved in their
interpersonal encounters with others both cognitively and behaviorally which is where intrapersonal cognitions begin and then are acted upon (Rubin et al., 1994).

In this part, respondents marked a 7-point Likert-type response for each of 18 questions. The questions were separated into the three dimensions: attentiveness, perceptiveness, and responsiveness. Six questions refer to attentiveness, four questions refer to perceptiveness, and eight questions refer to responsiveness. The test-retest reliability is very good ranging from .81 after six weeks (Cegala et al., 1982) to .61 after one year (Rubin and Graham, 1988). The internal reliability of IIS is .91 (Cegala et al., 1982), thus it made a valid choice for this research. This scale helped determine how people see their involvement interactions and uncover any relationship between the two variables of degree of animal interaction and a person’s interactional involvement with other people.

This scale is considered by some to be a main cognitive element in cognitive competence (Duran, 1983; Spitzberg, 1983). Initially only two subscales were defined; these were attentiveness, which is “the extent to which an individual is cognizant [sic] of stimuli that comprise the immediate environment” and perceptiveness which is “the extent to which one is knowledgeable of the meanings that others assign to one’s own behavior, and the meanings that one ought to assign to others’ behavior” (Cegala et al., 1982). The second part to the meaning of perceptiveness was later described by the term responsiveness. Cegala (1984) defines responsiveness as “an index of an individual’s certainty about how to respond in social situations” (p. 321).

Other variables measured. To control for other factors, an Introversion scale designed by McCroskey (1982), which is available for public use, was utilized to account for the element
of introversion and how it relates to this study. McCroskey has clearly delineated introversion from communication apprehension. The alpha reliability is noted at above .80.

Demographic questions addressed gender, race/ethnicity, age, marital status, education, housing situation (during childhood and currently), size and stability of family, and general financial situation. Researchers have suggested these demographic features be accounted for when pursuing measurements of human animal interaction (Anderson, 2007; Fournier et al., 2007; Walsh, 2009). Questions were posed in a non-threatening way, with casual wording to explore factors that make it easier or harder to bond with animals observing any developing patterns in the data.

**Participants and Data Collection**

Three methods of data collection were planned, but only two were utilized. Two-hundred, fourteen surveys (Appendix B) were distributed to sections of a required public speaking class at a Midwestern university to respondents. Completion of the survey took approximately 15 minutes. Instructors offered extra credit points as an incentive and some provided time to complete, otherwise, no other incentive for participation was given.

This class was chosen because it was a convenient way for the researcher to gather an abundant supply of data rapidly. Furthermore, it is a required class of all students at the university which provides a relatively representative sample of students with different backgrounds and majors, and from different locations. It was hoped this would influence their degree of animal involvement and vary their environmental influences enough to see if the commonality of degree of animal involvement regardless of environmental effect had a relationship with interaction involvement. The researcher accounted for this by choosing students in the required class and asking demographic questions on the survey (Appendix B).
Another convenience sample was taken at a Midwestern veterinary hospital in an area that hosts a variety of clientele from different states and is in a different region from the university. The varied clientele ensured degrees of animal involvement. At least one hundred consent forms (Appendix C) and surveys (Appendix B) were sent to the clinic for voluntary respondents to complete. Twenty-one respondents completed surveys. Some of these surveys were picked up once by the researcher; the remainder were returned in a stamped envelope by the veterinary staff at the clinic after a period of almost two months. Cost for mailing was reimbursed to the clinic.

**Numbers of respondents for collection of data in prior studies on interaction involvement or with animals.** Cegala and Sillars (1989) in a study on interaction involvement utilized 120 individuals from a public speaking class at a Midwest University. In another study on interaction involvement, Duran and Kelly (1988) used 255 primary and secondary teachers enrolled in a program at Eastern University. Poresky and Hendrix (1990) utilized CABS in a study of 88 children, and Poresky (1997) utilized 394 students to measure the bonds with childhood pets (CABS) and adult self-concept where they employed CABS also. Fournier et al. (2007) used their scale to study 48 prison inmates and their social skills within the prison system. This researcher collected, entered into SPSS, and analyzed data from 235 respondents.

**Procedure**

Once IRB approval was obtained, data collection began. A pretest was performed on approximately 13 individuals to assess for problems with any questions on the survey. After completion of the instrument pretest, participants were surveyed.

Instructional assistants distributed copies of the informed consent attached to the survey instrument to students in the required sections of public speaking (Appendix A and B). Most
instructors chose to award extra credit and some allowed for time during class to complete the surveys which took approximately 15 minutes. Instructors ensured consent forms were detached from surveys and placed in separate envelopes by participants upon completion of the surveys to safeguard anonymity of respondents.

Staff at the animal hospital distributed the surveys with the attached consent forms (Appendix B and C) to adult individuals (clients, staff, and others) who agreed to complete the surveys. These consent forms (Appendix C) did not require signatures, as the form stated, “Your completion of this survey constitutes your consent.” Completion of the survey took approximately 15 minutes.

After surveys were completed, data were coded and entered onto an Excel spreadsheet and then transposed into SPSS. For each variable, descriptive statistics were acquired and four multiple regression models were developed for the association of the degree of animal involvement on the main dependent variable of interaction involvement and its three components, attentiveness, perceptiveness, and responsiveness.

**Ethical consideration.** From the research on human animal interaction and its positive outcomes to the participants, the possibility of causing harm to any participant was unlikely (Becker, 2002). Participating in this study posed no medical risk or harm to respondents as a result of participating in this study understanding these were self-reports only; although, it may have stimulated past memories that were painful. In the event that happened, college participants were encouraged to seek a counselor at the counseling center on the campus with the phone number provided, and veterinary clinic respondents were advised to talk with the veterinarian.

The anonymity of all participants involved in this study was an ethical concern and was preserved by the researcher. No names were placed on the surveys. Also, all consent forms
utilized for college students (Appendix A) were put in separate envelopes from completed surveys. Veterinary respondents’ participation signified consent. All participants in both groups also had the right to withdraw at any time from the study without explanation.
Chapter III – Results

The results of the study show an association between degree of human animal interaction and interaction involvement. Below are the demographics of the sample, the descriptive statistics, and the measures utilized.

Demographics of Sample

Two convenience samples were obtained for a self-report survey (N=235). The intent was to obtain participants with all degrees of involvement. The samples, predominantly of young college students, were taken from a required communication class at a Midwestern university which yielded 214 participants and from a veterinary clinic in the Midwest which yielded 21 participants. All variables were coded and examined for accuracy of data entry. The demographic frequency results of the samples were overall:

- 56.5% female/43.5% male
- 88.9% white/11.1% non-white
- 10.2% married/89.8% were not married

Although ages spanned from 17-63 years at the last birthday, the mean age of all participants was 22.07 (s.d. 8.09) years. The mean age of students was 20.95 years (s.d. 6.05) and that of the veterinary clinic participants 33.8 years (s.d. 15.02). The participants of the veterinarian clinic which yielded 9.36% of the sample were 61.9% female, 95.2% white, and 47.6% married.

Descriptive Statistics

The independent variable, Degree of Animal Interaction (DAIS), involves Past Degree of Animal Interaction (PDAIS) and Current Degree of Animal Interaction (CDAIS). The dependent variable was Interactional Involvement (IIS) which contains three subsets, Perceptiveness (PER), Attentiveness (ATT), and Responsiveness (RES). The control variables were
introversion/extroversion (introvsc/extrovsc), sex, race, marital status (maritst), years that someone cared for others in the family where they grew up (yrscfo). All variables for the models are displayed in the Appendix F.

None of the independent variables were highly correlated (Appendix F). The current and past degrees of animal interaction scores (CDAIS and PDAIS) were calculated by adding all scores together for a total score on each scale. To obtain an overall degree of animal interaction (DAIS) for both current and past involvement, a total of each score was obtained and the median of each score was used.

The scores for the dependent variable, interaction involvement (IIS), and all its subsets—attentiveness, perceptiveness, and responsiveness (ATT, PER, RES) were added for a total score. The following table shows the descriptive statistics:

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIS</td>
<td>219</td>
<td>89.32</td>
<td>14.03</td>
</tr>
<tr>
<td>PER</td>
<td>224</td>
<td>20.15</td>
<td>3.29</td>
</tr>
<tr>
<td>ATT</td>
<td>227</td>
<td>30.24</td>
<td>5.03</td>
</tr>
<tr>
<td>RES</td>
<td>225</td>
<td>38.98</td>
<td>8.47</td>
</tr>
<tr>
<td>DAIS</td>
<td>206</td>
<td>29.9</td>
<td>10.83</td>
</tr>
<tr>
<td>PDAIS</td>
<td>204</td>
<td>28.94</td>
<td>10.82</td>
</tr>
<tr>
<td>CDAIS</td>
<td>153</td>
<td>29.98</td>
<td>13.47</td>
</tr>
<tr>
<td>extroversion</td>
<td>225</td>
<td>40.43</td>
<td>7.58</td>
</tr>
<tr>
<td>sex (female)</td>
<td>230</td>
<td>.57</td>
<td>.5</td>
</tr>
<tr>
<td>race (nonwhite)</td>
<td>235</td>
<td>.11</td>
<td>.31</td>
</tr>
<tr>
<td>marital status (married)</td>
<td>235</td>
<td>.1</td>
<td>.3</td>
</tr>
<tr>
<td>years cared for another</td>
<td>235</td>
<td>1.13</td>
<td>3.24</td>
</tr>
</tbody>
</table>

Descriptive Statistics for Degree of Animal Interaction and Interaction Involvement with Control Variables
Established Measures

Three established measures went into the survey (Appendix B). These were the Interaction Involvement Scale (IIS) used by permission of the National Communication Association (Cegala, 1981), the Introversion Scale by McCroskey (1982) available online for the general public, and Poresky et al.’s (1987) Companion Animal Bonding Scale for past and present interaction. The Interaction Involvement Scale (IIS) had a tested Cronbach Alpha score of .723. This scale was utilized exactly as Cegala developed it. The two remaining measures were modified by the researcher.

Although McCroskey (1982) notes the Alpha reliability of the Introversion Scale at above .80, it had a tested Cronbach Alpha score of .561. The researcher modified the questions presented into statements (Appendix B, part 2, #19, 1-18). For example, question #1 read, “Are you inclined to keep in the background on social occasions?” was changed to, “I am inclined to keep in the background on social occasions.” In addition, there were modifications made to the scoring of the measure, reverse coding questions #1 and #4. Then, all scores were added together with a high score indicating extroversion, and a low score introversion. Then, another reliability analysis was run for a Cronbach Alpha score of .847. The change in scoring improved the Alpha reliability by 51%.

The third measure utilized for this analysis was Poresky et al.’s (1987) Companion Animal Bonding Scale (CABS). Significant modifications were made to this measure for both past and present interaction. First, the words “companion animal” were replaced with “animal”. Second, there was a “not applicable” column added, since some questions do not apply to some animals (e.g. a person does not usually travel with a horse or fish). Finally, six statements were added to the measure. These statements are:
• I felt/feel an attachment to the animal(s) (i.e. a strong feeling toward animal)
• I was/am involved with the animal(s) (i.e. play with animal in addition to feed and exercise)
• I talked/talk to the animal(s) (i.e. Are you hungry? You want to go potty?)
• I perceived/perceive the animal(s) tried to tell me things using sounds (i.e. instances of sounds such as certain barks, meows, etc.)
• I perceived/perceive the animal tried to tell me things using gestures, movements, or actions (i.e. non-verbal behaviors such as jumping, ringing a bell, or something to get you to understand what they need or to get a response from you.)
• I spent/spend a lot of time interacting with the animal(s) on a regular basis

Poresky et al.’s (1987) Cronbach alpha estimates of internal reliability for the past and present interaction were .77 and .82, respectively. For this study, the initial Cronbach Alpha on the original eight questions for the past interaction was .829. The additional six questions had Alpha reliability of .894. The final Cronbach Alpha score for all 14 items was .910, which increased the reliability of Poresky et al.’s original childhood scale. For the current interaction, the original eight questions had a tested Cronbach Alpha of .890. The additional six questions for present interaction had an Alpha reliability of .925. The final Alpha score for all 14 questions for current interaction was .925, which also significantly improved the reliability of Poresky et al.’s contemporary scale.

Regression Models

The regression is based on degree of animal interaction. Poresky et al.’s (1987) measure was not designed to capture people who have not had any involvement at all with animals. There were 206 cases utilized for a degree of animal interaction (DAIS). Some were excluded from
consideration because they had no involvement with animals at all. Respondents who marked the indicator, “I have no significant involvement with animals now or in the past”, were instructed to proceed to Section -2- (Appendix B). This left three participants who had involvement with animals, but whose interaction was marked as “never” participating with them and a zero degree of interaction (Appendix B and D).

Four regression models were computed by SPSS to test the effect of degree of animal interaction on interaction involvement, and its components of attentiveness, perceptiveness, and responsiveness. The control variables are extroversion (extrov), sex (female), race (non-white), marital status (married) and years a person cared for others while growing up (yrscfo).

The first model (Table 2) reflects the impact of degree of animal interaction on interaction involvement in the context of the control variables. There is a significant association

Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAIS</td>
<td>.30</td>
<td>1.00</td>
<td>.00</td>
<td>.23</td>
<td>.09</td>
<td>.02</td>
</tr>
<tr>
<td>extroversion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.66</td>
<td>.13</td>
<td>.00</td>
</tr>
<tr>
<td>sex (female)</td>
<td>2.98</td>
<td>2.01</td>
<td>.14</td>
<td>2.51</td>
<td>1.89</td>
<td>.19</td>
</tr>
<tr>
<td>race (nonwhite)</td>
<td>.75</td>
<td>3.92</td>
<td>.85</td>
<td>.33</td>
<td>3.64</td>
<td>.93</td>
</tr>
<tr>
<td>marital status(married)</td>
<td>7.56</td>
<td>3.21</td>
<td>.02</td>
<td>.32</td>
<td>3.10</td>
<td>.30</td>
</tr>
<tr>
<td>years cared for others</td>
<td>.01</td>
<td>.30</td>
<td>.97</td>
<td>.09</td>
<td>.28</td>
<td>.76</td>
</tr>
<tr>
<td>Constant</td>
<td>97.400</td>
<td>3.39</td>
<td>.00</td>
<td>67.92</td>
<td>6.61</td>
<td>.00</td>
</tr>
</tbody>
</table>

Adjusted R Square = .051
N=194

Adjusted R Sq. = .172
N=190
between degree of animal interaction and the overall score of interaction involvement. Even when controlling for other factors including extroversion, the results are significant.

The second model (Table 3) reflects the impact of degree of animal interaction on attentiveness, a component of interaction involvement in the context of the control variables. It shows a significant association between degree of animal interaction and attentiveness.

Controlling for extroversion and other factors does not alter the significance of the results.

**Table 3**

*Impact of Degree of Animal Interaction (DAIS) on Attentiveness (ATT)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAIS</td>
<td>.10</td>
<td>.03</td>
<td>.01</td>
<td>.09</td>
<td>.03</td>
<td>.01</td>
</tr>
<tr>
<td>extroversion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.10</td>
<td>.05</td>
<td>.04</td>
</tr>
<tr>
<td>sex (female)</td>
<td>.96</td>
<td>.70</td>
<td>.18</td>
<td>.88</td>
<td>.70</td>
<td>.21</td>
</tr>
<tr>
<td>race (nonwhite)</td>
<td>.16</td>
<td>1.31</td>
<td>.90</td>
<td>.00</td>
<td>1.29</td>
<td>1.0</td>
</tr>
<tr>
<td>marital status(married)</td>
<td>2.62</td>
<td>1.12</td>
<td>.02</td>
<td>1.86</td>
<td>1.14</td>
<td>.11</td>
</tr>
<tr>
<td>years cared for others</td>
<td>.08</td>
<td>.11</td>
<td>.46</td>
<td>.09</td>
<td>.11</td>
<td>.40</td>
</tr>
<tr>
<td>Constant</td>
<td>32.59</td>
<td>1.19</td>
<td>.00</td>
<td>28.14</td>
<td>2.42</td>
<td>.00</td>
</tr>
</tbody>
</table>

Adjusted R Square = .043
N= 202

Adjusted R Sq. = .060
N= 198

The third model (Table 4) reflects on the impact of the degree of animal interaction on perceptiveness, the second component of interaction involvement. It shows a significant association between degree of animal interaction and perceptiveness in the context of the control variables. Again, controlling for extroversion and other factors, the significance of the results remain.
Table 4

*Impact of Degree of Animal Interaction (DAIS) on Perceptiveness (PER)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAIS</td>
<td>.07</td>
<td>.02</td>
<td>.00</td>
<td></td>
<td>.06</td>
<td>.02</td>
<td>.00</td>
</tr>
<tr>
<td>extroversion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.09</td>
<td>.03</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>sex (female)</td>
<td>.21</td>
<td>.45</td>
<td>.64</td>
<td>.06</td>
<td>.45</td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td>race (nonwhite)</td>
<td>.54</td>
<td>.84</td>
<td>.52</td>
<td>.43</td>
<td>.83</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>marital status(married)</td>
<td>1.37</td>
<td>.73</td>
<td>.06</td>
<td>.92</td>
<td>.75</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>years cared for others</td>
<td>.06</td>
<td>.07</td>
<td>.37</td>
<td>.05</td>
<td>.07</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>22.24</td>
<td>.78</td>
<td>.00</td>
<td>18.31</td>
<td>1.59</td>
<td>.00</td>
<td></td>
</tr>
</tbody>
</table>

Adjusted R Square = .035
N = 199

Adjusted R Square = .08
N = 195

The fourth model (Table 5) reflects on the impact of degree of animal interaction on the third component of interaction involvement, responsiveness, in the context of the control variables. Initially, it shows a significant association between degree of animal involvement and responsiveness. Again, controlling for other factors does not alter the significance of the results until extroversion is added to the control variables. The degree of animal interaction is a significant factor for the Interaction Involvement Score (IIS), but drops in significance when extroversion is accounted for. Extroversion explains away some of IIS in the area of responsiveness. Degree of animal interaction does not affect responsiveness. The table below shows the effect of this variable.
Table 5

*Impact of Degree of Animal Interaction (DAIS) on Responsiveness (RES)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Sig</th>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAIS</td>
<td>.13</td>
<td>.06</td>
<td>.03</td>
<td></td>
<td>.08</td>
<td>.05</td>
<td>.12</td>
</tr>
<tr>
<td>extroversion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>.44</td>
<td>.07</td>
<td>.00</td>
</tr>
<tr>
<td>sex (female)</td>
<td>1.85</td>
<td>1.2</td>
<td>.12</td>
<td></td>
<td>1.6</td>
<td>1.09</td>
<td>.14</td>
</tr>
<tr>
<td>race (nonwhite)</td>
<td>.41</td>
<td>2.38</td>
<td>.86</td>
<td></td>
<td>.25</td>
<td>2.14</td>
<td>.91</td>
</tr>
<tr>
<td>marital status(married)</td>
<td>3.03</td>
<td>1.9</td>
<td>.11</td>
<td></td>
<td>.23</td>
<td>1.77</td>
<td>.90</td>
</tr>
<tr>
<td>years cared for others</td>
<td>.03</td>
<td>.18</td>
<td>.88</td>
<td></td>
<td>.03</td>
<td>.17</td>
<td>.85</td>
</tr>
<tr>
<td>Constant</td>
<td>42.18</td>
<td>2.03</td>
<td>.00</td>
<td></td>
<td>22.83</td>
<td>3.74</td>
<td>.00</td>
</tr>
</tbody>
</table>

Adj. R Square = .019
N = 200

Adj. R Square = .180
N = 196

In summary, the degree of animal interaction does have a significant impact on a person’s interactional involvement overall, especially in the areas of attentiveness and perceptiveness. It does not have as much of a relationship to a person’s responsiveness. This variable is influenced by a person’s introversion/extroversion. No other independent variables have significant impact on the dependent variable.
Chapter IV: Discussion

As the uses of animals for therapeutic intervention, health improvement, learning of social and reading skills, and healthy behaviors increases, it becomes imperative to understand what is transpiring. While psychologists move to analyze and record the benefits of working with animals (Fournier et al., 2007), there appears to be little documentation of communicative benefits in communication research. In particular, no empirical research exists on the relationship between interaction with animals and interpersonal relationships. It is useful to ascertain what association there is between human animal interaction and communication within human relationships. From this it will be possible to explore the complexities of communication development through the process of animal interaction.

Symbolic interaction theory suggests that humans create shared meaning through face to face communication. Future communicative actions of individuals are dictated by how individuals interpret the present ones (Blumer, 1969; Cooley, 1962; Dewey, 1991; Kidd, 1998; Mead, 1934; Manis and Meltzer, 1967). Oftentimes loneliness, emotional wounds, handicaps, or busy lives, make the reciprocity of a human relationship seemingly impossible. It appears that involvement with animals is useful in helping individuals develop the communicative skills necessary to interact with others. The opportunity exists to transfer the skills developed in healthy relationships with animals to human interaction in order to establish or re-establish human connection with others.

Overview

In this study, the independent variable, the degree of animal involvement (DAIS), utilized questions of both past and present interaction. The dependent variable, interactional involvement (IIS), contained three subsets which were perceptiveness (PER), attentiveness (ATT), and
responsiveness (RES). The results of the study show an association between degree of animal interaction and interaction involvement. Each of four regression models reflects the impact of degree of human animal interaction on interactional involvement and all three of its subsets in the context of the control variables except for one, responsiveness.

This section involves discussion on the variables within animal interaction, the control variables, interaction involvement, and the actual findings. The observed correlations within animal interaction are discussed to understand how the different variables relate to one another and help bring understanding of the behavior of the individual. The control variables are explained so the reader understands their association to interaction involvement. Further discussion on interaction involvement is made to enhance understanding of the results of this research. It highlights where interaction involvement fits in human conversation, describes the differences between high and low involved communicators, and further discusses the components of attentiveness, perceptiveness, and responsiveness. Application of the findings is also made within the framework of symbolic interaction to apply greater understanding for how the skills can transfer.

**Observed Correlations in Animal Interaction the Independent Variable (IV)**

Poresky (1990) found in preschoolers that it was a bond with an animal that impacted development. In addition, the age at which a child had their first pet had a role in the development of their self-concept (Poresky et al., 1988). Overall, there is strong evidence that contact with nature is necessary for healthy development (Ulrich, 1993). In addition, Becker (2002) indicates the skills learned in interaction with animals can affect children’s reading, writing, and listening skills which McCroskey (1982) states as three of the five essential skills necessary for school children as stated by the federal government.
Thus, it makes sense that the following significant correlations were noted between variables contained within Poresky et al.’s (1987) measure and the additional statements added by the researcher. The following observations and interpretations serve to reflect Poresky et al.’s work and lend greater understanding to the significance of how the relationships of questions involved in the overall exploration of this study can be indicators of people’s thinking and behaviors (Appendix D and E).

- A current, close relationship to animal(s) (v. 9.5) had a high correlation with having a close relationship to animal(s) in the past (v. 7.5) \( (r = .710; p<.01) \). This indicates that those individuals who had a close relationship with an animal in the past were more likely to find an avenue of involvement with an animal (e.g. buy a pet, or work with animals) later in life. This tends to indicate that this interaction is a learned skill and individuals make their subsequent action based on the pre-knowledge of interaction. It may also indicate a desirable relationship.

- Had a close relationship to animal(s) (v.9.5) is highly correlated with I felt an attachment to the animal(s) (i.e. a strong feeling toward animal) (v.9.9) \( (r = .826; p<.01) \). A similar strength exists in the correlation with the past involvement (v. 7.5 and v. 7.9) \( (r = .811; p<.01) \).

- In addition, if a person felt an attachment to an animal(s) (v. 7.9) in the past, they were more likely to have held, stroked, or petted the animal (v. 7.8) \( (r = .839; p<.01) \); and, they sense that the animal was responsive to them (v. 7.4) \( (r = .741; p<.01) \). Furthermore, this correlates with the individual who spent a lot of time interacting with the animal(s) on a regular basis (v. 7.14) \( (r = .726; p<.01) \). Although, the current involvement does not
replicate the strength of correlation as in the past, somewhat of a relationship exists. This indicates that it is more than just need consummation or a sense of responsibility.

- If a person perceives *the animal(s) try to tell me things using sounds* (v. 9.12) this correlates highly with perceiving *the animal(s) try to tell me things using gestures, movements, or actions* (v. 9.13) \((r = .818; p < .01)\). This correlation exists in the past involvement (v. 7.12 and v. 7.13) as well, but is not quite as strong as in the current involvement \((r = .685; p < .01)\). This could be an indicator of developed skill.

- The more an individual is interacting regularly (v. 9.14), the more involved an individual becomes with the animal (v. 9.10) \((r = .823; p < .01)\), the more they talk to the animal (v. 9.11) \((r = .772; p < .01)\), and the more the individual perceives that the animal tries to communicate with gestures and action (v. 9.13) \((r = .731; p < .01)\). The more an individual perceives the animal tries to communicate with gestures/actions (v. 9.13), the more they see the animal tries to communicate with sounds (v. 9.12) \((r = .818; p < .01)\). More interaction indicates more understanding of the “significant symbols” (Mead, 1934).

- There is a strong correlation in current involvement between a felt responsibility (v. 9.1) and cleaning up after the animal (v. 9.2) \((r = .875; p < .01)\). This does not correlate as highly in past involvement with animals (v. 7.1 and 7.2) \((r = .736; p < .01)\). This makes sense in light of the fact that adults usually act responsibly toward things. An interesting thing to note, however, is that in no way does cleaning up after an animal in the current (v. 9.2) or the past (v. 7.2) create a felt attachment with an animal(s) (v. 9.9 and 7.9) \((r = .267 \text{ and } .271 \text{ respectively}; p < .01)\). The correlations present an only slightly stronger association between a felt responsibility and a felt attachment to an animal in the current (v. 9.1 and 9.9) or past (v. 7.1 and 7.9) \((r = .291 \text{ and } .431; p < .01)\). Thus, the indication
being that felt attachment seems to exist within the interaction between animal and human.

These items were devised for this study in an attempt to tease out the intricacies of the bonding that can transpire between humans and animals. These correlations indicate that the questions identify significant aspects of bonding. In addition, they expose interaction with an animal as a learned skill for a child, which, when it is a positive experience may be chosen as an adult as well. Pre-knowledge indeed directs present action. Another thing the correlations indicate is that part of forming an attachment with an animal comes through touch and time spent with it. Relating this to people, how often do people wish parents had spent more time with them? Or, what about the child in an orphanage where no one touches them and this in turn affects their mind? The time and touch elements help a person feel an attachment to an animal and in turn, the person perceives the animal responds. Responses can take the form of gestures, sounds, or actions. This is an indicator of a relationship. In human interaction, the more time spent with someone interacting, learning what both like, and responding to one another through gestures, sounds (talk), and actions, the more significant symbols are built between the participants. This makes the relationship develop to where participants feel an attachment to the other or feel a sense of close relationship.

**Control variables explained.** The variables controlled for included introversion/extroversion, sex, race, marital status, and years that someone cared for others in the family where they grew up. Responsiveness (RES) initially showed a significant association while controlling for all factors until extroversion (extrov) was added to the variables. A short highlight of the control variables utilized for this study (Table 1) and their association to interaction involvement are as follows:
• Introversion/extroversion - If a person has a tendency toward introversion, they would tend to choose not to respond in social settings. Past research reveals a tendency toward empathic listening, but individuals withhold self-disclosure (Kalliopuska, 2008). Self-disclosure constitutes the balance or the reciprocating part of the dyad in relationships—it is the “re” in relationships, the two way direction or symmetry in communication. This understanding helps to explain the lack of significance when controlling for this variable in the interaction involvement component, responsiveness. Clearly, there is some conceptual overlap between extroversion and responsiveness.

• Gender approaches significance (.12). This association is understandable as women are taught by society to be more nurturing and are stereotyped as being this way.

• Race is arguably not a scientific variable, which is represented in the lack of significance (.90).

• Marital status significance (.02) is understandable within this study. Only 10.2% of the participants were married and most of these were from the veterinary clinic. They were older and had committed relationships of longer duration. Having a successful marriage involves a significant amount of caring for another individual, thus, a learned skill.

• Years that someone cared for others in the family was conceptualized well, but not well operationally defined for participants. Thus, some research participants considered such things as babysitting as significant care enough to consider as applicable to the survey. This variable has potential to be further developed in future research.

**Interaction Involvement the Dependent Variable (DV)**

Interaction involvement is a significant aspect of people’s overall communicative competence. Three components of interaction involvement exist. These are attentiveness,
perceptiveness, and responsiveness. Although disagreement exists about whether interaction involvement is a cognitive trait or situational (Cegala and Sillars, 1989), it affects how detached a person is in their thinking during interactions, as well as how engaged they are in the moment of interaction. Different strategies are utilized by communicators to maintain conversation and save face (Goffman, 1967; Villaume and Cegala, 1988; McCroskey, 1982) which distinguish them in their communicative competence as high or low involved communicators.

Communicators are distinguished as two types, low involved and high involved (Cegala, 1984). Low involved communicators are less engaged in interaction due to preoccupation with the individual communicator’s thoughts and concerns (Rubin et al., 1994). High involved communicators are aware of the circumstances of the interaction and respond appropriately (Cegala and Sillars, 1989).

**Interaction involvement in the context of human conversation.** The importance of the results of this research lies in understanding how important interaction involvement is in human conversation. Researchers simply define it as “the ability to engage in coherent conversation” (Villaume, Jackson, and Schouten, 1989, p. 407). It is the ability for the communicator to help others to be at ease in conversation because the communicator is at ease with the engagement (Wiemann, 1977). Cegala et al. (1982) describe interaction involvement as “the extent to which an individual participates with another in conversation” (p. 229). Interaction involvement is a major part of understanding what makes up a person’s communicative competence. Duran (1983) in his article, *Communicative Adaptability: A Measure of Social Communicative Competence*, defines communicative competence as “a function of one’s ability to adapt to differing social constraints” (p. 320). Duran argues that apprehensiveness, fear or anxiety of conversation, and engaging in surface or low-involved conversation, all display a lack of this
competence. The overall Interaction Involvement score (IIS) in this study relates “significantly to high self-esteem, assertiveness, and even temperament” when the components are not divided into their subsets (Cegala et al., 1982, p. 234).

**Interaction involvement: High and low involved.** Overall, interaction involvement reflects high involved or low involved participants in communication. Research has established that more highly involved individuals engage in conversations by relating with others through experiences and thoughts as well as empathizing with them (Cegala et al., 1982). They are not only addressing the text-based conversation utilized, but they also understand the deeper meaning-based discourse of the conversant. Villaume et al. (1989) state, “high interaction involvement implies the ability to follow and contribute to the flow of conversation” (p. 425). If interaction involvement is high, the degree of certainty about the dynamics of the interaction will be greater (Villaume and Cegala, 1988).

This is contrary to the low involved individuals who appear disconnected and distant from the context. Low involved individuals do not try to figure out the deeper meaning of conversations (Villaume et al., 1989). Their minds are often engaged elsewhere causing them to be inattentive to current conversations and cannot remember the details of the encounters; they are often more aware of themselves. They often experience more uncertainty, fear, anger, or anxiety within the course of the conversation. In the course of conversation, they often use more speaking turns with minimal replies and less developed topics, relying on compensatory measures to keep the text-based conversation afloat. The conversational burden may consistently be shifted back to the original conversant allowing the low-involved participant to avoid adding detail or information to the conversation (Villaume, 1988). Thus, the high-involved communicator ends up directing the flow of conversation.
Components of interaction involvement. The components of interaction involvement initially were attentiveness and perceptiveness, two aspects of interaction involvement derived from Goffman’s (1963) work, Interaction Ritual. Attentiveness describes one’s ability to detect the stimuli in the environment. It is seen as the most fundamental of the factors and the most situationally characterized. Researchers found attentive individuals had low degrees of neuroticism (e.g. tendency toward emotionality, attention directed toward inner thoughts, fears) and good interactive management skills such as attentiveness, interest, and listening skills during conversation that aided in smooth interaction for participants.

Perceptiveness refers to the ability to correctly assign how others see one’s own behavior and what another’s behavior should mean (e.g. having empathy). Perceptive individuals had more of a sense of self and themselves as social objects. The component, perceptiveness, does not imply relationship. Both attentiveness and perceptiveness were more covert skills primarily of the cognitive dimension of interpersonal communication.

Further study by Cegala et al. (1982) allowed for a descriptive third component, responsiveness (not initially referred to in this terminology), an overt communication behavior, where individuals not only become aware of another’s behavior and its meaning, but also say or respond in the appropriate manner. “In brief, responsiveness is an index of an individual’s tendency to deliver lines appropriate to the situation” (Cegala et al., 1982, p. 233). Thus responsiveness, according to Cegala et al. is more of a characteristic measure of overt communication behavior using verbal face saving strategies and is a significant predictor of whether an individual will be involved in group membership. Contrary to perceptiveness, the component, responsiveness, does imply relationship. In addition, researchers found a correlation between responsiveness and self-esteem. Low involved participants (e.g. low interaction
involvement score on IIS) are consistently low in self-esteem and assertiveness. Research confirms the tendency toward introversion with nonresponsiveness (Cegala et al., 1982).

**Application of Findings**

The meanings of the results in this study become more understandable when explanations of the scores for the Interaction Involvement Scale (IIS) and the component scores are made. The fact that attentiveness and perceptiveness scores persist in their significance while controlling for all variables indicates that the covert skills increase by interaction. Learning to listen, being attentive to what an animal does or what a human is doing, and knowing how to decode the meanings of behaviors and body language, increase by interacting, not just by being around animals. Responsiveness, an overt skill is still left up to the choice of the individual.

Understanding the three basic premises of symbolic interaction theory (Mead, 1934; Blumer, 1969), helps the reader set the findings into a framework in which to view their applicability to human interaction. The basic premises are: 1) Humans act toward things based on the meanings they have for them. 2) Current interaction is based on pre-knowledge of prior interaction. 3) Meaning is an interpretive process. Mead’s (1934) work discussed the “significant symbols” that helped an individual in a subsequent encounter to anticipate another’s behavior; it becomes imperative to acknowledge that “another’s behavior” may refer to an animal utilized intentionally, or unintentionally encountered, that helps a person learn these covert skills. By intentionally working with animals, a person can develop the skill of being able to discern another person’s (or animal’s) perspective as in the “generalized other” and to know what action a person (or animal) will take next. Given this understanding, an individual can know what position, or counter action, is needed or wanted by understanding the intent or manipulated act of the other party (e.g. “syncopated act”—the dog rings the bells hanging on the door, the owner
opens the door for animal to go outside). Thus, even though animals may manipulate solely for satisfying of need, the completion of the four stages of Mead’s model of action can be accomplished and the skill is learned. Mead’s four stages for action are impulse, perception, manipulation, and consummation (Mead, 1934).

It is imperative to understand, yet still, the consummation of action is still based upon the choice of the participant to engage. This is where the component, responsiveness, has its influence. Provided the participant chooses to engage, and positive encounters are accomplished, subsequent interactions are then based on the pre-knowledge of the healthy encounters, creating “templates” of meaning (Mead, 1934). Cooley (1962) referred to these encounters with meaning as a way to build a self-concept which is developed through awareness of social consciousness. An individual begins to understand how their actions influence or have power over another being or the being has influence over the individual. Thus, one can see the “looking glass self” in the example above of the dog ringing bells (Cooley, 1956). An owner of an animal is aware that although he or she initially taught the skill to the animal, now the animal has an essence of influence over the individual. The individual now has the responsibility of responding to the ringing of the bells by opening the door for the animal to go outside. This cause-effect response, that Blumer (1969) referred to as “joint action” also helps the owner to define what is acceptable, or unacceptable behavior. For example, if the dog has been let outside and back inside twice in the current hour, when the bells ring a third time, a distinction might be noted by the individual that this behavior by the dog is unacceptable and the individual then responds to this third ringing in a different manner. This alteration of behavior within the interaction creates cohesion and greater understanding within this little group of human and animal.
Looking back at the component skills of interaction involvement, one can see attentiveness and perceptiveness growing in the individual and animal with the awareness of the ringing bells, the knowledge of what that ringing indicates, and the boundary of how much the individual is willing to respond. Responsiveness to the ringing or symbols that one sees or hears in any encounter becomes a personal choice of whether to act on the knowledge of what is indicated. This reveals how responsiveness differs from attentiveness and perceptiveness.

Throughout the encounter, the owner can acknowledge the symbolism and the meanings of behaviors; however, responding is a choice. It implies a degree of relationship between parties.

**Transferring the Skills**

The overall association of human animal interaction with the Interaction Involvement Score (IIS) significantly points out the opportunity to use human animal interaction to improve interaction involvement with other humans. The roles in animal encounters can be mimicked in human encounters. By creating new interaction that is healthy, this gives a prior knowledge for subsequent interactions. This in turn will affect the self-identity of the individual as Mead (1934) proposed and Cooley (1962) further developed in the “looking glass self”. In the joint action between human and animal, each becomes aware of what is acceptable; these learned behaviors are utilized in social interaction. With emphasis on interpretation, people’s attentiveness (hearing and observing) and perception (being aware of message meaning) are developed. The overt behavior, of responding to the known meanings and needs are ultimately learned behaviors and left to the choice of the individual (e.g. eye movements, hand gestures).

This research also highlights Kalliopuska’s (2008) assertion that introversion or shyness is a learned behavior or possibly the result of undeveloped social skills rather than genetics. If responsiveness changes when controlling for extroversion, it is understood that the individual is
the one who chooses to respond or not to respond. Symmetrical interaction is avoided. Learning the necessity of responding to an animal’s needs may help someone to learn to respond to others’ wants and needs. Nevertheless, if time spent interacting with an animal can teach communication skills, the potential for healthy communication skills being re-established for individuals in human communication exists.

In this study, an attempt was made to theorize the success of animal therapy to aid in communication. The need for human interaction is a necessity for life. The framework of symbolic interaction describes the creation of shared meaning in face to face interaction. When there are gaps in human interaction due to life occurrences such as trauma, abuse, or shyness, such gaps may be bridged through interaction with an animal. When there is a bond created with an animal, individuals may experience a transfer of the social connection from animal to human relationship. It appears that the benefit of social connection can be transferred from human animal interaction to other human interaction.
Chapter V: Conclusion

Animals are currently used to increase, improve, and teach communication and interaction skills with little to no documentation on the outcome of human animal interaction (HAI) on people’s communication within the communication literature. This study lays groundwork for such documentation by exploring the link between humans’ involvement with animals and their interaction involvement in human relationships, measuring attentiveness, perceptiveness, and responsiveness.

The findings of the study show that the degree of animal interaction (DAIS) is a significant predictor of human interaction involvement (IIS), and the components of attentiveness and perceptiveness. Each of four regression models reflects the impact of animal involvement on interactional involvement and all three of its components in the context of the control variables except for one, responsiveness. Responsiveness (RES) initially showed a significant association while controlling for all factors until extroversion (extrov) was added to the variables.

Responsiveness does not show a significant association perhaps because ultimately the choice to engage with someone and communicate is still determined by the individual. The individual may understand what is transpiring in a conversation and the deeper meaning someone intends. They may know what needs to be done; and yet, the individual may still decide not to proceed further into more highly involved communication. The choice resides within each participant and within each interaction. Nevertheless, the overall significance of the study does show the impact of human animal interaction on a person’s interaction involvement with others.

Human animal interaction resulting in a bond is positively associated with people’s interaction involvement, and its components of attentiveness and perceptiveness. Responsiveness
is left to the choice of the individuals within the interaction. Social relationships are built upon interactions and it is the intentionality of a person that makes them high or low involved. Cognitively or situationally, highly involved individuals are more outwardly focused than less involved individuals who are more self-focused. This study found strong support for the hypothesis that people with high interaction with animals will have higher interaction involvement scores than people who have no or lower involvement with animals.

It would stand to reason, however, if a person can benefit from interaction with an animal, the potential exists for detrimental effects as well. Not wanting to focus on this aspect, it is necessary to keep in mind the need for a mediating factor to ensure that a wounded person does not inflict injury or harm to a creature that cannot speak up for itself if it is mistreated, or to avoid an incident where an animal might hurt a human.

That noted, this study offers the hope that time invested in a healthy relationship of interaction with an animal can have positive outcome in the area of interaction involvement with others. By the process of internalization using symbolic interaction within the context of human animal interaction, the opportunity exists to establish healthy human interactive responses that are based on the social interaction within a safe environment with an animal where new shared meanings are constructed (Berger and Luckmann, 1966; Mead, 1934). Here, a new understanding of self can develop and an individual can acquire a more healthy position with a social group. Here, an individual can re-establish a healthy self-esteem, learn self-control, and gain autonomy for which the overall Interaction Involvement (IIS) score is significant (Levinson, 1997).
Limitations

The measure used for this research was by self-report. Although this gives a representation of people’s cognitions, oftentimes people’s versions of themselves are not always representative of reality. Nevertheless, understanding what transpires within an individual’s cognitions is valuable information. Since the components of attentiveness and perceptiveness are cognitive phenomena, knowing what a person thinks is valuable because no researcher can observe what a person thinks. Observation can reveal that a person is thinking and contemplating; because, often thinking and contemplating are accompanied by external signs that are observable. The limitation arises when a self-report is utilized to represent an overt behavior such as responsiveness. What a person thinks they do, and what one actually does, are many times two different things. Contrasting this stated limitation, however, Poresky (1997a) notes in his research that, “The Companion Animal Bonding Scale appears to be a reliable measure of people’s relationships with their companion animals and can be administered either by telephone or by a written questionnaire” (p. 939). Future research could still be needed to account for this limitation.

The limitation of the lack of an optimal measure for Human Animal Interaction (HAI) was present in this research as well. First, Poresky et al.’s (1987) measure applies to people who have some type of companion animal, and measures the emotional bond. In this study, 24 participants reported neither past nor present (no significant) involvement with animals whatsoever. The regression was based on degree of involvement. There is a need to further pursue how to accurately assess these individuals in future research. Second, the measure involves questions that apply to certain types of animals. Large animals such as horses and other animal types such as fish are excluded from some questions by the very nature of the animals.
For example statements in Sections 7 and 9 involved interaction that may not apply (Appendix D), they are question #4 which refers to having an animal sleep in your room. A fish might be in your bedroom, but a horse would not. Other questions are #7 which refers to travel with an animal, and question #8 which refers to sleeping near the animal.

This study also predominantly utilized university students, resulting in weakened external validity. The convenience sample included some participants from an animal hospital that were sure to have animal interaction. The size of the sample and the convenience of it make it not generalizable. In the future, it would be beneficial to utilize this survey on a more varied group of respondents from the general public to see if the results are replicated which would make it more generalizable.

Another limitation in this study was the inability to control for other intervening variables--both environmental influences such as care of other siblings and living situation and genetics. Environmental effects can create an antecedent effect which could be a weakness in this research.

Despite these limitations, the results do appear to be significant findings in communication research. This study lays the theoretical groundwork for further study on human animal interaction and the transfer of learned interaction skills. This documentation suggests the opportunity for healthy change in interactive behaviors in children with emotional behavioral disorders, learning disabilities, autism as well as adults and others with interpersonal and communicative difficulties through human animal interaction. Human animal interaction can be an avenue of exploration to utilize animals for assistance in helping individuals to connect interpersonally or reconnect in their interactions within schools, professions, organizations, and everyday life.
Future Research

A need exists for future research in communication to establish more of the defining elements of human animal interaction. There would be benefit in knowing if time spent as a child with an animal would have more influence on adult communication than interacting with an animal during adulthood (Poresky and Hendrix, 1990; Poresky et al., 2001). Although, the correlations point to the indication that if an adult had a close relationship in the past with an animal, that adult would tend to have a close relationship with an animal as an adult (Appendix E). A suggestion is made to replicate Poresky’s earlier studies with the newly revised measure (Poresky and Hendrix, 1990; Poresky et al., 1987, 1988).

Poresky et al.’s (1987) Companion Animal Bonding Scale (CABS) was designed to measure a degree of interaction. Further study to develop a measure that would accurately account for those with no involvement with animals at all would need to be developed and tested. Once this is accomplished, comparisons can be made. Moreover, the need exists to further investigate human animal interaction with larger animals such as horses.

In light of the correlations between a close relationship and felt attachment, as well as felt responsibility and cleaning up after an animal, it may be useful to understand which dynamics of bonding--whether cleaning up after an animal or playing with an animal--had a more powerful significance to the communication competence of interaction involvement. The current indication is that a lack of relationship exists between felt responsibility and felt attachment (Appendix D and E).

It is anticipated that this study will be the beginning of a systematic program of research into the dynamics of what actually transpires in the interaction between human and animal. This program of research in communication may connect work already being done in psychology, the
social sciences, and communication disorders with a grounding in communication theory. What comprises this synergistic encounter? The findings of this study provide a theoretical grounding for such a program of research.

**Interest in Study**

This study could interest communicative scholars working on research with animals, clinicians in the fields of psychology, K-12 school administrations working with Individualized Education Plans for children with autism, exceptional student education (ESE), learning disabilities, and emotional behavior disorders. Moreover, animal therapy organizations and therapists, medical personnel and doctors interested in finding holistic ways to help people heal thru communicative means as well as teach communicative skills may find this study of interest to them.

In addition, this study has improved upon the reliability of measuring the degree of animal interaction which entails bonding. This reliable instrument may be of benefit to other researchers.

**Summary**

This study, in its beginnings although complicated and controversial, has been a long time interest and source of study by the researcher. The hope of helping children and families to connect for the first time or to recover from trauma and abuse was the impetus of this endeavor. To more fully understand the human animal encounter and to be able to explain it in terms that any individual could grasp has been a resolve of this research. It is hoped this indeed has been the case for the reader.

Oftentimes, loneliness, emotional wounds, handicaps, or busy lives, make the reciprocity of human relationship seemingly impossible. Therapies in a clinical setting help to a degree; yet,
they are limited in what they can accomplish without real life experiences. Interacting with animals can be useful in helping individuals to symbolically reconstruct a new norm of acceptable behavior patterns. By interacting with animals individuals are able to learn to read body language and decode the behaviors of animals which can be transferred to human interaction. Also, the individual can be nurtured in a safe environment where these skills can be developed until they become established norms of behavior.

Opening the door of understanding to the phenomenon that takes place between humans and animals within the framework of communication literature has brought greater knowledge of human-nature relations. In this age of social media it has become increasingly more important to understand this interaction as people are becoming more and more attached to their electric plugs and more and more removed from physical interaction with others. The advent of television and now the digital age has lured people indoors, and possibly they feel more comfortable there. They become less and less interested in the living things that make up the outdoor environment which leads us to the subject of nature deficit, which is yet to be understood fully with its effects on our social interaction and communication. The need to “stay connected” without plugs or towers remains. The need for interaction involvement skills is greater than ever and who better to help us learn them than our furry and feathered friends.
References


Fournier, A. K. (2010). Quote and permission to use received from Fournier on September 17, 2010.


Appendix A- (College Students)

Informed Consent to Participate in Human Subject Research

Kim Rawson, Instructional Assistant in the Communication Department at the University of Wisconsin-Stevens Point, is conducting a study about human animal interaction and interaction involvement. This study attempts to gain a better understanding of how interaction with animals relates to a person’s human interaction involvement. Your participation would be greatly appreciated.

Your participation is completely voluntary. If you choose to participate, you will be asked to complete a survey on your degree of involvement with animals and your interaction involvement with humans. The survey will consist of several questions concerning your past and current involvement. It will also have questions about how you respond in interaction with both animals and humans.

Participating in this study should pose no medical risk to you, though it could possibly stimulate past memories that are painful. In the event that you experience such stress or discomfort, you are encouraged to see a counselor at the counseling center in Delzell Hall, 3rd floor (Phone # 715-346-3553).

Participants are free to withdraw from the study at any time without penalty. Any information collected on you up to that point will be destroyed. Your name is not included on the survey itself to maintain anonymity. As soon as you turn in your completed survey, this signed form will be separated from the survey.

For the purpose of the study, your survey results will be coded and your name will not appear on any of the forms used for data analysis. No information about you will be released. Only Kim Rawson will have access to the surveys, and this information will be kept in a locked file cabinet in her home office. The information on the survey will be used for this research as well as potential future research to aid in understanding this type of interaction.

Once the study is completed, you may view the results. To obtain the results, or to ask any questions in the meantime, please contact:

   Kim Rawson or Dr. Karlene Ferrante  
   Department of Communication  
   College of Fine Arts  
   University of Wisconsin – Stevens Point  
   Stevens Point, WI 54481  
   715-346-2060

If you have any complaints about your treatment as participant in this study, please contact:

   Dr. Jason Davis, Chair  
   Institutional Review Board for the Protection of Human Subjects  
   Department of Business & Economics  
   University of Wisconsin-Stevens Point  
   Stevens Point, WI 54481  
   715-346-4598

Although Dr. Davis will ask your name, all complaints are kept in confidence.

I have received a complete explanation of the study and agree to participate.

Name___________________________     ______________________
       (Signature of participant)      (Print Name)

Date____________________
Appendix B

ANIMAL INVOLVEMENT AND INTERACTION INVOLVEMENT

Thank you for participating in this research. Your assistance is vital to the completion of this project. You will be asked to complete two sections of information. The first section is designed to measure animal involvement. The second section measures items within communication. There are NO RIGHT OR WRONG ANSWERS.

**Instructions**: Although some items below may seem repetitious, the questionnaire must be filled out completely to be useful. You may withdraw at any time, however. If you have no animal involvement at all, the questionnaire will invite you to quit at a certain stage and move on to the next section of questions. Each section contains further instructions. Thank you again for your participation.

**Part -1- of survey Animal Involvement**

1. Please check the statement(s) that best describes your level of interaction with animals.

   ______ I have no significant involvement with animals now or in the past. (If you select this option, please proceed to the next section of this survey on Interaction Involvement, page 4.)

   ______ I currently have significant involvement with one or more animals. Total in # of years you have had animals in your life ______. (If you select this option, please continue to fill out the entire questionnaire.)

   ______ I have had significant involvement with animal(s) in the past, but not now. Total in # of years you had animals ______. (If you select this option, complete this section through #8 and then proceed to -Part 2, page 4.)

2. Instructions: Check the answer that most applies to your situation with 1 meaning always, and 5 meaning never.

<table>
<thead>
<tr>
<th>1= always</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>
   I like animals

3. During what stages of your life did you have involvement with an animal(s)? Circle all that apply.

   1. NEVER (If never, skip to -part 2-, page 4 of survey on Interaction Involvement)

   2. Childhood (1-5 years)  
   3. Middle Childhood (6-10 years)  
   4. Adolescence (11-14 years)  
   5. Young adulthood (19-30 years)  
   6. Middle Age (31-61)  
   7. Old age (62 and older)

4. What kinds of animals did you have? (circle or list all that apply):

   1. Birds  
   2. Dogs  
   3. Cats  
   4. Horses  
   5. Cows  
   6. Other ____________________

5. When did you begin to have responsibility for the care of the animal(s), which is defined as
feed/water and/or walk/ride for exercise, not just play with them:

1. NEVER

2. Childhood (1-5 years) 4. Teen (15-18 years)
3. Middle Childhood (6-10 years) 5. Young adulthood (19-30 years)
4. Adolescence (11-14 years) 6. Middle Age (31-61)
7. Old age (62 and older)

6. Did you ever regularly take care of someone else’s animals for an extended period of time?
   1. Yes  2. No

   If yes, for how long __________

   Please indicate during which period of your life you cared for someone else’s animal:

   1. Childhood (1-5 years) 4. Teen (15-18 years)
   2. Middle Childhood (6-10 years) 5. Young adulthood (19-30 years)
   3. Adolescence (11-14 years) 6. Middle Age (31-61)
   7. Old age (62 and older)

7. To which degree did the following apply to you and animal(s) you cared for in the PAST?

<table>
<thead>
<tr>
<th>Instructions: Check the answer that most applies to your past situation with 1 meaning always, and 5 meaning never. Not applicable is used for questions that do not apply to your situation.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible for care of animal(s)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaned up after animal(s)</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Animal slept in my room</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal was responsive to me</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Had a close relationship to animal(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traveled with animal(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I slept near animal(s)</td>
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<tr>
<td>I often held, stroked, or petted my animal(s)</td>
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<tr>
<td>I felt an attachment to the animal(s) (i.e. a strong feeling toward animal)</td>
<td></td>
<td></td>
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<tr>
<td>I was involved with the animal(s) (i.e. play with animal in addition to feed and exercise)</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
HUMAN ANIMAL INTERACTION AND INTERACTION INVOLVEMENT

Instructions: Check the answer that most applies to your past situation with 1 meaning always, and 5 meaning never. Not applicable is used for questions that do not apply to your situation.

<table>
<thead>
<tr>
<th>I talked to the animal(s) (i.e. Are you hungry?/You want to go potty?)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I perceived the animal(s) tried to tell me things using sounds (i.e. instances of sounds such as certain barks, meows, etc.)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I perceived the animal tried to tell me things using gestures, movements, or actions (i.e. non-verbal behaviors such as jumping, ringing a bell, or something to get you to understand what they need or to get a response from you.)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I spent a lot of time interacting with the animal(s) on a regular basis</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

8. Do you have animals NOW? (if a student, either at college or at home) 1. No 2. Yes

If no, proceed to -part 2- of survey, page 4, on Interaction Involvement.

If yes, how many? _____ And what kind of animal(s)? Circle or list all that apply:
1. Birds
2. Dogs
3. Cats
4. Horses
5. Cows
6. Other ________________

9. To which degree does the following apply to you and the animal(s) in your CURRENT situation:

Instructions: Check the answer that most reflects your current situation with 1 meaning always, and 5 meaning never. Not applicable is used for questions that do not apply to your situation.

<table>
<thead>
<tr>
<th>Responsible for care of animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Clean up after animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Animal sleeps in my room</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Animal is responsive to me</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Have a close relationship to animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Travel with animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I sleep near animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I often hold, stroke, or pet my animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I feel an attachment to the animal(s) (i.e. a strong feeling toward animal)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>
**Instructions:** Check the answer that most applies to your current situation with 1 meaning always, and 5 meaning never. Not applicable is used for questions that do not apply to your situation.

| I am involved with the animals(s) (i.e. play with animal in addition to feed and exercise) | 1 | 2 | 3 | 4 | 5 | Not Applicable |
| I talk to the animal(s) (i.e. Are you hungry? / You want to go potty? /Stop that.) | 1 | 2 | 3 | 4 | 5 | Not Applicable |
| I perceive the animal(s) try to tell me things using sounds (i.e. instances of sounds such as certain barks, meows, etc.) | 1 | 2 | 3 | 4 | 5 | Not Applicable |
| I perceive the animal(s) try to tell me things using gestures, movements, or actions (i.e. non-verbal behaviors such as jumping, ringing a bell, or something to get you to understand what they need or to get a response from you.) | 1 | 2 | 3 | 4 | 5 | Not Applicable |
| I spend a lot of time interacting with the animal(s) on a regular basis | 1 | 2 | 3 | 4 | 5 | Not Applicable |

**Part 2- of survey**

**Interaction Involvement Scale**

**Instructions:** This questionnaire is designed to provide information about how people communicate. There are no right or wrong answers to any of the items. You only need to indicate the extent to which you feel each item describes your own behavior.

In responding to some of the items, you might say, “sometimes I do that and sometimes I don’t.” You should respond to each item in a way that best describes your typical manner of communication—how you behave in most situations. If you cannot decide how a particular item applies to you, check the "not sure" alternative. However, please be sure to respond to all of the items.

<p>| Instructions: Check the one alternative for each item that best characterizes your communication in general | Not at all like me | Not like me | Somewhat unlike me | Not sure | Somewhat like me | Like Me | Very much like me |
| 1. I am keenly aware of how others perceive me during my conversations. |  |  |  |  |  |  |  |
| 2. My mind wanders during conversations and I often miss parts of what is going on. |  |  |  |  |  |  |  |
| 3. Often in conversations I’m not sure what to say, I can’t seem to find the appropriate lines. |  |  |  |  |  |  |  |
| 4. I am very observant of others’ reactions while I’m speaking |  |  |  |  |  |  |  |
| 5. During conversations I listen carefully to others and obtain as much information as I can. |  |  |  |  |  |  |  |</p>
<table>
<thead>
<tr>
<th>Instructions: Check the one alternative for each item that best characterizes your communication in general</th>
<th>Not at all like me</th>
<th>Not like me</th>
<th>Somewhat unlike me</th>
<th>Not sure</th>
<th>Somewhat like me</th>
<th>Like Me</th>
<th>Very much like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Often in conversations I’m not sure what my role is, I’m not sure how I’m expected to relate to others.</td>
<td></td>
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<tr>
<td>7. Often in conversations I will pretend to be listening, when in fact I was thinking of something else.</td>
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<tr>
<td>8. Often during conversations I feel like I know what should be said (like accepting a compliment, or asking a question), but I hesitate to do so.</td>
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<tr>
<td>9. Sometimes during conversations I’m not sure what the other really means or intends by certain comments.</td>
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<td>10. I carefully observe how the other is responding to me during a conversation.</td>
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<tr>
<td>11. Often I feel withdrawn or distant during conversations.</td>
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<tr>
<td>12. Often in conversations I’m not sure what others’ needs are (e.g., a compliment, reassurance, etc.) until it is too late to respond appropriately.</td>
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<td>13. I feel confident during my conversations, I am sure of what to say and do.</td>
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<td>14. Often I’m preoccupied in my conversations and do not pay complete attention to others.</td>
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<tr>
<td>15. Often I feel sort of “unplugged” during conversations, I am uncertain of my role, others’ motives, and what is happening.</td>
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<td>16. In my conversations I often do not accurately perceive others’ intentions or motivations.</td>
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<tr>
<td>17. In conversations I am very perceptive to the meaning of my partner’s behavior in relation to myself and the situation.</td>
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<tr>
<td>18. Often during my conversation I can’t think of what to say, I just don’t react quickly enough.</td>
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</tbody>
</table>

*Please continue on next page*
19. Below are 18 statements that people sometimes make about themselves. Please indicate whether or not you believe each statement applies to you by marking whether you:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Are Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I am inclined to keep in the background on social occasions</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>I like to mix socially with people</td>
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<tr>
<td>3.</td>
<td>I sometimes feel happy, sometimes depressed, without any apparent reason</td>
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<tr>
<td>4.</td>
<td>I am inclined to limit my acquaintances to a select few</td>
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<td>5.</td>
<td>I like to have many social engagements</td>
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<tr>
<td>6.</td>
<td>I have frequent ups and downs in mood, either with or without apparent cause</td>
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<tr>
<td>7.</td>
<td>I would rate myself as happy-go-lucky individual</td>
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<tr>
<td>8.</td>
<td>I can let myself go and have a good time at a party</td>
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<tr>
<td>9.</td>
<td>I am inclined to be moody</td>
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<tr>
<td>10.</td>
<td>I would be very unhappy if I were prevented from making numerous social contacts</td>
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<tr>
<td>11.</td>
<td>I usually take initiative in making new friends</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12.</td>
<td>My mind often wanders while I am trying to concentrate</td>
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<tr>
<td>13.</td>
<td>I like to play pranks on others</td>
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<tr>
<td>14.</td>
<td>I am usually a “good mixer”</td>
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<tr>
<td>15.</td>
<td>I am sometimes bubbling over with energy and sometimes very sluggish</td>
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<tr>
<td>16.</td>
<td>I often “have the time of my life” at social affairs</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17.</td>
<td>I am frequently “lost in thought” even when I should be taking part in a conversation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>I derive more satisfaction from social activities than anything else</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
19. Continued- Please check which applies to you

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Are Undecided</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When in social settings I often think of how I appear to others in the setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When in social settings I am often aware of how others are feeling in the setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When in social settings I am often thinking of how I can fit in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please continue to fill out additional information – THANK YOU

Part -3 Information about You

Instructions: Circle the answers that most apply and/or fill in the appropriate blank spaces.

1. I am a: 1. Female 2. Male 3. N/A

   6. Other, specify ___________________

3. On my last birthday, I was ___________ years old.


5. The highest level (in years) I have completed in school is:
   1. 0-6 years 5. College, 1-3 years
   2. 7-9 years 6. College Graduate
   3. 10-11 years 7. Postgraduate
   4. High School Graduate

6. The kind of house I live in currently is: As a child I lived in (circle all that apply):
   2. Apartment 2. Apartment
   3. Trailer 3. Trailer
   4. Townhouse/Condo 4. Townhouse/Condo
   5. Other ___________________ 5. Other ___________________
      (e.g. nursing home, etc.)

-please continue to the next page-
Answering the remainder of the questions below, please think of the family you grew up with:

7. During my childhood, my family:
   1. Remained intact (the family you were born to, you were raised with)
   2. Was separated (due to war, divorce, death, or similar trauma)

8. I lived with a family of ________ number of individuals (include yourself).

9. **Circle** the answer that most applied to your past:

<table>
<thead>
<tr>
<th>Life was financially</th>
<th>Very Good</th>
<th>Good</th>
<th>Unsure</th>
<th>Hard</th>
<th>Very Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents were</td>
<td>Very Involved</td>
<td>Involved</td>
<td>Neutral</td>
<td>Somewhat Involved</td>
<td>Not Very Involved</td>
</tr>
<tr>
<td>My family was</td>
<td>Very Close</td>
<td>Close</td>
<td>Neutral</td>
<td>Not so close</td>
<td>Indifferent</td>
</tr>
</tbody>
</table>

10. I had care of individuals other than myself  
    1. Yes  
    2. No  
    
    If **yes**, at what age _______ (approx. year)  
    
    If **yes**, # of individuals__________  
    For how long ________ (specify in approx. # of yrs)  

   **This is the end of the survey. Thank you for participating.**
Appendix C (Veterinary Hospital)

Informed Consent to Participate in Human Subject Research

Kim Rawson, Instructional Assistant in the Communication Department at the University of Wisconsin-Stevens Point, is conducting a study about human animal interaction and interaction involvement. This study attempts to gain a better understanding of how interaction with animals relates to a person’s interaction involvement. Your participation would be greatly appreciated.

Your participation is completely voluntary. If you choose to participate, your completion of the survey constitutes your consent. This survey attempts to measure your degree of involvement with animals and interaction involvement with humans. The survey will consist of several questions concerning your past and current involvement. It will also have questions involving how you respond in interaction.

Participating in this study should pose no medical risk to you, though it may stimulate past memories that are painful. In the event that you experience such stress or discomfort, you are encouraged to speak with your veterinarian. Participants are free to withdraw from the study at any time. Your name is not included on the survey itself to maintain anonymity and confidentiality.

For the purpose of the study, your survey results will be coded. No information about you personally will be released. Only Kim Rawson will have access to the names associated with the codes, and this information will be kept in a locked file cabinet in her home office. The information on the survey will be used for this research as well as potential future research to aid in understanding this type of interaction.

Once the study is completed, you may view the results. To obtain the results, or to ask any questions in the meantime, please contact:

Kim Rawson or Dr. Karlene Ferrante  
Department of Communication  
College of Fine Arts  
University of Wisconsin – Stevens Point  
Stevens Point, WI 54481  
715-346-2060

If you have any complaints about your treatment as participant in this study, please contact:

Dr. Jason Davis, Chair  
Institutional Review Board for the Protection of Human Subjects  
Department of Business & Economics  
University of Wisconsin-Stevens Point  
Stevens Point, WI 54481  
715-346-4598

Although Dr. Davis will ask your name, all complaints are kept in confidence.

I have received a complete explanation of the study and agree to participate. Please turn page and begin survey. Thank you.
Appendix D

The following is a table numbering (coding) the variables within the Independent Variable of Degree of Animal Involvement measure which was modified by the researcher (Poresky et al., 1987). These were taken from the survey in Appendix B, numbers 7 and 9 respectively.

7. To which degree did the following apply to you and animal(s) you cared for in the PAST?

<table>
<thead>
<tr>
<th>Instructions: Check the answer that most applies to your past situation with 1 meaning always, and 5 meaning never. Not applicable is used for questions that do not apply to your situation.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>v 7.1 - Responsible for care of animal(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v. 7.2 - Cleaned up after animal(s)</td>
<td></td>
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</tr>
<tr>
<td>v. 7.3 - Animal slept in my room</td>
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<tr>
<td>v.7.4 - Animal was responsive to me</td>
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<tr>
<td>v.7.5 - Had a close relationship to animal(s)</td>
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<tr>
<td>v.7.6 - Traveled with animal(s)</td>
<td></td>
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<tr>
<td>v.7.7 - I slept near animal(s)</td>
<td></td>
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<tr>
<td>v.7.8 - I often held, stroked, or petted my animal(s)</td>
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<td></td>
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<tr>
<td>v.7.9 - I felt an attachment to the animal(s) (i.e. a strong feeling toward animal)</td>
<td></td>
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<tr>
<td>v.7.10 - I was involved with the animal(s) (i.e. play with animal in addition to feed and exercise)</td>
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<tr>
<td>v.7.11 - I talked to the animal(s) (i.e. Are you hungry?/You want to go potty?)</td>
<td></td>
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<tr>
<td>v.7.12 - I perceived the animal(s) tried to tell me things using sounds (i.e. instances of sounds such as certain barks, meows, etc.)</td>
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<tr>
<td>v.7.13 - I perceived the animal tried to tell me things using gestures, movements, or actions (i.e. non-verbal behaviors such as jumping, ringing a bell, or something to get you to understand what they need or to get a response from you.)</td>
<td></td>
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<tr>
<td>v.7.14 - I spent a lot of time interacting with the animal(s) on a regular basis</td>
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</tbody>
</table>

(Continued on next page, number 9)
9. To which degree does the following apply to you and the animal(s) in your **CURRENT situation**:

**Instructions:** Check the answer that most reflects your **current situation** with 1 meaning *always*, and 5 meaning *never*. **Not applicable** is used for questions that do not apply to your situation.

<table>
<thead>
<tr>
<th>v.9.1 - Responsible for care of animal(s)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>v.9.2 - Clean up after animal(s)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>v.9.3 - Animal sleeps in my room</td>
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<tr>
<td>v.9.4 - Animal is responsive to me</td>
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</tr>
<tr>
<td>v.9.5 - Have a close relationship to animal(s)</td>
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</tr>
<tr>
<td>v.9.6 - Travel with animal(s)</td>
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<td></td>
</tr>
<tr>
<td>v.9.7 - I sleep near animal(s)</td>
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<td></td>
</tr>
<tr>
<td>v.9.8 - I often hold, stroke, or pet my animal(s)</td>
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<td></td>
</tr>
<tr>
<td>v.9.9 - I feel an attachment to the animal(s)</td>
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<tr>
<td>(i.e. a strong feeling toward animal)</td>
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</tr>
<tr>
<td>v.9.10 - I am involved with the animals (s)</td>
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<tr>
<td>(i.e. play with animal in addition to feed and exercise)</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>v.9.11 - I talk to the animal(s)</td>
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<td>v.9.13 - I perceive the animal(s) try to tell me things using gestures, movements, or actions (i.e. non-verbal behaviors such as jumping, ringing a bell, or something to get you to understand what they need or to get a response from you.)</td>
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IIS – Interaction Involvement Scale, PER – Perceptiveness, ATT – Attentiveness, RES – Responsiveness  
DAIS – Degree of Animal Interaction Scale, PDAIS – Past Degree of Animal Interaction Scale, CDAIS – Current Degree of Animal Interaction Scale  
Control Variables: introvsc – Introversion, maritst – marital status, yrscfo – years cared for another