The Human-Animal Bond and Attachment in Animal-Assisted Interventions in Counseling

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ACADEMIC ABSTRACT

Mental health practitioners who incorporate animal-assisted interventions into clinical practice harness the human-animal bond for therapeutic benefit. According to the Animal-Assisted Therapy in Counseling Competencies, practitioners have a duty to understand the complex relational processes within animal-assisted interventions in counseling (AAI-C). These bonding processes may resemble that of an attachment bond in which the client desires to maintain closeness to the practitioner and therapy animal as a result of feeling safe and secure. Researchers studying attachment in the human-animal bond have stated that attachment processes may occur within other human-animal relationships, such as between a guardian and a companion animal. However, there is no empirical research on the attachment processes occurring between humans and therapy animals in AAI-C or how these processes affect the bond between the practitioner and client. A component of the working alliance, maintaining a quality bond, can improve treatment outcomes in counseling. Therefore, the purpose of this quantitative study was to examine how attachment to a therapy animal impacts the attachment bond between a mental health practitioner and client. Participants completed an online survey with four measures to study the following: (a) client attachment to the therapy animal, (b) practitioner attachment to the therapy animal, (c) the bond between the practitioner and client, and (d) the impact of utilizing an animal in counseling sessions. Data analyses included a multiple regression to determine how practitioners' perceptions of the attachment processes within AAI-C best explain the bond with their clients. Descriptive analysis revealed that practitioners perceived high quality bonding within AAI-C, particularly in their own attachment to the therapy animal.

Results of the multiple regression indicated practitioners' attachment to the therapy animal was a significant predictor of the working alliance and bond between the practitioner and client. Practitioners who perceived themselves as extremely skilled in working with the clients' presenting issue also had a statistically significant effect on the working alliance and bond when compared to practitioners who felt less skilled. Implications for practitioners and counselor educators are provided. Limitations and areas of future research are also discussed.

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GENERAL AUDIENCE ABSTRACT

Mental health practitioners who incorporate animal-assisted interventions into clinical practice harness the human-animal bond for therapeutic benefit. According to the Animal-Assisted Therapy in Counseling Competencies, practitioners have a duty to understand the complex relational processes within animal-assisted interventions in counseling (AAI-C). These bonding processes may resemble that of an attachment bond in which the client desires to maintain closeness to the practitioner and therapy animal as a result of feeling safe and secure. Researchers studying attachment in the human-animal bond have stated that attachment processes may occur within other human-animal relationships, such as between a guardian and a companion animal. However, there is no practical research on the attachment processes occurring between humans and therapy animals in AAI-C or how these processes affect the bond between the practitioner and client. A component of the working alliance, maintaining a quality bond, can improve treatment outcomes in counseling. Therefore, the purpose of this quantitative study was to examine how attachment to a therapy animal impacts the attachment bond between a mental health practitioner and client. Participants completed an online survey with four measures to study the following: (a) client attachment to the therapy animal, (b) practitioner attachment to the therapy animal, (c) the bond between the practitioner and client, and (d) the impact of utilizing an animal in counseling sessions. Data analyses included a multiple regression to determine how practitioners' perceptions of the attachment processes within AAI-C best explain the bond with their clients. Descriptive statistics revealed that practitioners perceived high quality bonding within AAI-C, particularly in their own attachment to the therapy

animal. Results of the multiple regression indicated practitioners' attachment to the therapy animal influenced the working alliance and bond between the practitioner and client. Practitioners who perceived themselves as extremely skilled in working with the clients' presenting issue also had an effect on the working alliance and bond when compared to practitioners who felt less skilled. Implications for practitioners and counselor educators are provided. Limitations and areas of future research are also discussed.

Keywords: human-animal bond, attachment, animal-assisted interventions

For JoJo, Antonio, Oscar, and all other animals on Earth

"Animals stimulate us not only by touch, but by some deeply buried aspect of nature within us, a connection to part of something greater, more healthy, more whole." – Peter Levine

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CHAPTER ONE

INTRODUCTION

Multiple disciplines have studied extensively the relationship between humans and animals. An ultimate conclusion of this research is that humans and animals experience a symbiotic relationship with each other (Berget & Braastad, 2008), so much so that mental health professionals have been integrating animals into treatment with clients for over 50 years (Fine, 2015; Friedmann, Katcher, Lynch, & Thomas, 1980; Levinson, 1969). The proliferation of this modality has resulted in the need for practitioner awareness of the complex relational processes occurring in the tripartite relationship of the practitioner, client, and therapy animal (Stewart, Chang, Parker, & Grubbs, 2016). However, at this time, no research investigates how mental health professionals providing animal-assisted interventions perceive the role of the human-animal bond within the therapeutic process. Greater research is needed that focuses specifically on the nature of the human-animal bond in counseling and related therapeutic work. The purpose of this study was to examine how practitioners' and clients' attachment to the therapy animal impacted the bond in their working alliance.

Context for Study

Humans possess an innate need to make meaning, seek support, and find companionship in other beings (Putney, 2013). Family, friends, romantic partners, and community networks traditionally meet these needs. However, one relationship beginning to garner attention is that of the human-animal bond. Defined as a health-promoting and mutually beneficial relationship between people and animals in which both parties experience positive effects as a result of the interaction (American Veterinary Medical Foundation, 2017a), the human-animal bond provides implications for the emotional, psychological, and physical health benefits of human-animal

interactions (Hosey & Melfi, 2014). Proclaiming the strength of the human-animal bond, humans have documented these positive effects of their relationship with animals in both ancient and current literature (Fine, 2015). Beck (2002) described animals as providing more than companionship, acceptance, and love; he identified them as enhancements to social experiences, deterrents to loneliness, and encouragers of positive physical touch.

Through observations and recordings of the benefits underlying the human-animal bond, the field of counseling has utilized a therapeutic modality involving animals called Animal-Assisted Interventions in Counseling (AAI-C; Stewart, 2018). Structured with therapeutic goals and clearly defined objectives (Mills & Hall, 2014), this developing area of research and practice requires greater empirical support (Fine, 2015; Siegel, 1993) as counselors continue to implement AAI-C into their work. AAI-C clinicians undergo specialized and time-intensive training to obtain certification to provide these services to clients (Fine, 2015). Canines and equines are the most common animals incorporated into AAI-C (Payne, DeAraugo, Bennett, & McGreevy, 2016); however, other recognized therapy animals include cats, rabbits, guinea pigs, llamas, alpacas, birds, pigs, and rats (Pet Partners, n.d.b). For the purposes of this study, AAI-C is used to denote all therapeutic interventions incorporating an animal, regardless of discipline or profession.

A number of options exist in which the human-animal bond can be applied therapeutically. Animal-assisted activities are cost-effective activities that involve exposure to animals in an environment that promotes education, wellness, and improved quality of life (American Veterinary Medical Association, 2011). While training is often a prerequisite for the handler and animal to engage in these activities (Haggerty & Mueller, 2017), the handler does not necessarily come from a helping profession. Furthermore, animal-assisted activities lack the

treatment goals, objectives, and protocol that define AAI-C (Friedmann, Son, & Saleem, 2015). However, due to evidence that animal-assisted activities utilize the benefits of the human-animal bond to alleviate issues related to emotional, social, cognitive, and physical concerns in a variety of populations and settings (Abate, Zucconi, & Boxer, 2011; Morgan, 2017; Nepps, Stewart, & Bruckno, 2014; Tsai, Friedmann, & Thomas, 2010), both AAI-C and animal-assisted activities can be collapsed under the broader umbrella of animal-assisted interventions (AAI). AAI is "a goal-oriented intervention that intentionally includes or incorporates animals in health, education, and human service for the purpose of therapeutic gains in humans" (International Association of Human-Animal Interaction Organizations, 2014). The shared process of the human-animal bond within AAI provides evidence of the need to further explore its complexities. These complexities can be understood best by a set of three theoretical positions used by researchers to define and study the human-animal bond.

Theoretical Positions

Historical foundations of the human-animal bond are evident within a range of cultures. Native American tribes believed in the spiritual power of animal guardian spirits (Benedict, 1929) while Egyptians revered animal-headed gods and goddesses (Schwabe, 1994). The Age of Enlightenment ushered in changes to animal-related perspectives and behaviors from viewing them as either threats to survival or spiritual entities to considering them as means of socialization and care (Serpell, 1996). Over the last 20 years, Western culture has generally accepted animal companionship as therapeutically beneficial (Serpell, 2000). These historical transformations have created a need to establish a comprehensive lens through which to explore humans' relationship with animals. Three theories are traditionally considered when understanding the human-animal bond: (a) the biophilia hypothesis; (b) animals as social

support; and (c) attachment (Fine & Weaver, 2018). *Biophilia* is the notion that humans possess an innate, evolutionary need to understand, connect, and relate with nature (Wilson, 1984). Fine and Weaver (2018) suggest that considering biophilia within AAI provides context for humans' instinctive motivation to respond to animals and a rationale for incorporating animals into therapeutic experiences. Fine and Weaver also note that animals take on the role of social support through instigating connections for those that struggle in traditional social interactions and through the companionship brought by a pet. *Social support*—the experience of an individual believing and experiencing that they are loved, cared for, valued, and a member of an intricate network of supportive relationships (Cobb, 1976)—has implications for AAI as these supportive interactions work to strengthen the human-animal bond. Finally, *attachment theory* explains the human need for protection, care, and relational bonding (Sable, 1995, 1997); attachment is addressed later in this document.

Researchers continue to explore the biological and physiological underpinnings of the human-animal connection, such as dogs lowering cortisol levels in children (Beetz, Julius, Turner, & Kotrschal, 2012) and decreasing blood pressure in undergraduate college students (Muckle & Lasikiewicz, 2017). *Oxytocin* has recently become a significant physiological indicator of our relationship with animals after Odendaal and Meintjes (2003) discovered that oxytocin levels doubled in dogs and humans during their interactions. A hormone essential in forging social bonds (Carter, Grippo, Pournajafi-Nazarloo, Rucio, & Porges, 2008), humans release oxytocin during significant relational moments, such as sex and childbirth (Olmert, 2009). While these events require relational connection for reproductive and survival bonding purposes, oxytocin's presence in the human-animal relationship indicates therapeutic significance between the species (Tedeschi, Sisa, Olmert, Parish-Plass, & Yount, 2015). Handlin,

Nilsson, Ejdeback, Sandberg, and Uvnäs-Moberg (2012) studied oxytocin levels between dogs and their owners. They discovered a relationship between higher oxytocin levels and greater frequency of intimate physical connection between dog and owner in addition to correlations between oxytocin levels and the owners' perception of their dogs as a companion (Handlin et al., 2012). These results indicate the human-animal relationship is mutually beneficial and that the interaction elevates oxytocin level in both species. Therefore, a human-animal interaction can be considered a significant relational moment.

Clinical Efficacy

Human-animal bond research has crossed a range of settings, populations, and disciplines. Veterinary social work researchers explored how social workers addressed the emotional consequences of veterinarians experiencing grief and loss, compassion fatigue, animal and human violence, and AAI (Holcombe, Strand, Nugent, & Ng, 2016) while education researchers examined the human-animal bond as a means of promoting resilience, learning, and social-emotional competence in primary school students (Saggers & Strachan, 2016). O'Haire (2017) performed a systematic literature review on AAI with populations diagnosed with autism and discovered improved social interactions to be the most significant result from the studies. Mental health and related fields continue developing an understanding that interventions and experiences involving human-animal interactions are beneficial in numerous circumstances (Fine, 2015). Attention to this process within the counseling room began with Boris Levinson, often considered the "father of animal-assisted therapy." Levinson (1972) declared that positive relationships with animals result in healing and harmony. He inadvertently discovered the therapeutic benefit of an animal when a nonverbal client began speaking with Levinson's pet dog, Jingles (Fine, Tedeschi, & Elvove, 2015). This early introduction to integrating an animal

into session with clients for therapeutic benefit provided implications for its facilitation of client-counselor communication (Levinson, 1969). More recently, Maharaj (2016) identified including animals to enhance collaborative relationships between service providers and vulnerable youth. Similarly, Stewart, Chang, and Rice (2013) proposed that AAI-C enriches the traditional counselor-client relationship by enabling opportunities for safe and therapeutic touch and greater exhibition of core therapeutic conditions such as empathy and unconditional positive regard.

Researchers have explored the application of AAI in a variety of clinical populations. Animal-assisted activities have been implemented successfully in crisis response (Graham, 2009) and with older adults living in a retirement facility (Holt, Johnson, Yaglom, & Brenner, 2015). AAI has been found to decrease perceived stress symptoms in university students during finals week (Barker, Barker, McCain, & Schubert, 2016) in addition to alleviating overall homesickness and loneliness on college campuses (Binfet & Passmore, 2016). AAT outcomes have also demonstrated an improvement in the communication skills of child survivors of domestic violence (Balas, 2013), anxiety reduction in hospitalized patients (Barker & Dawson, 1998), and greater muscle strength in children with cerebral palsy (Whalen & Case-Smith, 2012). AAI-C is also considered effective with military veterans (Furst, 2015), individuals diagnosed with autism spectrum disorders (Christon, Makintosh, & Myers, 2010), and college students (Crump & Derting, 2015). It has also been applied as a supportive process to address emotional disturbances and behavioral functioning in children and adolescents (Geist, 2011).

Statement of the Problem

Research related to the human-animal bond and AAI-C is interdisciplinary in nature. Social work, nursing, and psychology are social science disciplines regularly producing research on the human-animal bond and AAI (Yorke et al., 2013) with researchers in veterinary medicine

(Barker & Wolen, 2008) and public health (Müllersdorf, Granström, Sahlqvist, & Tillgren, 2010) also publishing on these intersecting areas. In the counseling profession, researchers seek unique contributions to AAI-C research through empirical studies that indicate clinical efficacy (Chandler, 2017). Currently, researchers in counseling have found that AAI-C as an adjunctive modality may result in increasing client attention and motivation, enhancing safety, eliciting calmness, providing nurture and care, and cultivating growth and healing (Chandler, 2017).

Due to the interdisciplinary research and practice of human-animal bond and AAI, confusion with terminology often occurs as a result of the interchangeable, though distinct, terms used within the research, such as human-animal interactions, human-animal relationships, and human-animal bonds (Hosey & Melfi, 2014) and animal-assisted interventions, animal-assisted interactions, animal-assisted activities, animal-assisted education, animal-assisted therapy, and animal-assisted therapy in counseling (Chandler, 2017; Fine, 2015). Furthermore, as the counseling profession works toward unity and professional identity (Kaplan & Gladding, 2011), researchers within this discipline frequently use terminology that removes or complements the traditional animal-assisted therapy notion with animal-assisted counseling (Hartwig & Smelser, 2018), animal-assisted therapy in counseling (Chandler, 2017), and animal-assisted interventions in counseling (Stewart, 2018). As terminology continues evolving and remaining open for critique in the range of disciplines exploring the human-animal bond for human health benefits, it is important to distinguish between these different categories of animals to appropriately understand how humans may bond to them differently, specifically in the case of bonding to a therapy animal in AAI-C.

Helper Animals

The diversity of settings and populations in which practitioners incorporate animals therapeutically necessitate an understanding of the distinctions between the animals that provide health benefits to humans. Companion animals, service animals, emotional support animals, and therapy animals provide positive health gains to humans in addition to requiring particular attention to the legal and ethical implications of their presence (Fine, 2015). Although they are commonly used as overlapping terms, there are specific differences between these animals in research and practice. Much of the research on the human-animal bond focuses on *companion animals*, also considered "pets" or even used in the term "pet therapy," which was originally coined by Levinson (1969) but appropriately described by Giorgi (2013) as an interaction between an animal and their handler to address mental health concerns. However, Giorgi (2013) incorrectly labeled pet therapy and animal-assisted therapy as synonymous terms; a client's pet and a therapy animal incorporated into session are not traditionally the same being, and the term pet therapy is not necessarily used or accepted by all AAI-C practitioners. This confusion is reflective of the ongoing debate surrounding helper animals. Regardless, researchers have found companion animals to mitigate owners' physical health concerns, meet humans' social needs, stimulate the family child's psychosocial development, and instill feelings of love and loyalty in their owners (Walsh, 2009b). Therefore, the bond between a companion animal and its guardian(s) creates a context for exploring complex systems influencing individual human development (Mueller, Fine, & O'Haire, 2015).

Service animals are a distinct class of animal distinguished from a companion animal in that they undergo training to perform a specific task to aid individuals living with a physical, psychiatric, intellectual, sensory, or cognitive disability (Phillips, 2015). The Americans with

Disabilities Act of 1990, 28 CFR §36.104, § 36.302 with amendments effective on March 15, 2011, offers protection to these animals to enter public settings in the interest of aiding their handler and further bans discrimination from these individuals receiving such accommodations for their service animal. Although service animals live with their handler to assist with life challenges (Walsh, 2009b), their presence and bond are traditionally professional and task-oriented in nature. O'Haire and Rodriguez (2018) sought to add empirical research on the self-efficacy of service dogs and discovered improvement in post-traumatic stress disorder symptomology for post-9/11 military members and veterans when integrating dogs with treatment-as-usual. While their data did not conclude that incorporating a service animal into treatment resulted in a loss of diagnosis, the trained service dog assisted with improving overall quality of life, decreasing symptoms of depression, and reducing missed days of work due to health concerns (O'Haire & Rodriguez, 2018).

Alternatively, research on *emotional support animals* acknowledges the difficulty in distinguishing between emotional support animals and service animals and how their differences do and do not allow entry into public settings (Bourland, 2009; Phillips, 2016; Von Bergen, 2015). As emotional support animals were designated to address fair housing needs for pet guardians keeping animals for emotional comfort, they do not meet the Americans with Disabilities Act's requirements for service animal consideration in that they do not perform a specific task and are not required to undergo specialized training (Bourland, 2009). Although multiple researchers have discovered negative outcomes and legal implications related to emotional support animals in public settings, such as bystanders confronting allergies and phobias (Dermott, 2012) and risking the distraction and safety of trained service animals (Siler, 2017), stakeholders in the study and impact of the human-animal bond continue to observe the

effects of emotional support animals' presence due to the proposed healing nature of the bond prevalent within that relationship (Adams, Sharkin, & Bottinelli, 2017; American Veterinary Medical Association, 2018b). Recent media attention given to emotional support animals and the need for understanding the differences between the various helping animals is pertinent for best practices in AAI-C.

Therapy Animals

Therapy animals are distinct from companion animals, service animals, and emotional support animals in that a trained mental health professional intentionally incorporates the animal as component of therapeutic treatment (American Veterinary Medical Association, 2018b). Therapy animals are found in a range of settings including college counseling centers (Barker et al., 2016), child welfare agencies (Risley-Curtiss, Zilney, & Hornung, 2010), hospitals (Schmitz, Beermann, MacKenzie, Fetz, & Schulz-Quach, 2017), and residential substance abuse treatment (Coetzee, Beukes, & Lynch, 2013). Chandler (2017) and Fine (2015) noted that these diverse settings allow a broad range of clients to access AAI-C services. Abreu and Figueiredo (2015) stated that, although AAI-C contains specific goals and objectives used to measure treatment progress, the spontaneity and availability of a therapy animal may be the factors that facilitate the therapeutic process. However, no specific or directive regulations exist that determine whether an animal is appropriate for therapy. Regardless, a number of organizations have adopted the task of training, evaluating, and certifying therapy animals. These organizations include Pet Partners, Therapy Dogs International, and the American Kennel Club.

Animal-Assisted Therapy in Counseling Competencies

As counselors and other mental health professionals search for the most ethical and effective way to implement AAI-C, the Animal-Assisted Therapy in Counseling Competencies

provide guidance on the knowledge, skills, and attitudes needed to incorporate an animal into therapeutic practice (Stewart, Chang, et al., 2016). Counselors' development and implementation of these competencies and skills "directly impacts their relationship with the therapy animal" in the interest of animal welfare and client benefit (Stewart et al., 2013, p. 344). Endorsed by the American Counseling Association (ACA; Bray, 2016) and established through the collaborative efforts of the Animal-Assisted Therapy in Mental Health Interest Network of ACA (Stewart, Chang, et al., 2016), the Animal-Assisted Therapy in Counseling Competencies encourage specialized training and knowledge to ensure efficacy and ethicality within AAI-C interventions (Stewart, Chang, et al., 2016). Counselors and other mental health professionals incorporating an animal into session must become and remain aware of the standards surrounding AAI-C practice, particularly in the role of the human-animal bond.

The Knowledge domain of the Competencies contains a number of competency areas that address practitioner understanding of the human-animal bond in counseling as well as the physiological and neurological effects of human-animal interactions (Stewart, Chang, et al., 2016). Additionally, the Knowledge domain presents ethical considerations for understanding how the bond between the counselor and animal can create a bias that affects the counseling process (Stewart, Chang, et al., 2016). The Skills domain proposes practitioners develop the skills needed to objectively assess the benefit of incorporating the animal into session *despite* their established bond (Stewart, Chang, et al., 2016). Therefore, greater counselor understanding of their bond with their therapy animal is needed to ensure optimal competence to engage in the practice of AAI-C.

Attachment

When considering the relational processes occurring between the individuals and animal involved in AAI-C, Bowlby (1969) and Ainsworth's (1963) theory of attachment is a comprehensive framework in which to interpret the effects of the human-animal bond. Attachment explains the affectional bonding that occurs between an infant and caregiver, and how early attachment experiences impact functioning in future relationships, personality development, and mental health (Levy, 2013). Bowlby (1969) proposed that attachment occurs throughout the lifespan and can stretch across a variety of relationships, including mother/infant and therapist/client**.** Ainsworth and Bell (1970) later expanded upon Bowlby's work to include the Strange Situation test in which an infant and caregiver are introduced to a stranger in an unfamiliar room to observe the infant's responses to separation and reunion with the caregiver in the stranger's presence. Through the efforts of these two researchers, attachment can be explored through four criteria outlined by Ainsworth (1991). First, attachment involves the *proximity maintenance* of an individual preferring to be in the presence of an attachment figure during times of high emotion, stress, or need. Second, the attachment figure is considered a *safe haven* who alleviates distress through care and support. Third, the attachment figure is also a *secure base* from which the individual can move in order to safely engage in exploration and self-discovery. Fourth, the individual experiences *separation distress* when the attachment figure is unavailable.

Attachment patterns and security contribute to internal working models that develop in childhood and reflect an individual's mental representation of the world and their relationship to others (Bowlby, 1969). These internal working models contribute to an individual's feelings of self-worth, security, and likelihood of future negative emotional and social experiences (Zilcha-

Mano, Mikulincer, & Shaver, 2011a). An attachment style develops as a "systematic pattern of relational expectations, emotions, and behavior that results from a person's attachment history" (Zilcha-Mano et al., 2011a, p. 542). These attachment styles result from early childhood attachment experiences and increase in complexity throughout adulthood (Rockett & Carr, 2014). Bartholomew and Horowitz (1991) developed a two-dimensional model of adult attachment that includes the Avoidance dimension and Anxiety dimension of insecure attachment. According to their model, *Avoidance* relates to the belief that others are trustworthy and supportive while *Anxiety* relates to how an individual perceives their self-worth. Bartholomew and Horowitz proposed four attachment styles develop from these two dimensions: (a) *secure*, which indicates trust, low avoidance, and low anxiety; (b) *preoccupied*, which indicates jealousy and high need with low avoidance and high anxiety; (c) *fearful-avoidant*, which indicates distrust, high avoidance, and anxiety; and (d) *dismissing-avoidant*, which indicates avoidance of relational connection, high avoidance, and low anxiety. Interestingly, researchers note that attachment can occur outside of the originally investigated mother-infant relationship to include buildings, locations, inanimate objects, God, or religious leaders (Bradshaw, Ellison, & Marcum, 2010; Nedelisky & Steele, 2009). Therefore, it is appropriate to continue a discussion of the human-animal bond by exploring that bond through the lens of attachment.

Human-Animal Bond and Attachment

Due to the nature of the relationship between animals and the humans that care for them, attachment provides an explanation for the human-animal bond. The literature creates a delineation between the bond of a human and companion animal, and a human and the animal adjunct involved in AAI-C and animal-assisted activities (Crossman, 2017; Siegel, 1993). Both

relationships have distinct components, and both may exhibit varying degrees of attachment styles. With companion animals, human may exhibit a similar attachment orientation to the one they exhibit with other humans (Zilcha-Mano et al., 2011b), and they more readily define their pet as a secure base or safe haven (Levinson, 1969). In counseling, the therapy animal has the potential to act as an attachment figure for the human client, most likely also as a safe base or secure haven; however, this attachment relationship may prove more difficult to form (Zilcha-Mano et al., 2011a) because developing attachment relationships and altering attachment classifications takes a significant amount of time (Jasperson, 2010). Jasperson (2010) discovered that female incarcerated offenders used their relationship with a therapy animal to confront their unhelpful coping methods derived from their negative internal mental representations developed through insecure attachment styles.

Despite the barriers inherent in clients' ability to securely attach to a therapy animal, humans' ability to attune with animals can occur in many settings and contexts and often does increase secure attachment behaviors (Geist, 2011). Rocket and Carr (2014) reported that animals incorporated in AAI-C might help to facilitate a secure attachment bond between the counselor and client. In addition, DeSorcy, Olver, and Wormith (2016) concluded that clients experience a more positive therapeutic process when there is a strong bond in the working alliance between the counselor and client**.** Defined as a therapeutic process in which the counselor and client mutually agree upon therapeutic goals, mutually agree upon therapeutic tasks, and maintain a quality bond (Bordin, 1979), the *working alliance* within a therapeutic relationship may also be impacted by counselor theoretical orientation. For example, clients of counselors adhering to pure psychodynamic theory may struggle to experience a strong working alliance and bond with the counselor (Fleischman & Shorey, 2016) more often than those whose

counselors align with cognitive-behavioral theory (Raue, Goldfried, & Barkham, 1997). Ultimately, research indicates that attachment and bonding in counseling are critical for client outcomes and symptomology (Degnan, Seymour-Hyde, Harris, & Berry, 2014). Although theoretical literature indicates the importance of attachment in the therapeutic relationship within AAI-C, empirical research on the human-animal bond and attachment primarily exists within the human-companion animal relationship. However, given the positive reports of the human-animal bond on psychological, emotional, social, and physical dimensions of the human experience, greater exploration of the therapeutic relational processes within AAI-C is warranted.

Purpose of Study and Research Questions

Although AAI-C is implemented in multiple contexts with a variety of populations and is moving toward greater standardization of practice and harmonious terminology, minimal research exists on counselors' perceptions of this modality. Specifically, there is a lack of research on how counselors perceive the impact of the animal within their work. According to Fine et al. (2015), "practical experience and research appear to agree on the premise that the conditions allowing for the most beneficial therapeutic transfer are based primarily on the quality of the practitioner's relationship with their therapy animal" (p. 24-25). Additionally, practitioners implementing animals into their clinical practice noted the importance of competency in and understanding of the elements involved in AAI-C (Stewart et al., 2013). However, it is also important to account for practitioners' theoretical orientation (Fleischman & Shorey, 2016), clients' degree of exposure to the species of therapy animal (Beetz, Uvnäs-Moberg, Julius, & Kotrschal, 2012), and practitioners' perceptions of their skill and comfort in working with their client's presenting issue (Hersoug, Hoglend, Monsen, & Havik, 2001) when studying the bond between the practitioner and client in an AAI-C.

Early research on the human-animal bond focused on how veterinary students perceive this bond (Blackwell & Blackwell, 1993). However, there is now a plethora of research related to the relationship experienced between a companion animal and their owner (Maharaj & Haney, 2015; Zilcha-Mano et al., 2011b). The literature is moving now in a direction of understanding the perceptions of individuals whose work intersects with AAI and how ancillary social relationships may develop, such as between healthcare staff members and handlers of animal-assisted activity teams (Bibbo, 2013). Additionally, recent research has also investigated how mental health professionals, specifically, perceive modalities incorporating this bond (Hartwig & Smelser, 2018), although this research does not explore how AAI-C counselors themselves perceive the cross-species bonds that impact counseling work. Stewart et al. (2013) discovered themes related to these bonds, although a study incorporating greater generalizability with a focus on the complex relational aspects of AAI-C is needed to provide additional guidance for legitimization of the field. Furthermore, expanding practitioner and researcher understanding of the bonds involved in AAI-C provides implications for the training process of future AAI-C counselors.

As AAI-C continues its growth and solidification within the field of counseling, the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) present opportunities for research into the human-animal bond as it manifests in AAI-C. Specifically exploring the therapeutic process of these bonds may also cultivate greater insight on how to distinguish therapy animals from the other helping animals to advocate for clarity and understanding of this modality. The following research questions guided this research study:

1. What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?

2. How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

Definition of Terms

Animal-Assisted Interventions: A structured and goal-oriented intervention in which animals are incorporated into health, education, or human services for human therapeutic gains, also known as animal-assisted therapy, animal-assisted education, and animal-assisted activities (under certain conditions) (International Association of Human-Animal Interaction Organizations, 2014). Also includes animal-assisted interventions in counseling (Chandler, 2017; Stewart, 2018).

Animal-Assisted Interventions in Counseling: Describes the process of a counselor incorporating animal-assisted interventions into counseling to address mental health (Stewart, 2018). The practitioner and therapy animal obtain specialized training to impact the therapeutic process through the tripartite relationship of the counselor, client, and therapy animal (Stewart et al., 2013). This term has evolved from other terms also used to describe the process of incorporating an animal into session, such as animal-assisted therapy and animal-assisted therapy in counseling (Chandler, 2017).

Attachment Bond: Also known as affectional bonds, these differ from other relationships in that they may be long-lasting, the partner is interchangeable, and there is a desire to maintain closeness (Ainsworth, 1989).

Exposure to Species of Therapy Animal: The degree to which a client has interacted with the species of therapy animal prior to engaging in AAI-C.

Human-Animal Bond: A mutually beneficial relationship between humans and animals that lead to positive health outcomes as a result of the interaction (American Veterinary Medical Foundation, 2018a).

Practitioner Skill and Comfort: The degree to which a practitioner feels confident in their ability to work with a client's presenting problem.

Theoretical Orientation: A framework, perspective, or lens through which a counselor conceptualizes clients' therapeutic needs (Poznanski & McLennan, 1995).

Tripartite Relationship: In animal-assisted interventions in counseling, this triadic relationship is between the counselor, client, and therapy animal (L. Stewart, personal communication, March 1, 2018).

Working Alliance: A collaborative therapeutic relationship between the counselor and client marked by mutual agreement on tasks, mutual agreement on goals, and a quality bond (Bordin, 1979).

Overview of the Method

This study utilized quantitative survey methodology. Participants were mental health practitioners who incorporated animals into clinical practice; therefore, this met the definition for animal-assisted interventions in counseling. Recruitment occurred through multiple electronic listservs of which the researcher is a member and granted access to the members for recruitment. The researcher also advertised the study at conferences using a posted flyer. The recruitment email and the flyer included a link to access a Qualtrics survey. Prior to the start of the survey, participants were provided the informed consent form and required to initial before proceeding to the survey. The informed consent form included information on the purpose of the study, the Institutional Review Board exemption through Virginia Tech, and participants' right to withdraw

from the study at any time. The survey contained four measures: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); (c) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989); and (d) two open-ended questions regarding the impact of utilizing an animal in counseling sessions. Data was analyzed using SPSS (Version 25). Analysis included descriptive statistics and multiple regression. The open-ended questions will be analyzed in a future project.

Document Organization

The following document is organized into five chapters. Chapter One is an introduction to the proposed study and includes the context of the study, the statement of the problem, the purpose of the study, the research questions, definitions of terms, and an overview of the method. Chapter Two is a literature review of the variables under study, including attachment in the human-animal bond and the therapeutic working alliance. Chapter Three provides methodological details, such as research design, measures, research questions, and data analyses. Chapter Four presents the results of the analyses and answers to the research questions. Chapter Five reviews the implications of the study as well as its limitations and opportunities for future research.

CHAPTER TWO

LITERATURE REVIEW

Humans and animals experience an innate connection that allows for mutual benefit within their relationship (Wells, 2009). Commonly referred to as the human-animal bond, this relationship promotes the health and well-being of both entities on multiple dimensions, including physical, emotional, and psychological (American Veterinary Medical Association, 2018a). Human engagement in positive interactions with animals has been found to reduce blood pressure (Beetz, Julius, et al., 2012), improve cholesterol (Anderson, Reid, & Jennings, 1992), enhance immune system functioning (Charnetski, Riggers, & Brennan, 2004), and ameliorate feelings of depression (Olsen et al., 2016). Such psychological benefits of the human-animal bond can enhance overall human health (McConnell, Brown, Shoda, Stayton, & Martin, 2011). As a result, counselors may incorporate the human-animal bond into animal-assisted interventions to serve multiple purposes related to mental health and cultivating an additional bond between the counselor and client (Zilcha-Mano et al., 2011a). Chapter Two will review literature related to the human-animal bond, attachment theory, the bond involved in the therapeutic working alliance, and animal-assisted interventions in counseling.

Professional counseling is "a two-way experience between counselors and clients…the relationship increases and deepens during the counseling process" (Gladding, 2017, p. 131-132). Similarly, early work related to the human-animal bond supports exploring it through a relational approach. Lasher (1998) proposed a relational model of the human-animal bond. Through a relational lens, connections between living beings instigate human growth and development (Lasher, 1998). Specifically, Lasher suggested that this relational understanding occurs on a systemic and perceptual level. Storolow and Atwood (1992) described this intersubjective system

as "[bringing] to focus *both* the individual's experience *and* its embeddedness with other such worlds in a continual flow of reciprocal mutual influence" (p. 18); this is occurring between humans and animals through a continuous and mutual connection of *attunement* (Lasher, 1998). Attunement in the human-animal bond is the perceptual ability of both parties to communicate through bodily and subjective states (Lasher, 1998). Despite the verbal language barrier, attunement may enable humans and animals to communicate nonverbally through senses and physical reactions (Schaefer, 2002). Therefore, relationships with members of a shared species or another species may act a vehicle through which human growth and development can occur (Schaefer, 2002).

Human-Animal Bond

The American Veterinary Medical Association (2018a) defines the human-animal bond as, "...a mutually beneficial and dynamic relationship between people and animals that is influenced by behaviors essential to the health and wellbeing of both. This includes, among other things, emotional, psychological, and physical interactions of people, animals, and the environment." This bond developed as a result of humans domesticating animals to live alongside them as companions (Turner, 2007). After humans transitioned from living as nomads to settling in one place, they gained a plethora of animal neighbors with whom they coexisted (Olmert, 2009). Various cultures and histories demonstrate that humans' relationships with animals signify spiritual healing, socialization, and psychological aid. For example, Native American people believed in guardian spirits that carried spiritual power and influence (Benedict, 1929). Animals also took on a valuable role during the close of the seventeenth century when Locke (1699) encouraged parents to allow children to nurture their relationships with animals so that they may develop sensitivity and responsibility. Children caring for animals

as a means of cultivating kindness and compassion became further evident in children's literature (Grier, 1999). However, it was not until the eighteenth century that animals were incorporated into mental institutions to treat the mentally ill which increased in commonality throughout the nineteenth century (Serpell, 2015). Advances in medicine and zoonotic disease resulted in an eventual removal of animals from hospital settings (Allderidge, 1991). However, animals eventually found their way back into mental health treatment when Boris Levinson (1972), the founder of "pet-facilitated therapy", sought to facilitate a healing connection for clients' inner selves as a result of a positive relationship with animals. Levinson (1972) argued that humans' historical relationship with animals evolved into a critical connection that must be maintained for humans' psychological health.

Given the historical evidence of the relationship between humans and animals, researchers continuously explore the various human-animal bonds that exist in our culture. The bond between companion animals and their guardians is prevalent throughout the literature. For example, Duranton, Bedossa, and Guanet (2018) conducted a study in France with 36 dogs and their owners to explore how this particular bond impacts synchronized movement, an act indicating cooperation (Dávid-Barrett & Dunbar, 2012), connection of inner states (Gueguen, Jacob, & Martin, 2009), and social bonding (Chartrand & Lakin, 2013). The authors found that dogs synchronized their movements with their owners through multiple locomotor activities, including a stay-still condition, normal-walk condition, and fast-walk condition. They proposed that this indicates dogs and humans share a common social ability and that dogs synchronizing with owners is a likely reason for high dog integration into human society. Duranton et al. also collected data on a dog's gaze at their owners during the locomotor conditions. Dogs gazed more during the fast-walk condition, which the authors suggest is for information-gathering purposes.

Dogs use a mutual gaze for communication within and across species (Miklósi, Kubinyi, Topál, Gácsi, Virányi, & Csányi, 2003) as well as a method of indicating social cues (Vas, Topál, Gácsi, Miklósi, & Csányi, 2005). However, the authors did not provide adequate information on the other half of the relationship involved in the study: the owners.

When researching another way the human-animal bond manifests between a companion animal and their owner, Bradley and Bennett (2015) conducted a multiple method study in which they incorporated questionnaires and semi-structured interviews to better understand the impact of companion animals on owners with chronic pain. Qualitative results indicated that owners believed their relationship with their companion animal helped mitigate pain symptoms. Quantitative results demonstrated human-animal interactions were moderately helpful in lowering owners' pain levels. Similarly, Tepfer, Ross, MacDonald, Udell, Ruaux, and Baltzer (2017) concluded through a case study that incorporating a companion animal into the daily life of a child with cerebral palsy resulted in greater quality of life, physical activity, and functioning. In this study, the human-animal bond between the child and dog also improved through increased social contact and greater responsiveness (Tepfer et al., 2017). Therefore, the authors found overall health gains as a result of positive human-animal interactions. Bradley and Bennett also determined that specific types of interactions between a companion animal and their owner impacts the role of this bond on owner well-being. Walsh (2009a) proposed that this interactional perspective of the human-animal bond is necessary to understand how individuals become more involved in their environment when with an animal.

Engaging with the environment in a nonthreatening way is a benefit of human-animal interactions (Walsh, 2009a). This concept raises the question of how humans outside of a companion animal-owner relationship that maintain regular interactions with an animal

experience the human-animal bond. Hosey, Birke, Shaw, and Melfi (2018) examined how repeated interactions between a human and animal affects their relationship when studying 22 zookeepers. They discovered that most zookeepers (15 out of 22) reported having a bond with at least one of the animals for which they cared, although these bonds were not as strong as the bond between zookeeper and their companion animal (Hosey et al., 2018). Hosey and Melfi (2012) had previously found that 103 out of 130 zoo professionals considered themselves bonded to particular zoo animals as well as reported increased well-being as a result of these relationships. Additionally, Bachi (2013) reviewed the literature on prison-based equine-facilitated programs in which offenders care for and train equines to build vocational, behavioral, and emotional skills. As a result of caring for these animals, much of the literature suggested that offenders recidivate less, improve in their disciplinary misconduct, and experience positive socioemotional effects (Bachi, 2013). These studies indicate human-animal bonding is complex and occurs across a range of relationships. As a result of this complexity, multiple theories are proposed as mechanisms of the human-animal bond. Next, I review four of these theories.

Theories of the Human-Animal Bond

Literature on the human-animal bond seeks to provide an understanding of the underlying cause for this cross-species relationship (Cirulli, Borgi, Berry, Francia, & Alleva, 2011). However, the research seems to have developed without a theoretical foundation, and it may be impossible to assign a singular, overarching theory to the underlying mechanisms of human-animal interactions (Hosey & Melfi, 2014**).** Within animal-assisted interventions, an assumption exists that there is something unique and extraordinary about humans' relationship with animals that leads to noteworthy outcomes in the therapeutic process (Serpell, McCune, Gee, & Griffin, 2017). For such an assumption to hold true, a plausible theory must explain why one would

incorporate this modality into session over or in conjunction with another (Serpell et al., 2017). Furthermore, an understanding of the efficacy of the human-animal bond in animal-assisted interventions contributes to its legitimacy (Geist, 2011).

The bond between a human and animal may be observed in the home or in a specialized setting (i.e., animal-assisted interventions, occupational therapy), and they often occur naturally and without coercion (Berget & Braastad, 2008). Although the question of why humans and animals mutually benefit from their relationship with each other in a variety of settings and situations may be too complex for a conclusive answer, researchers commonly look to three major theories as possible explanations: (a) the biophilia hypothesis, (b) social support theory, and (c) attachment theory (Fine & Weaver, 2018). Fine and Weaver (2018) highlighted these as the primary theories in the phenomenon of why "interactions with animals offer psychological and physiological benefits to humans" (p. 133). In addition to theories rooted in psychological and emotional experiences, the biological basis of the human-animal bond has been explored. Barker, Knisley, McCain, Schubert, and Pandurangi (2010) conducted a pre-post within-subject design study to examine stress response patterns of therapy dog owners interacting with their own dogs and dog owners interacting with the therapy dog. They discovered a reduction in blood pressure as well as a reduction in salivary cortisol. Cortisol, a hormone released during periods of stress (Endocrine Society, 2018), has also been found to decrease in a sample of children with autism when introduced to a service dog (Viau et al., 2010). Elevated cortisol levels may have harmful long-term effects on humans, including deficits in motor control (Charlett et al., 2009) and poor cognitive functioning (Lee et al., 2007). Therefore, there are important health benefits for animals helping to lower cortisol in humans. Furthermore, Odendaal and Meintjes (2003) discovered a reduction in cortisol for humans and an increase in dopamine, a neurotransmitter

linked to motivation and learning (Adelson, 2005), for both dogs and humans when studying 18 pairs of owners and their dogs. However, according to Olmert (2009), oxytocin is the primary biological mechanism at work in the human-animal bond.

Oxytocin. To understand this relational experience on a biological level, researchers have studied the role of oxytocin in the human-animal bond. Oxytocin, a hormone released during profound relational experiences such as sex and childbirth (Uvnäs-Moberg, 2003), is partly responsible for the positive feelings associated with human-animal interactions (Miller et al., 2009; Odendaal & Meintjes, 2003). Odendaal and Meintjes (2003) conducted a seminal journey into exploring oxytocin within the human-animal bond. In addition to their discoveries of lowered cortisol in humans and increased dopamine for both dogs and humans in pet-owner dyads, Odendaal and Meintjes found that oxytocin levels nearly doubled in humans and dogs, indicating that pets may be a powerful influence on humans' oxytocin production (Olmert, 2009). Similarly, Handlin et al. (2012) concluded in their study of ten male Labrador Retrievers and their middle-aged female owners that physical expressions of intimacy (i.e., kissing) between a dog and its owner resulted in higher levels of oxytocin in both human and animal; in fact, the act of kissing was more strongly related with elevated oxytocin than the animal receiving a treat. Additionally, humans in dog-owner pairs with higher oxytocin levels also reported a stronger perceived bond with their dog (Handlin et al., 2012). Evidence exists that oxytocin acts an indicator of the intimate relationship between humans and animals and is a critical mechanism in explaining the health benefits of human-animal interactions (Beetz, Uvnäs-Moberg et al., 2012).

Biophilia. Wilson (1984) proposed the biophilia hypothesis when he suggested that humans' connection with animals occurs due to an innate drive to attune with nature. According

to Wilson, humans' relationships with animals are the result of an evolutionary process of relying on animals as environmental sentinels. Humans depended upon this relationship with animals to understand the safety of their environment and ensure access to resources such as food and shelter (Wilson, 1984). Kellert (1997) proposed a framework in which biophilia is expressed as a result of an individual's experiences, learning, and cognition. Kellert (2002) categorized these biophilic values into nine biophilic expressions that serve to conceptualize how individuals relate to the natural world: (a) aesthetic, (b) doministic, (c) humanistic, (d) moralistic, (e) naturalistic, (f) negativistic, (g) scientific), (h) symbolic, and (i) utilitarian. Within the human-animal bond, these biophilic values help to understand the individual motivation for seeking connection with animals and provides a rationale for incorporating animals into therapeutic interventions (Fine & Weaver, 2018).

Social support. Cobb (1976) proposed social support as acting "to prevent the unfortunate consequences of crisis and change" (p. 300). Furthermore, he identified that social support is a critical component of therapeutic interventions. In human-animal interactions, animals serve a dual role for social support: providing direct support and facilitating support from others (McNicholas & Collis, 2006). When studying the effect of an animal-assisted intervention on 62 residents in a long-term care facility, Banks and Banks (2002) found that the residents engaging in the intervention more frequently perceived themselves as less lonely with more social support. Expanding upon this idea of animals relieving loneliness in humans, pet owners often consider animals a source of social support. Pruchno, Heid, and Wilson-Genderson (2018) surveyed 5,688 adults between 50 and 74 years of age and found an interaction between owning a dog and having greater social support during the aging process. Meehan, Massavelli, and Pachana (2017) also examined the human-animal relationship within the context of animals

providing social support to 1,161 college student pet owners. They concluded that students perceived their pets as profound sources of social support comparable to family and friends.

Attachment. Bowlby (1969) first studied attachment to explain the bond between children and their caregivers. Attachment is an individual being "strongly disposed to seek proximity to and contact with a specific figure" (Bowlby, 1969, p. 371). Attachment in the human-animal bond originated from research exploring humans and their relationships with their pets, or *companion animals* (Hosey et al., 2018). The bond between an owner and companion animal may look similar to one between a parent and child due to the nurturing, affection, boundary-setting, and responsibility involved in both relationships (Walsh, 2009b). Although initially limited to this relationship due to its procedural and emotional similarity to a parent-child relationship, attachment in the human-animal bond has since expanded to include other human-animal relationships (Hosey et al., 2018). As the theoretical framework within which this study is situated, attachment will be explored in greater detail in the next section.

Summary of Human-Animal Bond

To summarize, experiencing of the human-animal bond can extend across a range of relationships and settings and is no longer contained solely within the human-companion animal relationship. Humans may benefit in their overall health on multiple dimensions as a result of this bond (Bradley & Bennett, 2015; Tepfer et al., 2017). Relationally, humans and animals attune on a perceptual level that nullifies the need for traditional methods of communication (Lasher, 1998). Through positively engaging with animals in this way, and thereby positively engaging with the environment, humans can reach a benevolent state (Walsh, 2009a). Multiple theories explain the processes of the human-animal bond, including oxytocin, biophilia, social support, and attachment (Fine & Weaver, 2018). Similar to researchers' overall understanding of

the human-animal bond, the understanding of attachment within the human-animal bond has also expanded beyond human-companion animal relationships. Although the literature supports this broader context, minimal research exists exploring how the human-animal bond might manifest in animal-assisted interventions in counseling.

Attachment

As mentioned previously, attachment is the process by which an individual is motivated to connect and remain close to an attachment figure (Bowlby, 1969). Bowlby (1969) first conceptualized attachment as a relationship between a child and its mother that reinforces the tie of the child to her through *attachment behaviors.* These attachment behaviors refer to the methods utilized by a child in order to maintain proximity to a caregiver (Bowlby, 1969) and are individually organized based on what the child determines is effective for mediating the attachment relationship (Ainsworth, Bell, & Stayton, 1972). According to Bowlby, a person's internal behavioral system, *the attachment system,* controls attachment behaviors. The attachment system enables a person to monitor and remain aware of events that indicate stress and the accessibility of the caregiver during these stress-inducing moments (Bowlby, 1969). It is through *working models*, symbolic representations of self, the attachment figure, and the environment, that a person creates an attachment system that they carry with them throughout the lifespan (Bowlby, 1969). However, these working models become less open to revision as a child moves into adulthood (Mallinckrodt, Gantt, & Coble, 1995). Therefore, attachment is proposed to be an enduring, organizational concept around which critical aspects of an individual's personality are developed.

Ainsworth and Bell (1991) and Ainsworth, Blehar, Waters, and Wall (1978) empirically studied Bowlby's (1969) ideas of attachment when they conducted laboratory observations of the

individual differences of attachment behaviors from an infant to its mother. The experiment, the Strange Situation Procedure, involved the separation of a child from its mother after exposure to a stranger and then, ultimately, reunited with the mother. The final sample of 83 mother-infant pairs from white, middle-class families produced compelling similarities in the infants' exhibited attachment behaviors and response to the separation and reunion (Bowlby, 1969). This application of attachment behaviors to a procedure resulted in three attachment patterns. First, *anxious-avoidant* infants constituted 20% of the sample which involved avoiding the mother after separation and were friendlier to the stranger than her (Ainsworth et al., 1978). Second, *anxious-resistant* infants made up 10% of the sample and oscillated between proximity-seeking and resisting contact (Ainsworth et al., 1978). Third, most infants in the sample were *securely attached* as demonstrated by receiving comfort upon reunion and easily returning to enjoyable activities. Ainsworth (1991) specified that attachments and affectional bonds are characterized by "a need to maintain proximity, distress upon inexplicable separation, pleasure or joy upon reunion, and grief at loss" (p. 38). She also noted that a person finds security and comfort in their relationship with their attachment figure; as a result, they feel comfortable to explore other situations and environments with confidence (Ainsworth, 1991). These attachment criteria can be listed as (a) proximity maintenance, (b) separation distress, (c) safe haven, and (d) secure base, respectively (Adams et al., 2017).

Studies exploring attachment patterns have examined child-caregiver attachment in a variety of developmental periods and contexts. Rode, Chang, Fisch, and Sroufe (1981) questioned attachment between an infant and mother after prolonged separation due to premature birth and/or full-term birth health issues. The sample consisted of 29 middle-class infants (16 males and 8 females ranging in age from 12 to 19 months). After participating in the Strange

Situation Procedure, 70.8% of the infants were classified as securely attached, 12.5% were anxious-avoidant, and 16.7% were anxious-resistant. Similarly, Allen et al. (2003) studied attachment between 126 adolescents (64 males and 62 female) and their mothers and determined the majority of adolescent attachment relationships were secure as a result of maternal attunement to the adolescent and support of their independence. Although it appears that secure attachment is the desired norm (Mesman, van Iljzendoorn, & Sagi-Schwartz, 2016), researchers have studied the antecedents and consequences of insecure attachment patterns with many discovering that the presence of strong relationships had an effect on attachment patterns. For example, Emery, Paquette, and Bigras (2008) explored predictors of attachment in 138 adolescent mother-infant dyads. They determined that over half of the infants in the sample were securely attached (59.4%) and that those infants' mothers experienced less stress about parenting and greater satisfaction with social support when compared with the mothers of insecurely attached infants. Similarly, Newland, Coyl, and Freeman (2008) concluded that fathers' social support predicted preschooler's attachment security in a study of 102 fathers of children aged two to five (51.3% males and 48.7% females). Wartner, Grossman, Fremmer-Bombik, and Suess (1994) also explored attachment in young children when they conducted a 5-year longitudinal study with 47 German families from a range of income classifications to determine the stability of attachment patterns over time and how these patterns impacted childhood developmental behaviors and personality traits. They found that attachment remained highly stable from the first year of life to six years of age with 86% of children exhibiting the same attachment style in childhood as they did in infancy (Wartner et al., 1994). Furthermore, more securely attached children exhibited higher quality play with peers, greater conflict resolution skills, less behavioral concerns, and minimal aggression whereas insecurely attached children exhibited

greater dependency to authority figures (Wartner et al., 1994). This research indicates attachment stability through the lifespan as well as a link between attachment and social experiences.

Research into adult attachment has revealed that young adults transfer attachment-related functions from parents to other intimate relationships, such as romantic partners or close friends (Fraley & Davis, 1997). Moreover, individuals securely attached in their romantic relationships are more likely to report positive early childhood familial experiences (Feeney & Noller, 1990). In Feeney and Noller's (1990) study of 374 undergraduate students ranging in age from 17 to 58 with 162 males and 212 females revealed that these individuals were also more likely to describe more trusting attitudes in their intimate relationships. They concluded that how a person attaches is so pervasive and reflective of an overall worldview that it impacts the majority of interpersonal relationships (Feeney & Noller, 1990). An individual's process of systematically developing a pattern of relating to others as a result of their attachment history is called *attachment style* (Zilcha-Mano et al., 2011a). Bartholomew and Horowitz (1991) expanded upon the work of Ainsworth et al. (1978)'s child attachment to categorize adult attachment styles. According to Bartholomew and Horowitz (1991), adults embody four attachment styles along two dimensions. These two dimensions, Avoidance and Anxiety, seek to categorize individuals that are insecurely attached; these individuals may be preoccupied (high jealousy and high need with low avoidance and high anxiety), fearful-avoidant (high distrust, high avoidance, and high anxiety), and dismissing-avoidant (evading of relationships, high avoidance, and low anxiety) Brennan, Clark, and Shaver (1998) developed a self-report measure of adult attachment and corroborated that the two primary dimensions of Avoidance and Anxiety accurately reflect the relationships among the four attachment styles. When exploring the effect of attachment style on romantic relationships, Collins and Read (1990) found similar results to Feeney and Noller in

their study of 406 undergraduate students (206 women and 184 men ranging from 17 to 37 years of age) in which attachment style predicted the quality of communication, trust, and overall satisfaction in romantic relationships. More recently, Butzer and Campbell (2008) studied 116 heterosexual Canadian couples 21-75 years of age and discovered attachment style is linked to marital satisfaction, an expected finding due to the idea that "attachment styles should be a reflection of the quality of the relationship" (Vohs, Finkenauer, & Baumeister, 2011). Therefore, attachment patterns developed as a child may play a role in relationship quality and functioning as an adult.

Attachment Beyond the Caregiver-Child Dyad

Despite the attention on attachment primarily based in the caregiver-child relationship then extending into romantic relationships, researchers have considered attachment in other contexts beyond these dyads. Bowlby (1969) referred to attachment as a developmental process that transform throughout the lifespan. Attachment alters when a child enters adolescence (Bowlby, 1969) and how this alteration unfolds depends upon the security of the attachment relationship (Diamond, Diamond, & Levy, 2014). An increased need to engage in autonomy-seeking is optimally met with confidence in one's independence while comfortably asking for assistance when needed (McElhaney, Allen, Stephenson, & Hare, 2009). Maimon, Browning, and Brooks-Gunn (2010) provided evidence of this in their study of suicide rates of 990 youth in the Chicago area when they determined that more insecure familial attachments resulted in greater frequency of suicide attempts. Previously, Sokol-Katz, Dunham, and Zimmerman (1997) found a relationship between family attachment and risky behaviors in adolescents, such as substance use, fighting, property destruction, and stealing, during a large-scale study of 596 females and 599 males between 11 and 14 years of age. Therefore, secure attachment in

childhood prior to adolescence is critical to withstand the challenges that occur in this developmental stage (Diamond et al., 2014). Although parents continue to strive to be a safe haven for their children once they enter adulthood (Ainsworth, 1989), a spouse often displaces parents as the primary attachment figure (Magai, 2008). Additionally, adults in midlife are navigating the complexities of attachment reorganization due to the loss of one or both parents (Magai, 2008). At the later end of the lifespan, older adults might find themselves further solidifying their current close relationships (Carstensen, Isaacowitz, & Charles, 1999) or attaching to younger generations as they no longer have older attachment figures (Bowlby, 1969; Magai, 2008). In a study of 1,566 older adults (59.9% female and 40.1% male aged 60-70 years) responding to a Website survey, participants exhibited lower levels of an avoidant attachment style, indicating that older adults seek connection and maintain social relationships (Chopik, Edelstein, & Fraley, 2013). Additional attachment transformations in adulthood include social communities, such as religious groups, political organizations, schools, or employment sites (Bowlby, 1969).

However, despite Bowlby's (1969) acknowledgment that "a measure of attachment behaviour is commonly directed not only towards persons outside of the family but also towards groups and institutions other than the family" (p. 207), he also stated that attachment behavior conceptualized through solely proximity-seeking is inappropriate. Instead, he clarified that attachment is related to safety, comfort, and reducing the possibility of harm (Bowlby, 1969). Regardless, researchers continue to follow his previous statements of attachment outside of familial bonds. Mesman et al. (2016) noted that multiple cultures do not adhere to the perspective that attachment lies solely in the infant-caregiver dyad. They proposed that children experience attachment relationships within the broader social networks they encounter during

their development. Additionally, the attachment system plays a role in individuals' spirituality, particularly in their relationship with God (Granqvist & Kirkpatrick, 2013). Empirically, a secure attachment to God is related to higher self-esteem and optimism as found in a sample of 1,024 older adults (Kent, Bradshaw, & Uecker, 2018). Although this may be because of Bowlby's (1969) theory that older adults must find alternative attachment figures, researchers have also determined attachment to God is evident in young adult populations. Kirkpatrick (1998) surveyed 1,126 college students to discover that more secure attachment to God translated into more positive relationships. More recently, Zahl and Gibson (2012) determined that young adults' attachment to God predicts their representation of God and their life satisfaction in a study of 415 college students and young professionals.

The literature on attachment also indicates a progression toward understanding a person's ability to attach to inanimate objects or locations. In an effort to understand the relationship of people who hoard with their objects of fixation, Nedelisky and Steele (2009) explored the attachment of 30 individuals diagnosed with obsessive-compulsive disorder with 14 meeting hoarding symptomatology and the remaining 16 categorized as a comparison group. The authors determined that the hoarding population had a concerning attachment style to people and inanimate objects. Due to a lack of measurements designed to assess attachment to inanimate objects in adults, these authors adapted preexisting measurements to fit the construct of study and found acceptable reliability for all subscales but one (acceptable subscales ranged from Cronbach's alphas of .74 to .86 with .39 for the unacceptable compulsive self-reliance scale). Place attachment is an additional attachment relationship receiving attention in the literature. Manzo and Devine-Wright (2013) declared that place attachment is well-established, and they honored an earlier definition of "bonding of people to places" (Low & Altman, 1992, p. 2).

Vaske and Kobrin (2001) surveyed 182 youth to study their attachment to natural resources and how it impacts the way they care for the environment. By exploring their functional attachment and emotional attachment with environmentally responsible behaviors, they concluded that attachment to a location impacts how a person interacts with what is around them. Based on the indicative research that attachment can occur in a variety of relationships, it is appropriate to consider how attachment might impact the therapeutic process.

Attachment in Counseling

Attachment in counseling has been studied from a variety of angles, including how attachment style predicts a client's attachment to a counselor (Mallinckrodt, Porter, & Kivlighan, 2005) and how counselor attachment style affects therapeutic outcomes (Muratori et al., 2017) and therapeutic alliance (Sauer, Lopez, and Gormley, 2003; Yusof & Carpenter, 2016). Much of the literature specifies that clients most often conceptualize the counselor as a secure base (Mallinckrodt et al., 2005; Sable, 1997). Secure base provides clients with an opportunity to venture "into the outside world...knowing for sure that [the client] will be welcomed when he [returns]...comforted if distressed, reassured if frightened" (Bowlby, 1988, p.8). Additionally, safe haven has been found to be an appropriate attachment feature in the therapeutic process (Mikulincer, Shaver, & Berant, 2013). Furthermore, Mallinckrodt (2010) argued that much of counseling is working toward strengthening a weak attachment bond in order to cultivate a secure base and safe haven. Proximity maintenance and separation distress will also inevitably occur in counseling as the client will seek the counselor for assistance with problems and potentially experience distress when the counselor is not immediately accessible (Sonkin, 2005). However, due to the need to eventually establish distance between the counselor and client in the

termination process (Gladding, 2017), attachment in counseling is unique from the survival-based process identified by Bowlby (1969).

Clients' attachment to a counselor has also been proposed theoretically to affect accomplishing of therapeutic goals (Slade, 1999). Similarly, authors have questioned the effects of a counselors' attachment style in the development of the alliance and positive treatment outcomes (Degnan et al., 2014). Degnan et al. (2014) conducted a systematic literature review to conclude that counselor attachment style does impact therapeutic alliance and outcomes. Muratori et al. (2017) studied 80 Italian children with 16 counselors implementing a program designed to address emotional and behavioral issues. Counselors exhibiting more insecure attachment styles, specifically anxious attachment, had clients with less improvement in aggression (Muratori et al., 2017). In terms of the alliance, insecure counselors may negatively impact this process (Sauer et al., 2003). Yusof and Carpenter (2016) studied the attachment styles of 11 family counselors and concluded that those with insecure attachment styles struggled to manage hostility and emotional experiences in session. Therefore, counselors' relational patterns and ability to navigate the complex dynamics of counseling affect clients' therapeutic experience on multiple levels.

Attachment in counseling is not identical to the attachment process that occurs in the infant-caregiver relationship; rather, clients might attach to a counselor for a limited time to develop feelings of safety and confidence in their ability to explore methods of satisfying what brought them to counseling and then cease an active connection (Ainsworth, 1989). Mallinckrodt et al. (2005) sought to expand upon prior theoretical literature indicating clients' attachment patterns impact their relationship with a counselor. They recruited 38 clients from a college counseling center to determine how their attachment style in personal relationships impacted the

therapeutic relationship. The authors concluded that an insecure or secure attachment in intimate relationships manifests in the client's relationship with their counselor (Mallinckrodt et al., 2005). Additionally, Wiseman and Tishby (2014) studied therapeutic outcomes based on attachment in the counselor relationship. Through a year-long study of 67 clients and 27 counselors, they found that clients with an avoidant attachment style reported less reduction in clinical symptomatology. Therefore, evidence exists in the literature that attachment is occurring in the counseling room from the client to the counselor and that it factors into the therapeutic process.

Whereas much attention is on how the client attaches to the counselor, researchers also address counselor attachment. Due to the relational nature of counseling (American Counseling Association, 2014), a counselor's attachment style plays a role in the therapeutic process (Sauer et al., 2013). Wiseman and Tishby (2014) also explored how the matching of client-counselor attachment styles moderated clients' therapeutic outcome. They found that, although similar attachment styles are more beneficial than dissimilar in cases of low avoidance, high-avoidant counselors do not improve symptomatology as well as low-avoidant counselors. Furthermore, in a study of 27 counselor trainees and 64 clients, more insecurely attached counselors were unable to accurately understand how their clients perceive the counseling relationship (Kivlighan & Marmarosh, 2018). This study explored how counselors' attachment style influenced their ability to agree with clients on the nature of their alliance. Although there was a positive relationship between both counselor and client ratings of the alliance, there were greater differences in counselor and client perceptions of the working alliance for more insecurely attached counselors (Kivlighan & Marmarosh, 2018).

Working alliance. The relationship between a counselor and client is purposeful, intentional, and goal-directed (Iarussi, Tyler, Littlebear, & Hinkle, 2013). Because this relationship is a critical aspect of therapeutic work (Doran, 2016), researchers have explored its specific components. According to Bordin (1979), the specific components are three processes: (1) a mutual agreement between the counselor and client on therapeutic *goals*, (2) a mutual agreement between the counselor and client on therapeutic *task*s, and (c) a quality *bond* between the counselor and client. These processes are contained within *the working alliance*, "a collaborative stance between the patient and counselor" (Doran, 2016, p.147). Studies exploring the therapeutic working alliance often examine it within the context of attachment theory due to more secure attachment strengthening this alliance (Kietaibl, 2012). In their study of college student attachment to their counselor, Mallinckrodt et al. (2005) found a positive relationship between secure attachment to a counselor and a quality of the working alliance. Similarly, Satterfield and Lyddon (1995) examined attachment and the working alliance of 60 clients and 38 counselor trainees and found a positive relationship between scores on the Working Alliance Inventory (Horvath & Greenberg, 1986) and attachment security, particularly in the area of trust. In a more recent study of 58 clients receiving cognitive-behavioral therapy in the United Kingdom, Taylor, Rietzchel, Danquah, and Berry (2015) found a link between more secure attachment to the counselor and a stronger working alliance. However, Bucci, Seymour-Hyde, Harris, and Berry (2016) found conflicting results when studying attachment style and the working alliance between 30 client-counselor dyads. Although there was no relationship between attachment style and the working alliance in this sample, their results mirrored those of Wiseman and Tishby (2014) in that clients of counselors with more insecure attachment styles reported greater experiencing of distressing symptoms (Bucci et al., 2016). They concluded that the

complexity of the counseling process and interacting attachment styles do influence treatment outcomes in concerning ways. This raises the question of how attachment within a relational experience as complex as animal-assisted interventions can influence the therapeutic process, particularly in areas of attachment and bonding that might influence client symptom reduction.

Bond of the Working Alliance. Ainsworth (1989) defined an affectional bond as a "relatively long-enduring tie in which the partner is important as a unique individual and is interchangeable with none other" (p. 711). She also categorized attachment as an affectional bond, although individuals may have multiple attachment relationships (Ainsworth, 1989). In understanding attachment in the context of the therapeutic alliance, Bordin (1979) proposed that the bond within the working alliance is built upon a mutual trust and attachment between the client and counselor. Additionally, counselors' worldviews moderated the bond in the working alliance; that is, counselors that approached counseling instructionally rather than relationally scored lower on bonding during a study of 1151 counselors' epistemological positioning and their emphasis in the working alliance (Lee, Neimeyer, & Rice, 2013). This literature suggests that how a counselor approaches counseling impacts the therapeutic process. Fleischman and Shorey (2016) confirmed theoretical approach matters when surveying 290 psychologists on their attachment style, theoretical orientation, and working alliance with clients. They found that participants adhering purely to psychodynamic theory reported lower bonding with clients and more attachment anxiety. Additionally, DeSorcy et al. (2016) examined how the working alliance unfolded in the treatment of 423 sexual offenders in Canada of both Aboriginal and non-Aboriginal ancestry. They found significantly lower reports of bonding in the Aboriginal sample when compared with the non-Aboriginal sample, a conclusion they linked to the need for cultural sensitivity in displaying adequate respect, understanding, and validation. Therefore, finding ways

to indicate that a counselor possesses these traits may impact bonding between a counselor and client. Within animal-assisted interventions, the inclusion of a therapy animal can help to facilitate the process by demonstrating such critical traits (Reichert, 1998; Stewart, Bruneau, & Elliot, 2016). As a result, greater review of the literature on the bond between humans and animals is required.

Attachment in the Human-Animal Bond

Humans' relationship with animals often mirrors their relationships with other humans, especially that of the parent-child dynamic (Barba, 1995) because of their ability to feel emotions for animals such as love and friendship (Bustad, 1983). Attachment has become an accepted theory to explain the human-animal bond (Fine & Weaver, 2018), a relationship that has garnered attention in recent decades due to the media's reports of the benefits of animals in the lives of humans (Fine & Beck, 2015). Currently, the majority of the literature on the attachment bond between a human and animal focuses on the relationship between a guardian and a companion animal. This is likely due to proliferation of anthropomorphic practices among pet guardians (Fine & Beck, 2015). *Anthropomorphism* is to "ascribe human-like emotions related to social connection" (McConnell et al., 2011), or "project onto the animals their own human feelings, motives, and qualities" (Fine & Beck, 2015). In companion animal guardianship, anthropomorphism is seen in thoughts and behaviors related to the role of an animal in a household (Hirschman, 1994). For example, guardians might allow companion animals to share a bed with them, throw them birthday parties, or refer to the animal as a family member (Herzog, 2010). Sixty-eight percent of American households have a companion animal and guardians reported spending approximately $62 billion on their companion animals for food, medicine, veterinary care, grooming, boarding, and accessories (American Pet Products Association, 2009).

Brackenridge, Zottarelli, Rider, and Carlsen-Landy (2012) used the financial responsibility associated with animal guardianship as a method of measuring attachment when they incorporated The Miller-Rada Commitment to Pets Scale (Staats, Miller, Carnot, Rada, & Turnes, 1996), a scale found to have high internal consistency, construct validity, and correlation with attachment, with the Lexington Attachment to Pets Scale (Johnson et al., 1992) into a study of companion animal attachment during the evacuation of Hurricane Ike. They determined that the cost of pet guardianship is highly correlated with attachment (Brackenridge et al., 2012), a finding that supports an attachment relationship exists between a companion animal and their guardian(s).

Multiple researchers have recreated one of the earliest empirical studies on attachment, the Strange Situation Procedure (Bretherton, 1992). They replicated a modified version of this test with animals to study how attachment looks in the human-animal bond on the animal's side. Palmer and Custance (2008) studied a version of the Strange Situation Procedure with 38 dog-guardian dyads. They identified secure base effects in the dog exploring, playing, and engaging with a stranger more with their guardian present than when alone or solely with the stranger. Scandurra, Alterisio, and D'Aniello (2016) found similar results when they applied the Strange Situation Procedure to 65 adult dogs and their guardians and discovered that all dogs showed attachment behaviors as indicated by greeting the guardian more than the stranger and physically orienting themselves in the direction of their owner after separation. At present, the Strange Situation Procedure is an extensively studied procedure for measuring companion animal attachment and bonding with their guardian, although results are mostly conclusive with dogs (Payne, Bennett, & McGreevy, 2015; Potter & Mills, 2015). However, Mariti et al. (2013) found no statistically significant difference in attachment behaviors between working dogs and their

guardians or their handlers when implementing the Strange Situation Procedure with the dogs and the Lexington Attachment to Pets Scale (Johnson et al., 1992) with the guardians and handlers. Therefore, it is possible that attachment and bonding can occur in professional, goal-driven relationships.

Literature on the human-animal bond is interdisciplinary and extends into areas such as psychology, human development, nursing, social work, animal behavior, and veterinary science (Anderson, 2007). For the purposes of this document, humans' relationship with helper animals will be the focus of study, specifically therapy animals. Currently, the appropriate term to capture the multiple categories of animals that provide assistance to humans is *helper animals* (L. Stewart, personal communication, March 1, 2018). The American Veterinary Medical Foundation (2017) offers the term *assistance animals*; however, their definition stipulates that the animal alleviates the effects of an individual's disability. Such a definition narrows and potentially eliminates the appropriateness of therapy animals to fit into this category since they might work with a variety of clients despite diagnosis of a disability, although the website lists them in the same context (American Veterinary Medical Association, 2017). There is overlap in terminology for a) emotional support animals, b) service animals, and c) therapy animals (Parenti, Foreman, Meade, & Wirth, 2015). Therefore, it is important to differentiate how these attachment bonds may manifest. Since companion animals are discussed through a lens of guardians' health benefit, they will also be included as a helper animal. Thus, the following sections relate to the attachment relationship between humans and helper animals, a category that contains a) companion animals, b) emotional support animals, c) service animals, and d) therapy animals.

Companion animals. As indicated previously, companion animal attachment literature is expansive. Originally proposed to be pathological and a sign of disruption in human development (Rynearson, 1978), attachment to a companion animal is now considered a positive dynamic in an individual's life cycle (Sable, 2013) due to its impact on emotional regulation (Kerns, Stuart-Parrigon, Coifman, van Dulmen, & Koehn, 2018), healing from trauma (McCardle, McCune, Griffin, & Maholmes, 2011), and social engagement (O'Haire, McKenzie, Beck, & Slaughter, 2013). Furthermore, the caregiving, nurturing, and responsibility involved in companion animal guardianship positions it most closely to a parent-caregiver relationship, a relationship that might satisfy an evolutionary need to maintain a bond rooted in care, reassurance, and protection (Archer, 1997). Borgi and Cirulli (2016) noted that the interspecific attachment between guardians and companion animals is substantiated through neurophysiological markers also found in mother-child relationships, such as fMRI brain studies and the neuroendocrine regulation of oxytocin. Zilcha-Mano, Mikulincer, and Shaver (2012) reached similar conclusions from a study of 120 Israeli pet guardians ranging from 18 to 67 years of age in which the possibility of pets acting as a safe haven was explored through the Pet Assessment Questionnaire (Zilcha-Mano et al., 2011b) and blood pressure. They found a reduction in blood pressure for participants whose pets were physically or cognitively present during the completion of a distressing task and that attachment orientations identified by the PAQ moderated the pets' ability to soothe the guardian. Duranton et al.'s (2018) study of pet dogs' synchronization of movements with their guardians presents the possibility of an additional feature of attachment, proximity-seeking. Duranton et al. noted that the dogs gazed more at their guardians and synchronized most often in the fast-run condition than the other conditions. Despite the authors claims that the situation was not anxiety-producing for the animal and,

therefore, unlikely to induce proximity-seeking behavior (Duranton et al., 2018), the erratic movement associated with a fast pace may have caused the dog to be confused and seek closeness to the guardian since dogs look to their owners for an understanding of safe situations (McConnell, 2003). For humans, Kurdek (2009) found that proximity maintenance was the most highly rated attachment feature in a survey of 975 participants (789 women and 186 men), a follow-up survey from Kurdek's (2008) previous study with 923 college students that also identified proximity maintenance as a salient feature in companion animal attachment.

Although attachment in companion animal guardianship relates well to the parent-caregiver relationship, the literature also indicates that pet bonding can occur through means of addressing mental health. Companion animals can deter loneliness (Antonacopoulos & Pychyl, 2010), increase self-esteem (McConnell et al., 2011), and provide emotional support during crises (Brooks et al., 2018). As a result of this improvement in psychological well-being, companion animal guardianship status can evolve into the bonding relationship referred to as attachment (Crawford, Worsham, & Swinehart, 2006). Powell et al. (2018) conducted a study to explore the expectations of 3,465 prospective dog adopters using a non-validated questionnaire developed for the purpose of the study. The authors found that the majority of participants expected an improvement in their mental health because of caring for a dog with 89% expecting an increase in happiness, 61% expecting an increase in companionship, 74% expecting a reduction in stress, and 61% expecting a reduction in loneliness. Interestingly, their results also revealed that these expectations were observed primarily in current and previous dog guardians more so than prospective adopters that had never cared for a dog (Powell et al., 2018), indicating that those who have directly experienced the benefits of dog guardianship understand the power of a bond with a companion animal.

Emotional support animals. Emotional support animals have received coverage in the media due to controversies and confusion surrounding their role and rights (Kogan, Schaefer, Erdman, & Schoenfeld-Tacher, 2016). Emotional support animals are companion animals deemed critical to a person's ability to manage a psychiatric disability through therapeutic support and nurturing (Bazelon Center for Mental Health Law, 2017). A companion animal is declared an emotional support animal in a letter written by a mental health professional requesting the animal be given access to restricted areas, such as housing, for the purpose of remaining with its guardian and providing emotional comfort (Younggren, Boisvert, & Boness, 2016). Unlike service animals, these animals are not granted legal access to public settings (Bourland, 2009), and, at this time, no certification or training is associated with emotional support animals (Parenti et al., 2015; Younggren et al., 2016). Regardless, settings such as universities have seen a rise in requests from students to bring their companion animals to campus to provide comfort and assist with depression, anxiety, and loneliness (Adams et al., 2017). To date, there is no research on the specific bond between an owner and their emotional support animal. Therefore, this attachment relationship might resemble that of a guardian and companion animal given that emotional support animals are companion animals themselves. However, Von Bergen (2015) cautioned against collapsing an emotional support animal and a pet into a singular category because "what identifies emotional support animals from pets is that the owner/handler has been diagnosed by a medical professional as having a verifiable (mental) disability that is not transitory and minor" (p. 22). Similarly, the Bazelon Center for Mental Health Law (2017) referred to emotional support animals as "assistive aids" (para. 2) legally protected for the purpose of owners' obtaining housing from landlords that institute no-pet

policies. Despite these clarifications, Younggren et al. (2016) maintained that emotional support animals *can* be pets even if they are not legally considered as such.

Service animals. The Americans with Disabilities Act of 1990, 28 CFR § 36.104, § 36.302 defines a service animal as trained to perform a task for an individual living with physical, sensory, intellectual, mental, or psychiatric disabilities. Under the same Act, these animals are afforded legal protection to access public accommodations with the person whom they are trained to assist. Given the nature of their task-oriented relationship with owners, this attachment bond might fit best with Bowlby's (1969) theory of attachment as operating within a survival-based system. However, owners' relationships with service animals are often considered professional as the American with Disabilities Business Brief (2002) specifically states that "service animals are working animals, not pets" (para. 1). This indicates their attachment relationship may appear different than that of a relationship between a guardian and their companion animal. Irvin (2014) specified the importance of bonding between a human and their service animal and classified this relationship as a bidirectional attachment. Fallani, Previde, and Valsecchi (2006) tested the attachment of 109 dog-handler pairs in multiple relational contexts of service dog training: (a) custody dogs-dog walkers, (b) apprentice dogs-trainers, (c) service dogs-blind handlers, and (d) pet dogs-handlers (control group). Implementing the Strange Situation Procedure, Fallani et al. (2006) found that service dogs exhibited proximity seeking behaviors more often than apprentice dogs and custody dogs but less often than the pet dogs, indicating that service animals form an attachment bond with their handlers. Kwong and Bartholomew (2011) studied the other end of this attachment relationship by conducting interviews with 25 participants that had recently experienced a separation from their service dog either due to retirement or death. Qualitative analysis revealed the existence of three features of attachment:

(a) safe haven, (b) secure base, and (c) separation anxiety. They concluded that "it does appear that human-assistance dog relationships exhibit genuine attachment processes" (Kwong & Bartholomew, 2011, p. 432). Therefore, although professional and task-oriented, the bond between a human and a service animal can resemble that of an attachment relationship.

Therapy animals. Defined as animals that "have been trained in either basic or advanced skills to assist a healthcare or allied healthcare professional within the scope of a therapeutic treatment plan" (Parenti et al., 2013, p.453), therapy animals influence internal working models and representations through their facilitation of healthy attachment experiences (VanFleet, 2008). Furthermore, a client's ability to touch the therapy animal increases the chances of securely attaching to it (Beetz, 2017). Although the literature on attachment to therapy animals is sparse, the research that does exist often explores this attachment relationship in children (Geist, 2011). Zents, Fisk, and Lauback (2017) studied the perceptions of faculty and students from four rural school districts in New York that have a therapy dog present at their school. Through questionnaires and interviews, students described a strong relationship to the dog that mirrored a familial connection. The authors concluded students considered the dog a secure base from descriptions of trust, comfort, and seeking the dog during stressful situations (Zents et al, 2017). Additionally, in a quasi-experimental study of 46 adolescents, Balluerka, Muela, Amiano, and Caldentey (2014) found that intensive animal-assisted therapy while in residential treatment resulted in more secure attachment orientations.

Zilcha-Mano et al. (2011a) clarified that therapy animals are not intended to become a primary attachment figure for clients; rather, they propose that therapy animals can become a figure in a client's attachment hierarchy as well as provide a secure base and safe haven during sessions. Barker et al.'s (2010) study of stress when interacting with a therapy animal did not

directly study attachment. However, they did explore how therapy dog owners' stress levels changed while in the presence of an unfamiliar therapy dog during an animal-assisted activity versus interacting with their own therapy dog. The authors found greater reductions in dog owners' physiological markers of stress (cortisol, blood pressure, and heart rate) during interactions with the unfamiliar therapy dog than during interactions with their own dog (Barker et al., 2010). This finding is paradoxical to previous literature on stress reduction from attachment relationships to companion animals (Friedmann & Son, 2009; O'Haire, 2010). Regardless, it raises questions of whether there is something innate in the relationship with a therapy animal that makes a person feel safe, a critical component of attachment and bonding (Ainsworth, 1991), as well as how animal-assisted interventionists are bonded to their therapy dogs. Similar to clients' attachment to therapy animals, the literature on counselors' attachment to their therapy animal is lacking. Sato (2011) most closely explored this concept when they surveyed 472 social workers on their practices of incorporating the human-animal bond into session by asking about clients' relationship with animals. Sato used hierarchical multiple regression analysis to determine that more secure attachment to a personal pet resulted in greater questioning of the role of animals in clients' lives. Although Sato did not inquire if practitioners directly incorporated animal-assisted interventions into session, these findings suggest a counselor's personal bond with animals impacts clients' therapeutic experience. Furthermore, Chandler (2017) noted that importance of demonstrating a solid bond between the counselor and therapy animal to indicate the client's ability to trust the counselor.

Summary of Attachment

Bowlby (1969) and Ainsworth (1991) created the foundation for the literature on attachment that would follow their work. Established in infancy through security and trust with a

caregiver (Bowlby, 1969), attachment and bonding transform throughout the lifespan to fit different relationships and contexts (Mikulincer & Shaver, 2007). In addition to parents, people may attach to family members and romantic partners, spiritual figures, counselors, or animals (Byng-Hall, 2008; Dinero, Conger, Shaver, Widaman, & Larsen-Rife, 2011; Granqvist & Kirkpatrick, 2013; Mallinckrodt et al., 1995; Sable, 2013). The four primary features of attachment (i.e., secure base, safe haven, proximity maintenance, separation distress) can be seen in therapeutic relationships from the client to the counselor (Sonkin, 2005). However, safe haven and secure base are the most commonly evident attachment features in this relationship due to counselors creating a safe space from which clients can explore their environments and return during times of stress (Mallinckrodt, 2010; Mikulincer et al., 2013). The working alliance between a client and counselor helps to establish a relationship situated in collaboration and agreement (Bordin, 1979). Consisting of three components (i.e., a mutual agreement between the counselor and client on therapeutic goals, a mutual agreement between the counselor and client on therapeutic tasks, and a quality bond) (Bordin, 1979), the working alliance has been studied through the lens of attachment to determine the relationship between attachment style and working alliance (Bucci et al., 2016; Mallinckrodt, 2005). The bond in the working alliance indicates a mutual trust and attachment between both individuals in the therapeutic partnership (Bordin, 1979). The quality of this bond has been found to impact clients' feelings of being understood and validated (DeSorcy et al., 2016).

Animals can help clients to feel greater trust in their counselors (Chandler, 2017) as well as safe, comfortable, and accepted (Parish-Plass, 2008). This can be attributed to the human-animal bond, a relationship well-explained by attachment theory (Fine & Weaver, 2018). The most commonly researched human-animal bond through an attachment perspective is between a

human and their companion animal. Researchers have found biological evidence demonstrating attachment occurs in this relationship (Borgi & Cirulli, 2016; Zilcha-Mano et al., 2012) in addition to survey data indicating the presence of attachment features such as proximity maintenance (Kurdek, 2008; Kurdek, 2009) and safe haven (Zilcha-Mano et al., 2012). Another human-animal bond is that of assistance animals, or helper animals. Emotional support animals, service animals, and therapy animals are contained within this category due to their ability to assist people with disabilities (American Veterinary Medical Association, 2018b). The bonds in these relationships manifest differently from each other due to emotional support animals being cared for by the human as a pet (Younggren et al., 2016), service animals being trained to respond to the human for the purpose of completing a task (American with Disabilities Business Brief, 2002), and therapy animals transiently involved in a client's life (Zilcha-Mano et al., 2011a). However, oftentimes, therapy animals are companion animals of the counselor, a relationship that is encouraged and framed positively for clients (Chandler, 2017). Despite the transient nature of their presence, clients have been found to identify a therapy animal as a secure base (Zents et al., 2017) and develop more secure attachments as a result of the relationship cultivated during the intervention (Balluerka et al., 2014).

Animal-Assisted Interventions

Animal-assisted interventions (AAI) are goal-oriented interventions in which animals are incorporated into multidisciplinary health and education fields to therapeutically and positively impact humans (International Association of Human-Animal Interaction Organizations, 2014). Although the field of human-animal interactions and AAI struggles with reaching a consensus in terminology (Hosey & Melfi, 2014), it is generally accepted that AAI is a broad umbrella for multiple modalities that involve animals and a specialized, trained practitioner working toward

positively impacting clients (Stewart, Chang, et al., 2016). The earliest terminology that denoted the inclusion of an animal into therapeutic practice was *pet-facilitated therapy*, a term coined by Levinson (1972) to describe the process of a human positively connecting with an animal to instigate healing and restoration of his or her own inner, unconscious "animal." However, terminology in the field of AAI evolved to include the widely accepted term of *animal-assisted therapy* to describe an activity that "promotes positive human-animal interaction and incorporates the talents and traits of a therapy animal into a therapeutic setting to facilitate the recovery of patients seeking physical or mental health services" (Chandler, 2017, p. 2). As of 2014 when the International Association of Human-Animal Interaction Organizations released a white paper clarifying the appropriate terminology and definitions for the field of AAI, animal-assisted therapy is subsumed by AAI (Fine et al., 2015; Pet Partners, n. d.a).

Animal-assisted interventions is in its infancy (Chandler, 2017; McCune et al., 2015) with the past 50 years witnessing a greater acceptance of its practice (Fine & Weaver, 2018). Despite humans' understanding of the human-animal bond dating back to early history (Serpell, 2015), AAI began moving toward an empirical practice only in the past 40 years beginning when Friedmann et al. (1980) published a study on the positive effects of companion animal ownership on 1-year survival rates for patients hospitalized for coronary heart disease. The research base has been highly criticized with Herzog (2015) calling for research on AAI that has greater methodological rigor, such as increasing sample size, reporting effect size, appropriately interpreting results, and mitigating threats to validity (i.e., researcher bias). Additionally, Stern and Chur-Hansen (2013) noted multiple disparities in the literature, particularly in terms of terminology, and proclaimed the majority of evidence to be anecdotal. As a result of these calls, the research in human-animal interactions and AAI has proliferated (McCune et al., 2015). In

addition to the previously reviewed attachment and bonding literature, AAI studies explore areas that include the treatment of autism spectrum disorders (O'Haire, 2013), trauma (Maharaj, 2016), military veterans (Abrams, 2013), and dementia (Majic, Gutzmann, Heinz, Lang, & Rapp, 2013). Regardless of the critiques for the rigor of AAI research, the overall literature indicates significant health benefits and minimal contraindications for the implementation of the modality (Morrison, 2007).

As indicated previously, AAI has evolved into a specialized and legitimate field that requires distinctions and consistency between the types of interventions and practices (Fine et al., 2015). However, the field continues to move toward this consistency as terms are still being developed (L. Stewart, personal communication, June 19, 2018). Although animal-assisted therapy in counseling developed recently to describe including animals in the counseling process (Chandler, 2017), animal-assisted interventions in counseling (AAI-C) has more recently evolved to reflect the professional identity of a counselor and accurately capture interventions inappropriate to be labeled as animal-assisted therapy (L. Stewart, personal communication, August 22, 2018). This transformative and developing process is reflective of the literature demanding a clear taxonomy for the practice of partnering with animals for human health benefit (Fine et al., 2015). AAI-C will be used to denote animal-assisted therapy in counseling/animal-assisted interventions in counseling in an effort to promote further streamlining of current terminology. For the purposes of this document, the types of AAI to be explored will be animal-assisted activities and animal-assisted interventions in counseling. At this time, animal-assisted education is also an AAI alongside animal-assisted activities and AAI-C. Animal-assisted education, also structured and goal-oriented (Fine & Mackintosh, 2015), is a type of AAI unnecessary to the construct of study as it involves delivery by an educator for the purpose of

stimulating students' academic development (Fine & Mackintosh, 2015) and helping them to meet educational goals (Uttley, 2013). Similar to the confusion in terminology, it is important to distinguish between AAI due to the interdisciplinary nature of the field not limited to counselors (Stewart, Johnson, Bruneau, & Callahan, 2016).

Animal-Assisted Activities

Animal-assisted activities are "opportunities for motivational, educational, and/or recreational benefits enhancing quality of life delivered by a specially trained professional, paraprofessional, or volunteer in partnership with an animal that meets specific criteria for suitability" (Stewart, Johnson, et al., 2016, p. 3). These activities are conducted in a variety of locations, including hospitals, libraries, schools (Chubak & Hawkes, 2016; O'Haire, McKenzie, McCune, & Slaughter, 2014; Reynolds & Rabschutz, 2011). Animal-assisted activities often refer to a more casual "visit" with a specific population without the intention of therapeutic goals beyond companionship (Hatch, 2007). Regardless, as an AAI, human-animal dyads providing animal-assisted activities are expected to receive training, evaluation, and registration with the appropriate organizations (Fine, 2015). This is to ensure handlers work toward best practices that ensure quality and safety for both humans and animals (Fine, 2015). At minimum, dogs should have calm temperament, enjoy the company of people, regain control in periods of excitement, follow basic commands, and pay attention to their handler (Fine, 2015) while handlers must be attentive and proactive with the animal (Chandler, 2017). A distinction between animal-assisted activities and more formal AAI is the background of the human handler. Although training and indicators of a bond are best practices (Stewart, Chang, et al., 2016), the handler is often a volunteer and not required to have a mental health background (MacNamara, Moga, & Pachel,

2015). Therefore, this is one aspect of an animal-assisted activity that distinguishes it from animal-assisted interventions in counseling.

Despite the lack of mental health training and education possible in the human side of an animal-assisted activity, researchers have sought to explore how these interventions might ameliorate depression (Souter & Miller, 2007), anxiety (Barker & Dawson, 1998), social functioning (O'Haire et al., 2014), and psychiatric functioning (Chu, Liu, Sun, & Lin, 2009). Nepps et al. (2014) conducted a quasi-experimental study with 218 patients on a mental health unit of a hospital. Over the course of a year, the experimental group participated in an animal-assisted activity with a therapy dog and handler in a group format while the comparison group received an intervention on stress management. The authors concluded that the animal-assisted activity improved depression and anxiety as well as the stress management program. Furthermore, Chu et al. (2009) discovered an improvement in self-esteem, self-determination, emotional symptoms, and positive psychiatric symptoms in an experimental study of 30 patients diagnosed with schizophrenia in a psychiatric hospital in Taiwan. These participants also engaged in a group animal-assisted activity for an extended period of time (2 months). Due to the cost-effectiveness of animal-assisted activities, the ability of the intervention to target multiple participants once, and evidence of reduction in mental health symptoms, animal-assisted activities are popular on college campuses (Kronholz, Freeman, & Mackintosh, 2015). Additionally, college students seem to benefit from the intervention as researchers have discovered reductions in mental health symptoms. Specifically, they have observed animal-assisted activities as mitigating stress in the college student population. Jarolmen and Patel (2018) conducted an experimental study with 86 college students preparing to or having taken an exam that day and used blood pressure as an indicator of stress. They observed statistically

significant reductions in blood pressure in the experimental group as a result of the animal-assisted activity. Ward-Griffin, Klaiber, Collins, Owens, Coren, and Chen (2018) found similar results in a study of 246 college students. Using an experimental design, the authors discovered animal-assisted activities led to immediate benefits that included stress reduction, increased happiness, and higher energy levels. Additionally, the experimental group described greater overall improvement than the control in affect, stress, and social support.

In terms of attachment and bonding, it may be possible for participants to experience a bond with the therapy animal in an animal-assisted activity (Chandler, 2001). However, these interventions are designed to be casual (Marino, 2012). By definition, it might be difficult for a casual intervention to establish a relationship as deep as attachment. In their study of patients diagnosed with schizophrenia, Chu et al. (2009) did not observe an improvement in social support in the experimental group, a finding the authors noted is contradictory to other research on AAI. Although this study utilized a small sample (n = 30; Chu et al., 2009), it suggests the existence of barriers to bonding in animal-assisted activities. Attachment indicates a deep bond built upon connection (Bowlby, 1969). Therefore, animal-assisted interventions in counseling may present a more appropriate opportunity to cultivate these attachment relationships within AAI.

Animal-Assisted Interventions in Counseling

As a result of the ongoing and evolutionary process of the AAI field (Fine, 2015), research using the term *animal-assisted interventions in counseling* is sparse. However, there is overlap between this term and others used to describe the same process of partnering with an animal in the counseling process, a definition provided by Chandler (2017) when describing animal-assisted therapy in counseling. Chandler also described AAI-C research as indicative of

the efficacy of the modality. Multiple systematic literature reviews and meta-analyses have indicated the same, particularly in the areas of social functioning (Chitic, Rusu, & Szamoskozi, 2012; Virués-Ortega, Pastor-Barriuso, Castellote, Población, & Pedro-Cuesta, 2012) and mental health (Kamioka et al., 2014; Souter & Miller, 2007). Virués-Ortega et al. (2012) concluded through a meta-analysis that AAI-C demonstrated an improvement in social and psychological functioning for populations at risk of minimal social support, such as older adults and individuals diagnosed with psychiatric disorders. They noted the social enhancement feature consistent in AAI-C as well as improvements in anxiety, depression, and other behavioral concerns (Virués-Ortega et al., 2012). Kamioka et al. (2014) targeted randomized controlled trials in their systematic literature review of AAI-C and found multiple studies that described symptom reduction in individuals with schizophrenia, depression, and addiction. Furthermore, they reported that studies most commonly uncovered improvements in mental health, quality of life, and social abilities as a result of "the feeling and memory of an animal allowing the patient to be comfortable, pleasant, and happy" (Kamioka et al., 2014, p. 15).

Researchers have further determined AAI-C to be modality effective in treating a variety of clients in a range of settings. Coetzee et al. (2013) conducted a qualitative study exploring the effect of AAI-C on four male clients at a residential substance abuse treatment center in South Africa. They uncovered themes of more positive conversations, greater self-awareness, and enhanced social interactions, findings that the authors linked to increasing the chances of a successful treatment outcome for participants (Coetzee et al., 2013). Also exploring AAI-C with an adult population, Nurenberg et al. (2015) implemented a randomized controlled design when examining the role of both canine-assisted psychotherapy and equine-assisted psychotherapy in addressing aggressive behavior in 90 patients at a psychiatric hospital. The authors found

improvements in aggression with both AAI-C modalities, particularly equine-assisted treatment. They concluded AAI-C may be effective in addressing aggressive behaviors in clients at risk of violence (Nurenberg et al., 2015). Dietz, Davis, and Pennings (2012) incorporated therapy dogs into their study of 153 children aged 7 to 17 receiving treatment for trauma symptoms resulting from sexual abuse. They studied three group conditions for changes in trauma symptoms: (a) AAI-C and sharing trauma stories with the therapy dog, (b) AAI-C and not sharing trauma stories with the therapy dog, and (c) no AAI-C. Pre-test/post-test analyses of participants' symptoms as measured by the Trauma Symptom Checklist for Children (Briere, 1996) revealed a symptom reduction in anxiety, depression, anger, post-traumatic stress, sexual concerns, and dissociation for both groups that had a dog present, more so for the group that told the dog therapeutic trauma stories. However, the authors noted that this group had higher scores at baseline and that more significant changes did not mean the scores dropped lower than the scores of the other two groups (Dietz et al., 2012).

Despite a range of studies demonstrating clinical efficacy in AAI-C, minimal research exists examining attachment and bonding in this relationship. This might be associated with Chandler's (2017) statement that it is more likely for a counselor to develop a permanent attachment or bond with the therapy animal than for a client to develop a permanent attachment. However, Chandler also acknowledged that clients possess "a desire for affiliation with a nurturing being, a desire that is present at the initiation and early stages of an attachment bonding process. Clients may perceive a therapy animal as a potential source of nurturance…" (p. 6). As reviewed previously, attachment in counseling can occur to elicit feelings of safety in clients (Ainsworth, 1989) as well as create an opportunity for attachment patterns to manifest within the context of the working relationship (Mallinckrodt et al., 2005). Specifically with a therapy

animal, Chandler cautioned similarly to Zilcha-Mano et al. (2011a) in considering this relationship to be a complete and permanent human-animal attachment. Although Rockett and Carr (2014) also acknowledged the need for further research to adequately understand the role of attachment within AAI, they proposed that incorporating an animal into the therapeutic process "has important therapeutic value in the sense that animal relationships may well serve a 'compensatory' or 'supplementary' function for many individuals whose human bonds are severely lacking" (p. 425).

Empirical evidence does indicate attachment processes are occurring in the client-therapy animal relationship (Balluerka et al, 2014; Zents et al., 2017). Through AAI, a therapy animal can often access difficult topics more easily than a counselor working individually (Kruger & Serpell, 2010; Stewart et al., 2013). Black, Chur-Hansen, and Winefield (2011) qualitatively explored the AAI-C knowledge and attitudes of 9 Australian psychologists. They found that both animal-assisted interventionists and non-interventionists believed that incorporating an animal into the counseling process created greater ease for clients to discuss intense emotions and issues, a marker of a consistent therapeutic relationship (Wallin, 2007). Fine and Weaver (2018) attributed this to therapy animal creating a non-threatening environment. Furthermore, Chandler (2017) proposed that the client benefits from witnessing the relationship between the counselor and therapy animal. An additional method of demonstrating the counselor's bond with the therapy animal lies in advocacy and ensuring animal welfare (Stewart, 2018). Animal-assisted interventionists are responsible for maintaining a bond with their animal that enables them to engage in this advocacy and animal protection (Chandler, 2017; Fine, 2015; Stewart et al., 2013). Per previous research demonstrating that the counselor's relational patterns can affect a client's

therapeutic experience (Muratori et al., 2017; Yusof & Carpenter, 2016), their relationship with the therapy animal may have an effect on the bond of the working alliance within an AAI.

Summary of Animal-Assisted Interventions

Animal-assisted interventions are the process of including animals in therapeutic interventions designed to benefit humans through the power of the human-animal bond (International Association of Human-Animal Interaction Organizations, 2014). The rapid growth of AAI research and practice resulted in confusion in terminology and distinctions (Fine et al., 2015). Currently, AAI is an accepted term used to capture multiple options in which practitioners, educators, and handlers might partner with animals to improve humans' well-being (Fine et al., 2015). Three modalities fall under the umbrella of AAI: (a) animal-assisted activities, (b) animal-assisted therapy, and (c) animal-assisted education (Fine & Mackintosh, 2015). However, animal-assisted education targets academic goals rather than therapeutic ones (Uttley, 2013). As a result, this document did not review the literature associated with solely animal-assisted education (although some animal-assisted activities might resemble animal-assisted education). Additionally, animal-assisted interventions in counseling, an emerging term proposed to better capture the work of counselors in incorporating AAI into session (L. Stewart, personal communication, August 22, 2018), were reviewed as a related term to animal-assisted therapy in counseling and animal-assisted therapies specific to mental health.

Animal-assisted activities and AAI-C provide a range of health benefits for those that participate in the process. In animal-assisted activities, handlers may not have a background in mental health (MacNamara et al., 2015); therefore, this is what separates AAI-C from animal-assisted activities. Regardless, animal-assisted activities impacts a variety of mental health concerns, including stress reduction (Ward-Griffin et al., 2018) and psychiatric functioning (Chu

et al., 2009). Similarly, AAI-C positively influences substance abuse treatment (Coetzee et al., 2013) and mitigates trauma symptoms (Dietz et al., 2012). Attachment processes are occurring in these interventions as demonstrated by theoretical positions (Geist, 2011; Zilcha-Mano et al., 2011a) and empirical research (Balluerka et al, 2014; Zents et al., 2017). Moreover, clients might feel a sense of belonging to and responsibility for the animal which can result in greater investment in treatment (Fine & Weaver, 2018). However, despite prior research demonstrating that a counselor's relational processes might influence treatment outcomes for clients (Muratori et al., 2017), no research exists examining how attachment and bonding to an animal in the tripartite relationship of an AAI affects the attachment and bonding between an AAI practitioner and client.

Statement of the Problem

The existence of a bond within AAI-C is supported theoretically (Fine & Weaver, 2018; Geist, 2011; Zilch-Mano et al., 2011a) and empirically (Mueller & McCullough, 2017; Zents et al., 2017). Additionally, the importance of an overall bond between a counselor and client is also supported (DeSorcy et al., 2016), particularly through the working alliance (Bucci et al., 2016). Bordin (1983) defined the working alliance as a "collaboration for change" (p. 35) consisting of three parts: (a) mutual agreement for goals, (b) mutual agreement for tasks, and (c) a quality bond to sustain the work. AAI-C involves a complex relationship between a client, mental health practitioner, and therapy animal (Rocket & Carr, 2014). As the empirical research base in AAI continues its growth (Fine, 2015), research is lacking in how the human-animal bond manifests in AAI-C. Bucci et al. (2015) acknowledged that complex factors influence the quality of the therapeutic alliance. This presents a question of how the working alliance, specifically the bond

within the working alliance, is impacted when the complexity of an additional bond is added to the process— the bond with the therapy animal.

The quality of the therapeutic alliance can positively impact symptomatic change in clients (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2009). In fact, overall treatment outcomes are highly influenced by the quality of this alliance (Horvath & Symonds, 1991). Despite this, the bond between a counselor and client within animal-assisted interventions has yet to be supported empirically. The inclusion of an animal into the counseling process cultivates trust (Stewart et al., 2013), a cornerstone of attachment (Ainsworth, 1991; Bowlby, 1969, 2012) and bonding in the working alliance (Bordin, 1979, 1983; Horvath & Greenberg, 1989). Wesley, Minatrea, and Watson (2009) conducted one of the few studies exploring AAI-C in substance abuse treatment when they incorporated an experimental design into a study of canine-assisted group therapy in treating individuals at a residential treatment center. Utilizing the Helping Alliance Questionnaire (Luborsky et al., 1996), the authors found that the clients in the presence of a therapy dog described a significantly more favorable therapeutic alliance than those without the dog. However, the literature does not further address the role of the therapy animal in this alliance nor does it isolate the bonds in the tripartite relationship as variables of interest.

Overall, there is not much research on attachment in AAI. Balluerka et al.'s (2014) study of the change in attachment representations for youth receiving intensive AAI-C has limitations; for example, this level of AAI-C might not be easily accessible to all people and one psychologist provided the intervention. A broader perspective is needed in this specialized field that is continuing to grow (Fine, 2015). Additionally, Balluerka et al. ran an analysis to look at differences for improvement in attachment as a result of AAI-C, but nothing related to prediction and how other variables might have influenced attachment. Mallinckrodt (2010) proposed that

counseling is a means of strengthening weak attachment bonds so that clients feel safe and secure to explore. Although no studies examine if a bond to a therapy animal also helps to do this, Barker et al.'s (2010) research indicating people feel safe and less stressed in the presence of a therapy dog suggests the possibility that clients might have greater openness for a bond with a counselor during AAI-C. In addition, Chandler (2017) stated that "a client may also benefit from the human-animal bond that exists between the therapist and the therapist's therapy animal because that relationship can demonstrate the mutual trust and nurturance potential in both the human therapist and the therapy animal" (p. 7). Chandler also suggested "the client can be stimulated to form a social connection to each, thereby creating and reinforcing a therapeutic alliance" (p. 7). This possibility coupled with the influence of counselors' personal attachment experiences indicates a need to explore how these variables might affect the bond between the client and the counselor.

In addition, there are a number of confounding factors that might influence the bond between a counselor and client in AAI-C. For example, theoretical orientation can impact the development and maintenance of the therapeutic alliance (Ackerman & Hilsenroth, 2003). Early research suggested that a counselor's intentions in the therapeutic process (i.e., getting information, clarifying, insight, change) and their theoretical orientation affect the quality of sessions (Hill & O'Grady, 1985). More recently, Barrio and Myers (2008) discovered a relationship between theoretical orientation and intervention styles in a survey of 203 graduate students and new professionals. Specifically within AAI-C, practitioners can utilize diverse theoretical orientations (Bruneau, Johnson, & Stewart, 2018; O'Callaghan & Chandler, 2011; Chandler, 2017) and how an AAI-C practitioner approaches AAI can impact purpose and intentionality of utilizing the modality (Stewart et al., 2013). There is also the potential for

clients' familiarity with the therapy animal's particular species to influence the bonding process. Beetz et al. (2012) cautioned that clients might experience more positive attitudes in a session of AAI-C as a result of prior exposure to the species of therapy animal. Brown (2017) conducted a study to examine how the familiarity of an animal influenced an individual's performance on a stressful task. The results revealed a familiar animal is stress-buffering. Since alleviation of stress can enhance the relational process (Lavner & Bradbury, 2017), it is possible that clients' prior exposure to the species of therapy animal may influence the attachment and bonding in AAI-C. Finally, Hersoug et al. (2001) found that therapists' self-evaluation of their skill in counseling had a positive effect on the working alliance. In their study of 59 therapists and 270 clients, practitioners who were confident in their therapeutic skills also scored higher on their perceptions of the working alliance, although the researchers did not isolate the subscales to study the specific process of maintaining a quality bond. Stewart, Chang, et al. (2016) identified that competent AAI-C practitioners will demonstrate a highly specialized skillset as well as possess knowledge of how AAI-C impacts clients' presenting concerns. Therefore, it is important to account for practitioners' perceptions of their skill in working with the client's presenting issue in AAI-C. However, despite the possibility that they affect the counseling process, how practitioners identify within these three variables has yet to be considered in AAI-C research to understand the bonding in the tripartite relationship.

Practitioner Competencies

Incorporating AAI into counseling practice requires a sophisticated bond and relationship between the counselor and therapy animal (Stewart, Chang, et al., 2016). AAI creates an opportunity for clients to witness the bond between the counselor and therapy animal, thereby making the client's relationship with them more therapeutic (Chandler, 2017). Stewart, Chang, et

al. (2016) noted that a mental health practitioner and therapy animal impact counseling "in ways that are beyond the scope of traditional counselor-client helping relationships" (p. 2). Furthermore, the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) require knowledge of the human-animal bonds involved in AAI-C and how it influences the therapeutic process. Similar to the Animal-Assisted Therapy in Counseling Competencies, the Animal-Assisted Interventions Competencies (Stewart, Chang, et al., 2016) require knowledge and skill of the human-animal bond within AAI. Although these two critical documents guiding AAI practitioners specify a need for their understanding of the bond, no studies explore this construct. Research on how the bond between the counselor and the therapy animal and the client and the therapy animal impacts the bonding between the counselor and client may provide practitioners with greater insight into this relationship.

Best practices in AAI-C require intentionally incorporating the human-animal bond into the counseling process (Stewart, Chang, et al., 2016). Furthermore, best practices also require training, certification, and registration with an organization such as Pet Partners or Therapy Dogs International (Chandler, 2017; Stewart, Chang, et al., 2016). Chitic et al. (2012) found in their meta-analysis of studies on the impact of a therapy animal on communication and social skills that a therapy animal's certification status moderated the improvement of communication and social abilities. Social support impacts a client's orientation of secure or insecure attachment patterns (Emery et al., 2008). Therefore, AAI practitioners striving toward competency through AAI-C best practices may impact clients' bonding and attachment in multifaceted ways, including through providing social support, aligning and registering with a therapy animal organization, and practicing intentionality in developing knowledge and skills of the human-animal bond.

Practitioner Perceptions of Animal-Assisted Interventions

AAI practitioner perceptions are also lacking in the literature. What has been studied provides information on practitioners' perceptions of the benefits and role of AAI (Firmin, Brink, Firmin, Grigsby, & Trudel, 2016), how farm animals might contribute to AAI practice (Berget, Ekeberg, Braastad, 2008), intentionality and interventions with the modality (O'Callaghan & Chandler, 2011), an approach and framework to AAI-C (Stewart et al., 2013), and implementing AAI into occupational therapy (Casey, 1996; Velde, Cipriani, & Fisher, 2005). However, none of this research explicitly studied the attachment and bonding processes within AAI. Firmin et al. (2016) qualitatively explored how AAI practitioners conceptualize their work and professional identities. Through phenomenological interviews with 14 AAI practitioners from one facility providing equine interventions, the authors corroborated previous research that counselors believe the therapy animal serves to reinforce the relationship between the client and the counselor (Firmin et al., 2016), a finding that has yet to be targeted in quantitative research with a broader sample. Stewart et al. (2013) also engaged in a qualitative study to obtain information on the theoretical framework that AAI practitioners utilize in their practice. Also sampling from 14 practitioners but in a variety of settings, their research developed the foundation for the Animal-Assisted Therapy in Counseling Competencies to guide practitioners in "standards of competence" (Stewart, Chang, et al., 2016, p. 3). These efforts paved the way for future research into the bond within an AAI, an area Stewart, Chang, et al. (2016) outlined as vital for practitioner understanding to ensure competence and best practices in this specialized field.

The role of the therapy animal in the counseling process is complex, and the mental health field does not yet fully understand it. Black et al. (2011) found through qualitative

interviews with nine psychologists that those not incorporating animals into practice perceived AAI as too distracting for clients. Hunt and Chizkov (2015) refuted this concern in a study of 107 undergraduate students at one university participating in an experimental study on the role of a canine in cognitive-behavioral therapy. They noted that results indicated that therapy animals, specifically canines, are positive emotional supports that facilitate outcomes rather than interfere with the counseling process. This is indicative of the confusion by general mental health practitioners surrounding the practice of AAI. Hartwig and Smelser (2018) quantitatively investigated how 300 mental health practitioners perceive AAI-C as a clinical modality. While the authors did capture perspectives of AAI-C and its impact on clinical practice, only 12% of the sample reported receiving training in AAI-C and none of the questions were relationally-focused. This leaves a substantial gap in the AAI-C literature at a time the field is moving toward further legitimacy. Best practices and the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) outline a need to receive comprehensive education and training on the human-animal bond within AAI-C. However, without a unifying body under which AAI-C practitioners can unite and with the field in rapid expansion, it is unclear how aware practitioners are of the complex relationships unfolding in the AAI-C process. This indicates a need to study how the tripartite relationship of AAI-C impacts bonding between clients and practitioners, an ingredient critical to the success of the counseling process (Degnan et al., 2014; Muratori et al., 2017; Wiseman & Tishby, 2014).

Summary of Literature

Animal-assisted interventions connect people to people through the human-animal bond (Schaffer, 2009). The mechanisms of the human-animal bond associate interspecies positive health outcomes as a result of the relationship between humans and animals (American

Veterinary Medical Association, 2018a). Levinson (1972) first harnessed the bond for therapeutic purposes, an act that has propelled an entire area of research and practice over the past 50 years (Fine & Weaver, 2018). Although there is no single theory conceptualized to explain the benefits of human-animal interactions (Hosey & Melfi, 2014), the literature indicates four theories are most commonly accepted for this goal: (a) oxytocin (Olmert, 2009); (b) biophilia, (c) social support, and (d) attachment (Fine & Weaver, 2018). Attachment, a process involving safety and trust with an attachment figure (Bowlby, 1969), is the theoretical framework in which this proposed study is situated. Originally rooted in the infant-caregiver bond, Bowlby (1969) and Ainsworth (1991) proposed that a person utilizes an internal behavioral system to dictate how available an attachment figure is in moments of distress. These representations of safety and security result in working models that a person recreates in different contexts and relationships (Bowlby, 1969). This can occur through attachment patterns (e. g., anxious-avoidant, anxious-resistant, securely attached) (Ainsworth et al., 1978) or attachment features (e. g. proximity maintenance, separation distress, safe haven, secure base) (Ainsworth, 1991, Adams et al., 2017). For adulthood, Bartholomew and Horowitz (1991) suggested a two-dimensional model of attachment styles: (a) preoccupied, (b) fearful-avoidant, (c) dismissing-avoidant, and (d) secure. Research indicates that attachment can be present outside of the infant-caregiver dyad in a variety of relationships, including counseling (Mallinckrodt et al., 2005; Mikulincer et al., 2013) and the human-animal relationship (Borgi & Cirulli, 2016)**.** However, no research looks at the influence of bonding and attachment within these complex relationships.

Attachment in counseling can also impact the working alliance, a process in which a counselor and client mutually agree on therapeutic goals, mutually agree on therapeutic tasks, and maintain a quality bond (Bordin, 1979). More secure attachment can result in a more

positive working alliance (Kietaibl, 2012; Satterfield & Lyddon, 1995) which can improve treatment outcomes (Wiseman & Tishby, 2014; Bucci et al., 2016). Specifically in the bond of the working alliance, theoretical orientation can have an impact (Lee et al., 2013) as well as a counselor's attachment in other relationships (Fleischman & Shorey, 2016). Therefore, how a counselor attaches to a therapy animal might influence their bond with the client. The literature on attachment in the human-animal bond confirms this process can occur within multiple human-animal relationships, especially the one between a companion animal and its guardian (Borgi & Cirulli, 2016; Sable, 2013; Zilcha-Mano et al., 2012). Chandler (2017) recommended a therapy animal also be the companion animal of the counselor to demonstrate a healthy bond to clients and facilitate trust in the counseling relationship. This indicates the strength of the counselor's bond with the therapy animal might influence the strength of their bond with the client. No study currently explores this possibility.

Helper animals provide assistance to humans in the interest of positive human health (L. Stewart, personal communication, March 1, 2018). These helper animals include emotional support animals, service animals, and therapy animals. Although the research on the human-animal bond within these specialized relationships is sparse, particularly for the bond with an emotional support animal that is also a companion animal (Younggren et al., 2016), studies describe the presence of attachment relationships (Beetz, 2017; Crawford et al., 2006; Fallani et al., 2006; Kwong & Bartholomew, 2011; VanFleet, 2008). Specifically in the bond with a therapy animal, there is an influence on clients' attachment orientations (Balluerka et al., 2014) and therapy animals likely fit into clients' attachment hierarchy as a secure base and safe haven (Zilcha-Mano et al., 2011a). However, there is no research indicating how this bond impacts the bond between the counselor and client in animal-assisted interventions in counseling. Animal-

assisted interventions contain multiple modalities in which trained humans partner with a trained animal for the purpose of positively impacting those that participate in the intervention (Stewart, Chang, et al., 2016; Stewart, Johnson, et al., 2016). The AAI field continues to move toward streamlining terminology and reducing confusion in the various practices underneath this umbrella (Hosey & Melfi, 2014). These practices include animal-assisted education, animal-assisted activities, and animal-assisted interventions in counseling (Fine & Mackintosh, 2015). Animal-assisted activities and animal-assisted interventions in counseling are implemented with therapeutic intentions while animal-assisted education targets academics (Fine & Mackintosh, 2015; Uttley, 2013). As a result, this document reviewed literature on animal-assisted activities and AAI-C.

Animal-assisted activities are considered to be more casual interventions that provide companionship (Hatch, 2007) rather than follow the treatment goals of AAI-C (Stewart, 2018). Regardless, animal-assisted activities have indicated clinical efficacy in addressing depression (Souter & Miller, 2007), social functioning (O'Haire et al., 2014), and stress reduction (Ward-Griffin et al., 2018). Attachment and bonding are also a factor within animal-assisted activities (Chandler, 2001), although AAI-C might provide greater opportunities for this bond to occur. Therefore, this study examined attachment and bonding specifically within AAI-C. AAI-C has also been demonstrated to positively impact clients concerns, including social functioning (Chitic et al., 2012), aggression (Nurenberg et al., 2015), and trauma (Dietz et al., 2012). Despite this, research on the complex relationships within AAI-C is minimal. Theoretically, there is also division on attachment in AAI-C as Chandler (2017) suggests attachment to a therapy animal to be incomplete while Rocket and Carr (2014) propose the therapy animal in AAI might serve a supplementary attachment function. Empirically, attachment processes related to trust and

security do seem present within AAI-C (Balluerka et al., 2014; Stewart et al., 2013), although how the various bonds within AAI-C contribute to these processes has yet to be studied.

Fine and Weaver (2018) noted the need to study additional quantitative factors in AAI to provide important insights to the field. The present study quantitatively examined how a counselor's attachment to the therapy animal and how the client's attachment to the therapy animal influences the bond between the counselor and client. Best practices and standards demonstrating competence for AAI-C practitioners require a comprehensive understanding of the complexities of the human-animal bond in the counseling process (Stewart, Chang, et al., 2016). This presents a gap in the research as no study had quantitatively examined the influence of the multiple bonds within AAI-C. Furthermore, the literature indicates that the bonds in AAI-C can be influenced by multiple factors, including practitioner theoretical orientation (Stewart et al., 2013), clients' degree of familiarity with the species of therapy animal (Beetz et al., 2012), and practitioners' perception of their skill in working with the client's presenting problem (Hersoug et al., 2001). Therefore, it is important to account for these variables when studying attachment and bonding within AAI-C.

Research is also limited in how practitioners perceive AAI-C. Qualitatively, contributions have been made to capture the perspectives of mental health practitioners that include animals in the counseling process (Firmin et al., 2016; Stewart et al., 2013), although no study explicitly targets the intersecting attachment and bonding processes within AAI-C. Quantitatively, Hartwig and Smelser (2018) obtained perspectives on AAI-C, although only 12% of the sample described receiving training in the modality. The current study obtained perceptions from only AAI-C-identified practitioners to more clearly target the constructs of exploration. Additionally, the literature indicates there may be misconceptions related to the role of a therapy animal in AAI-C

(Black et al., 2011). This study addressed this gap in research by expanding upon how a therapy animal influences the counseling process relationally. Although the results might benefit AAI-C practitioners' competencies through a more thorough understanding of the human-animal bond within the therapeutic process, it may also provide understanding to other practitioners as the field becomes more legitimized.

CHAPTER THREE

METHODOLOGY

The purpose of this quantitative study was to examine how attachment to a therapy animal impacted the attachment bond between a mental health practitioner and client during AAI-C. This study sought to answer the following research questions:

1. What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?
2. How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

Participants completed an online survey with the following four measures: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); (c) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989); and (d) two open-ended questions regarding the impact of utilizing an animal in counseling sessions. Participants included mental health practitioners who incorporated animals into clinical work, including counselors, marriage and family therapists, social workers, and psychologists. The goal of this chapter is to describe the research design, participants, measures, data collection procedures, and data analyses.

Research Design

To obtain mental health practitioners' perceptions and experiences of attachment and bonding in animal-assisted interventions in counseling, this study utilized a quantitative, cross-sectional survey design. Survey methodology is "a nonexperimental research method in which questionnaires or interviews are used to gather information and the goal is to understand the characteristics of a population based on the sample data" (Johnson & Christensen, 2017, p. 253). Survey research has increased in academia due to the researcher's ability to extrapolate from the sample to the population (Lee, Benoit-Bryan, & Johnson, 2012). Degnan et al. (2016) conducted a systematic literature review and determined that surveys are common in assessing attachment in therapy. Therefore, the purpose of this survey investigation was to examine how mental health practitioners perceived the attachment and bonding that occurred during an animal-assisted intervention in counseling.

Quantitative analyses of this study included descriptive and inferential statistics. First, descriptive analyses determined which attachment behaviors practitioners observe their clients exhibiting most often during session with both the practitioner and the therapy animal. Descriptive statistics were also used to examine if a relationship exists between the attachment bond of a client and mental health practitioner and their bonds with the therapy animal. At this time, attachment in counseling has been researched primarily outside of animal-assisted interventions, and more secure attachment has been found to improve therapeutic outcomes (Johnson, Ketring, Rohacs, & Brewer, 2006; Mallinckrodt & Jeong, 2015; Taylor et al., 2015). Furthermore, attachment to animals exists primarily in companion animal literature with findings that secure attachment to a companion animal improves an individual's health, well-being, and ability to form relationships with humans (Carr & Rockett, 2017; Luhmann & Kalitzki, 2018;

Maharaj, 2016). However, attachment to a therapy animal has garnered less attention despite Zilcha-Mano et al. (2011a) proposing the animal acts a safe base and secure haven for clients. Therefore, it is important to understand if and how these attachment processes are related. A multiple linear regression was utilized to examine how certain predictive variables explain attachment between the client and practitioner in an animal-assisted intervention in counseling, including client attachment to the therapy animal and practitioner attachment to the therapy animal. Categorical control variables were included in the analysis to increase statistical control of the model: (a) practitioners' theoretical orientation, (b) clients' prior degree of exposure to the species of therapy animal, and (c) practitioners' perceptions of skill and comfort in working with the presenting issue. An apriori power analysis of a fixed effects linear multiple regression model with R^2 increase indicated a total sample size of 40 was needed to achieve power of .95 and an effect size of .43 with two predictor variables ($p < .05$).

Sampling

Participants for this study were mental health practitioners who currently incorporate or previously incorporated animals into clinical practice. This population includes practitioners who practice and identify as the following: (a) counselors, (b) marriage and family therapists, (c) social workers, or (d) psychologists. In the event a participant identified as a different type of mental health practitioner, they were included in the sample only if their work is not primarily medical or educational in nature. To focus mainly on attachment as it occurs within therapeutic relationships, exclusionary professions will included the following: (a) occupational therapy without a mental health focus, (b) education, (c) medicine, and (d) psychiatry. Handlers incorporating a helper animal into animal-assisted activities were not included in the study. Although therapeutic and beneficial for participants, conducting animal-assisted activities does

not require education or training in a mental health field, and these interactions are brief while lacking treatment goals and objectives related to mental health needs (Friedmann et al., 2015). The discrepancy between attempted responses and completed responses may be related to the criteria excluding this type of AAI.

This study utilized purposive, snowball sampling to recruit participants. Based upon the specific parameters of AAI-C, purposive sampling is necessary to study the perceptions of this particular population. In addition, there may be barriers in accessing practitioners who incorporate animals into their practice, including the lack of available licensure and credentials under which these practitioners may organize (Fine, 2015). Hartwig and Smelser (2018) surveyed 343 mental health practitioners on their perceptions of animal-assisted therapy in counseling; of this total number, only 34 reported as having received training in animal-assisted interventions. Therefore, snowball sampling may increase access to mental health practitioners who share the common factor of incorporating animals into their work with clients (Emerson, 2015).

Data Collection

Upon receiving Institutional Review Board (IRB; see Appendix A) exemption through Virginia Tech and the Western Institutional Review Board, participants were contacted through multiple means of communication. An electronic method of recruitment involved inviting members of various listservs to participate in the survey, which included: (a) Counselor Education and Supervision Network (CESNET), (b) International Association of Addictions and Offender Counselors, (c) American College Counseling Association, (d) Animal Assisted Therapy in Mental Health Interest Network, and (e) Human-Animal Bond Studies. The researcher is a member of each of these organizations and is granted access to utilize these

listservs for research purposes. Two weeks after the initial invitation, a reminder email was sent. Similarly, participants were also recruited through a notice to members of the Human-Animal Interaction Section 13 of Division 17 of the American Psychological Association. In addition, recruitment also occurred by posting a flyer in high-traffic areas at relevant professional conferences after obtaining permission from conference organizers. The flyer provided information on the survey, the web address and a QR code for access, and the researcher's contact information. See Appendix B for the recruitment email and Appendix C for the flyer.

The snowball sampling method occurred through the online survey that concluded with an opportunity to identify other potential participants (see Appendix J); upon referral, the researcher contacted these individuals to invite them to participate in the study. Listserv members that received the recruitment email also participated in the snowball by providing referrals of potential participants and/or sending the invitation to potential participants directly. The online survey included the following items: (a) an informed consent document outlining receipt of IRB exemption for the study, the purpose of the study, participants' ability to withdraw from the study at any time, estimated length of time for completing the survey, donation as compensation information, and plans for dissemination of the results; (b) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (c) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); (d) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989); and (e) two open-ended questions regarding the impact of utilizing an animal in counseling sessions. See

Appendix D for the consent form. The survey took approximately 10 minutes to complete. All surveys were anonymous with initials on the consent form removed from raw data for analysis. As compensation for participating in the study, the researcher made a donation to multiple animal-focused organizations voted by participants at the end of the survey. Participants were informed of the following: (a) in the event 50 people participate in the study, a donation of $100 will be made to the organization; (b) in the event 75 people participate in the study, a donation of $125 will be made to the organization; (c) in the event 100 people or more participate in the study, a donation of $150 will be made to the organization (see Appendix I). However, due to the variety of votes by participants, the top organization was provided a donation of $100 while the other organizations were provided a donation of $20.

Instrumentation

This study involved the following measures: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); (c) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989); and (d) two open-ended questions regarding the impact of utilizing an animal in counseling sessions. The survey totaled 46 items (see Appendices E-H). Below is a review of the measurements used in this study.

Information Form

The information form used in this study contains 22 total items. Items 1-11 (Appendix E) related to mental health practitioners' demographics and clinical experience. Specific

information associated with AAI-C involved the practitioner's training experiences of incorporating an animal into clinical practice (Item 1), rationale for including an animal in session (Item 2), length of time the practitioner has been practicing AAI-C (Item 2), an open-ended item assessing the practitioners' opinion of the indicators of a bond between a client and therapy animal (Item 10), animal-specific information (Items 11-14), and client-specific information related to the targeted counseling session (Items 15-18). Given the paucity of predictors of attachment in AAI-C in the literature, this information was obtained to determine if they act as predictors in explaining attachment between the client and mental health practitioner in an animal-assisted intervention. However, prior research does indicate that theoretical orientation and therapeutic approach play a role in clients' ability to securely attach to a practitioner (Fleischman & Shorey, 2014) as well as can act as a predictor of efficacy within AAI-C (Stewart, Dispenza, Parker, Chang, & Cunnien, 2014). As a result, practitioner theoretical orientation for this session was obtained through self-report for the purpose of isolating it as a confounding variable when studying attachment within AAI-C (Item 14). Due to Stewart, Chang, et al. (2016) stating the importance of self-awareness for AAI-C practitioners, their self-report as post-master's degree clinicians utilizing this specialized modality was considered sufficient for the study. Furthermore, practitioners' perceptions of their skill level in working with the client's presenting problem was obtained to account for this perception as a possible confound in developing a bond (Item 19), as Hersoug, Hoglend, Monsen, and Havik (2001) found that counselors' self-evaluation of their counseling skills was positively related to the development of the therapeutic alliance.

Finally, participants were asked to reflect on their most recent session with a client whom they have provided AAI-C a minimum of three times in order to provide their observations of

typical attachment behaviors occurring between the client and the therapy animal during session. These behaviors are the approximate percentage of time the client and therapy animal spent interacting (Item 21) and the approximate percentage of time the practitioner observed the client touching, making eye contact, receiving comfort, and communicating with the therapy animal verbally and nonverbally (Item 22). These behavioral occurrences may act as predictors of bonding and attachment due to previous research describing them as important factors within animal-assisted interventions (O'Haire, Guérin, & Kirkham, 2015; Pavlides, 2008; Peters & Wood, 2017; Stern & Chur-Hansen, 2013). Three sessions are determined to be the appropriate length of time due to Horvath, Gaston, and Luborsky (1993) concluding that the therapeutic alliance "peaks" after the third session. See Appendix E the information form.

General Attachment Subscale of the Lexington Attachment to Pets Scale

To measure practitioners' attachment to the therapy animal, participants were asked to complete a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale, a scale created to assess the emotional attachment of an owner to their companion animal (Johnson et al. 1992). It was developed by combining scales from the authors' earlier work in addition to items from three other human-animal interaction scales: (a) Companion Animal Bonding Scale (Poresky, Hendrix, Mosier, & Samuelson, 1987); (b) Pet Attitude Scale (Templer, Salter, Dickey, Baldwin, & Veleber, 1981); and (c) Pet Attitude Inventory (Wilson, Netting, & New, 1987). These three scales were developed from non-random convenience samples; as a result, Johnson et al. (1992) sought to improve the validity and reliability of human-companion animal attachment scales by sampling randomly from adult residents of the United States. This resulted in the development of a scale with strong psychometric properties in assessing the degree of attachment and affection between individuals and their companion

animals (Johnson et al., 1992). Johnson et al. conducted a factor analysis to develop three subscales within the overall scale: (a) General Attachment, (b) People Substituting, and (c) Animal Rights/Animal Welfare. For the purposes of this study, the General Attachment subscale was included in the survey. The remaining two subscales, People Substituting and Animal Rights/Animal Welfare, were inappropriate for measuring the desired constructs.

The entire Lexington Attachment to Pets Scale (Johnson et al., 1992) is a 23-item Likert-scale measurement with responses ranging from 1 *(agree strongly*) to 4 (*disagree strongly*). It is highly reliable with Cronbach's $\alpha = .94$ based on a sample of 412 pet owners (191 female and 131 male) that participated in a random digit dialing phone interview while living in Fayette County, Kentucky. In addition, Ramírez, Berumen, and Hernández (2014) examined the psychometric properties of the Lexington Attachment to Pets Scale upon translating it into Spanish. Their sample included 152 people (86 women and 66 men) who cared for an average of two dogs for 3.8 years. They also discovered high internal consistency (Cronbach's $\alpha = .96$) and appropriate criterion validity due to individuals considering their companion animals to be family members scoring as more strongly attached to the animal ($M = 24.9$, $SD = 5.1$) than those who considered the animal to be a pet ($M = 18.1$, $SD = 7.1$), guard dog ($M = 11.7$, $SD = 6.7$), burden ($M = 6.0$, $SD = 4.2$), or stressor ($M = 2$). This General Attachment subscale contains 11 Likert-scale items and also is highly reliable with Cronbach's $\alpha = .90$, according to Johnson et al. (1992), and Cronbach's $\alpha = .94$, according to Ramirez et al. (2014). When the General Attachment subscale is studied in research, it has been found to indicate that individuals who consider an animal to be a source of social support and a positive impact on their lives experience greater attachment to the animal (Cromer & Barlow, 2013; Hall, Liu, Kertes, & Wynne, 2016). Furthermore, Hall et al. (2016) utilized this subscale to uncover that children

experienced greater attachment with their pet dog when the animal exhibited behaviors such as understanding communication, providing support, and accepting touch. Therefore, using this subscale to examine similar components of animal-assisted interventions in counseling is warranted.

Lower scores on the Lexington Attachment to Pets Scale indicate higher levels of attachment with one reverse-scored item (Item 9). The General Attachment subscale was adapted to reflect that the perspective of the practitioner is being obtained in response to their relationship with the therapy animal. Therefore, the original term of "pet" was revised to "therapy animal" throughout the subscale. Additionally, the original directions invite participants to respond to brief statements about their pet on a scale of *strongly agree* to *strongly disagree.* The directions for the modified version included a clarification that the statements are in regards to the therapy animal. Sample items in the revised subscale included *My therapy animal understands me, I believe that loving my therapy animal helps me to stay healthy, My therapy animal and I have a very close relationship, I am not very attached to my therapy animal,* and *I consider my therapy animal to be a friend.* Hosey et al. (2018) also modified the Lexington Attachment to Pets Scale for use with a special population (zookeepers' self-perceived relationships with zoo animals) and determined that slight modifications specifying the type of animal are appropriate given the strength of the original validation by Johnson et al. (1992). See Appendix F for the modified version of this measurement.

Working Alliance Inventory for Therapists-Short Form

To measure mental health practitioners' perceptions of the bonding between themselves and the client, participants completed the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). It was developed from the

original Working Alliance Inventory (Horvath & Greenberg, 1989) which measures the working alliance between a therapist and client. Derived from Bordin's (1979) conceptualization of the components of the therapeutic working alliance, the Working Alliance Inventory explores the subscales of Bonds, Tasks, and Goals (Horvath & Greenberg, 1989). Bordin outlined three features of the working alliance: development of the bond, agreement on tasks, and agreement on goals. Using Bordin's model, Horvath and Greenberg (1989) developed the scale with the assistance of seven psychologists considered content experts in the therapeutic relationship. Following pilot testing with 29 graduate students, three clinical trials were conducted on samples of client-therapist dyads (29, 31, and 35 clients) with the final version of the Working Alliance Inventory obtaining reliability estimates of .92, .92, and .89. Martin, Garske, and Katherine Davis (2000) conducted a meta-analysis of therapeutic alliance measurements and treatment outcomes. They found acceptable internal consistency of the Working Alliance Inventory with Cronbach's $\alpha = .90$ and concluded the Working Alliance Inventory is "likely to be appropriate for most research projects" (Martin et al., 2000, p. 447). More recently, Horvath, Del Re, Flückiger, and Symonds (2011) discovered strong predictive validity of the Working Alliance Inventory when conducting their own meta-analysis of the relationship between therapeutic alliance and treatment outcomes.

Parallel forms of the Working Alliance Inventory were developed for client and therapist to establish a method for measuring both perspectives of the same constructs (Tracey & Kokotovic, 1989). The short form of the Working Alliance Inventory for Therapists was developed by retaining the four items from the original Working Alliance Inventory (Horvath & Greenberg, 1989) that loaded highest onto each subscale during a study of 124 client-therapist dyads at a university college counseling center in the Midwestern United States (Tracey &

Kokotovic, 1989). Each subscale contains four distinct items within the 12-item self-report instrument. When exploring the factor structure of the Working Alliance Inventory for Therapists, Tracey and Kokotovic (1989) found high internal consistency for overall alliance (α = .95) and the subscales (.83 for Task, .88 for Goal, and .91 for Bond). It is considered an acceptable, well-used measure of therapeutic alliance (Andrusyna, Tang, DeRubeis, & Luborsky, 2001; Martin, Garske, & Davis, 2000). As one of the parallel forms of the Working Alliance Inventory, the Working Alliance Inventory for Therapists allows mental health practitioners to provide their perceptions and assessment of the therapeutic alliance. Therefore, the Working Alliance Inventory for Therapists was incorporated as the dependent variable, the measurement of the attachment bond between a client and mental health practitioner during an animal-assisted intervention in counseling.

Researchers have found strong psychometric properties for the Working Alliance Inventory for Therapists. In a study of the eight female clients with four female and four female therapists, Tichenor and Hill (1989) found high internal consistency (α = .95). Hawley and Garland (2008) also discovered high reliability of the Working Alliance Inventory for Therapists by obtaining Cronbach's α = .95 during a temporal study of 78 adolescents, their parents, and their counselors in which they measured changes in working alliance and treatment outcomes over time. Burkard, Ponterotto, Reynolds, and Alfonso (1999) determined the Working Alliance Inventory for Therapists had appropriate reliability when they incorporated it into a study of racial identity development in 124 counselor trainees. Trainees completed the Working Alliance Inventory for Therapists after listening to a counseling session that involved either an African-American client or a White client and adopting the role of the counselor working with that particular client. In this study, the researchers found an acceptable reliability coefficient of .94.

Similarly, Ligiéro and Gelso (2002) found a Cronbach's α = .90 on the overall Working Alliance Inventory for Therapists scale in a study of 50 counselors-in-training and the relationship between their attachment style, countertransference, and working alliance with a certain client. These authors also found acceptable reliability for all three subscales with a reliability estimate of .85 for Tasks, .70 for Goals, and .75 for Bond.

During an Item Response Theory analysis of the short forms of the Working Alliance Inventory, Mallinckrodt and Tekie (2015) analyzed archival data from seven authors with publications on the Working Alliance Inventory. Through this analysis, Mallinckrodt and Tekie determined that the Tasks, Goals, and Bond subscales have acceptable reliability (α = .84, α = .78, and α = .87, respectively). According to Horvath and Greenberg (1989), the Bond subscale of the Working Alliance Inventory refers to "the complex network of positive personal attachments between the client and the counselor that includes issues such as mutual trust, acceptance, and confidence" (p. 224). In addition, Horvath and Greenberg found high correlations between the Bond subscale and the Task and Goal subscales (r = .79, r = .84, respectively). Other researchers found similar results indicating the subscales are highly correlated (Brusseri & Tyler, 2003; Erdur, Rude, Baron, Draper, & Shankar, 2000). Hatcher and Gillaspy (2006) proposed this is likely due to the interplay between the processes in which the agreement of tasks and goals enhances the development of the bond and vice versa, an explanation supported by Bordin's (1979) theory that alliance development occurs through all three processes. Therefore, all subscales were included in the study to assess mental health practitioners' perceptions of the attachment bond between the practitioner and the client during an animal-assisted intervention in counseling. For the purposes of this study, mental health practitioners were to reflect upon their relationship with a specific client and complete the 12

items of the short form of the Working Alliance Inventory for Therapists by inserting their client's name into the blank space of the item. This client was the most recent client with whom they have incorporated animal-assisted interventions in counseling a minimum of three times. Practitioners were then asked to indicate their level of agreement with each item on a Likert-style response ranging from 1 (*never*) to 7 (*always*). Sample items of the short form of the Working Alliance Inventory for Therapists include _____ *and I agree about the steps to be taken to improve his/her situation, I have doubts about what we are trying to accomplish in therapy,* and _____ *and I have built a mutual trust.* Two items on the Goal subscale are reverse-scored (Items 4 and 10**)**; therefore, they were recoded for analysis. Summing the scores of the items produces a total score of the working alliance, and summing the individual scores of the subscales provides a score for that particular subscale. Higher scores indicate a stronger alliance (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) between the mental health practitioner and client as perceived by the practitioner. See Appendix G for this measure.

Research Questions

The purpose of this quantitative study was to examine how mental health practitioners incorporating animals into session perceive attachment occurring within the tripartite relationship of the practitioner, client, and therapy animal. The study sought to answer the following research questions:

3. What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?
4. How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health

practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

Data Analyses

This section describes the data analyses for answering the above research questions. It should be noted that the open-ended questions obtained during data collection were not involved in the analysis for this specific project (see Appendix H).

Q1: What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?

To answer this question, descriptive analyses were used to obtain the measures of central tendency, including means, standard deviations, and frequencies for individual items and total scores of the modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al. 1992) and total score and subscale scores of the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). The Lexington Attachment to Pets Scale is an ordinal measurement (1 = *agree strongly* to 4 = *disagree strongly*) and produced a score indicating level of attachment from the mental health practitioner to the animal. The Working Alliance Inventory for Therapists is also an ordinal measurement (1 = *strongly disagree* to 7 = *strongly agree*) with a score that indicates the quality of the bond and working alliance between the client and mental health practitioner. Although ordinal due to the hierarchical nature of a Likert-scale, Thorne and Giesen (2003) recommend cautiously assuming these types of ratings are also interval-level measurement. Therefore, both measurements were treated as producing interval data for the purposes of analysis.

Q2: How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

To answer this question, a multiple regression analysis was conducted with two predictor variables. Multiple regression "may be used whenever a quantitative variable, the dependent variable (*Y*), is to be studied as a function of, or in relationship to, any factors of interest, the independent variables (IVs)" (Cohen, Cohen, West, & Aiken, 2013, p. 1). It was the appropriate analysis to answer this question due to its ability to form a model connecting the dependent variable to multiple explanatory or predictor variables (Chatterjee & Hadi, 2012). The interval level scores of the modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al. 1992) were used as an independent variable measuring the mental health practitioner's attachment to the therapy animal. It is measured on a scale of 1 (*agree strongly*) to 4 (*disagree strongly*). The remaining independent variable, the client's attachment to the therapy animal, was obtained through the information form. Client attachment was measured as the percentage of session the client and therapy animal spent interacting with one another (Item 21). Interaction time was used as a measure of attachment due to the specific attachment behaviors clarified after answering this item (Item 22). The three control variables were obtained as categorical data and converted into dummy variables for analysis.

The dependent variable of the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling was measured with the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). Interval scores were obtained using a Likert-scale (1 = *strongly disagree* to 7 = *strongly*

agree). A total score indicated the level of mutual agreement on tasks, the level of mutual agreement on goals, and the quality of the bond between the client and mental health practitioner. Prior to conducting the multiple regression analysis, the researcher checked the following assumptions: (a) normal distribution of the variables, (b) linearity between predictor variables and dependent variable, (c) no multicollinearity, or high correlation, between and across predictor variables, and (d) homoscedasticity, or equal variance, across the predictor variables (Howell, 2013). Finally, multiple potential confounding variables were controlled for in the regression model, including theoretical orientation, practitioners' perceptions of their skill level, and clients' previous exposure to the species of therapy animal. Based on the complexity of the tripartite relationship in AAI-C, research indicating these predictors as factors within AAI-C, and lack of coherent understanding of the attachment processes within AAI-C, a multiple regression was appropriate for examining how this therapeutic attachment is best explained as perceived by the mental health practitioner.

Summary

The purpose of this quantitative study was to examine mental health practitioners' perceptions of the attachment processes that occur within animal-assisted interventions in counseling. Data was obtained through participants completing the following survey instruments: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); (c) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic,

1989); and (d) two open-ended questions regarding the impact of utilizing an animal in counseling sessions. Data analysis included descriptive analyses to examine frequencies and relationships of data and multiple regression analysis to determine how the predictor variables explain attachment between a mental health practitioner and client during an animal-assisted intervention in counseling.

CHAPTER FOUR

RESULTS

The purpose of this quantitative study was to examine how attachment to a therapy animal impacted the attachment bond between a mental health practitioner and client during an AAI-C. In this chapter, information on participant sampling and instrument reliability are provided. Additionally, this chapter will include the results for the analyses answering the following two research questions:

1. What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?
2. How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

Sampling

Participants for this research study were mental health practitioners who incorporate animals into clinical practice, also known as animal-assisted interventionists. There is no formalized database containing contact information for animal-assisted interventionists; as a result, multiple professional listservs were utilized for initial recruitment of study participants. Listservs were relevant to either a mental health discipline, animal-assisted interventions, or the study of human-animal relationships. To invite participants, the recruitment email was sent to the listserv with a reminder email sent after two weeks. In addition to the listservs, snowballing sampling was utilized in the recruitment process. Snowball sampling is an effective method of contacting difficult-to-access populations (Emerson, 2015). Therefore, snowball sampling

occurred through two routes. First, the recruitment email encouraged participants to send the survey to other potential participants. Second, participants were able to provide the contact information of potential participants when completing the Qualtrics survey. The researcher then sent the recruitment email to these potential participants.

One hundred and eighty-seven people attempted to participate in the study. After removing responses that did not provide complete data for at least one of the three variables needed for analysis, the number of participants was 100. The incongruence between the number of attempted responses and number of completed responses was likely related to animal-assisted interventionists also providing animal-assisted activities in a volunteer capacity without formal mental health training. It is possible that these participants determined they were ineligible after reviewing or beginning the survey. Of the 100 completed responses, two participants were removed for not working in a mental health profession and three were removed because of errors in their data from completing the survey on a smartphone. The final number of participants for analysis was 95. Due to an inability to approximate how many surveys were obtained through snowball sampling, it is not possible to calculate the response rate for this study.

Instrumentation

This section reviews the four measurements used in this study: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); and (c) the short form of the Working Alliance

Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). A description, scoring procedures, and internal reliabilities for each measure are provided.

Information Form

The researcher-developed information form contained seven items related to mental health practitioners' observations of typical attachment behaviors occurring between the client and the therapy animal during session. These behaviors are the approximate percentage of time on a scale from 0% to 100% that the client and therapy animal spent interacting and the approximate percentage of time on a scale from 0% to 100% that the practitioner observed the interaction containing the following specific behaviors: (a) touching animal spontaneously, (b) touching animal through guided directions from practitioner, (c) making eye contact, (d) receiving comfort, (e) communicating with the therapy animal verbally, and (f) communicating with the therapy animal nonverbally. Higher percentages demonstrated higher interaction and higher attachment based on the resulting specific interaction behaviors. At the time of the study, there was no formalized measure for observer-based attachment between a client and a therapy animal; therefore, these researcher-developed items were used to conduct descriptive analysis for the specific behaviors and inferential analysis with the Interaction variable. The internal consistency of the items was appropriate with a Cronbach's alpha of .85.

The information form also contained three items related to the following control variables: (a) theoretical orientation, (2) clients' previous exposure to the type of animal, and (c) practitioners' comfort and skill in working with the client's presenting problem in that session. All items were categorical; therefore, they were converted to dummy variables. Based on previous literature citing the use of psychodynamic theory as impacting the bond within a counseling relationship (Fleischman & Shorey, 2016), Psychodynamic was coded as the

reference group. The remaining groups were (a) Humanistic/Existential, (b) Cognitive-Behavioral, (c) Family Systems, (d) Feminist, (e) Multicultural, (f) Integrative/Eclectic, and (e) Other. Due to low representation in multiple categories, the remaining seven groups were collapsed into three categories: (a) Humanistic/Existential, (b) Cognitive-Behavioral, and (c) Others. In order to control for clients' familiarity with the species of therapy animal outside of session as a possible factor enhancing the bonding within AAI-C (Beetz et al., 2012), the dummy variable was recoded with the two responses indicating highest exposure, Almost Always and To a Considerable Degree, collapsed into one reference group. Finally, a practitioner's degree of comfort in working with an issue might positively influence the counseling relationship (Hersoug, Høglend, Monsen, & Havik, 2001); As a result, participants indicated how skilled they felt working with the presenting problem. This dummy variable was coded with Extremely as the reference group.

General Attachment Subscale of the Lexington Attachment to Pets Scale

The original General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al., 1992) measures the degree of attachment an owner has to their companion animal. For this study, respondents were asked to consider their relationship with the therapy animal when responding to 11 items examining their level of agreement with feelings of attachment on a Likert-scale ranging from 1 (*agree strongly)* to 4 (*disagree strongly).* Item nine of the Lexington Attachment to Pets Scale was reverse coded to compute a total score for mental health practitioners' attachment to the therapy animal by summing all individual items of the Lexington Attachment to Pets Scale. Higher scores on the Lexington Attachment to Pets Scale indicate lower levels of attachment while lower scores indicate stronger attachment. The range of scores for this subscale is 11 to 44 for the total score and 1 to 4 for individual items. The internal

consistency of the General Attachment subscale of Lexington Attachment to Pets Scale for this study was appropriate (α = .84, *n* = 95), similar to the development and validation study for the instrument in which Cronbach's α = .90 (Johnson et al., 1992).

Working Alliance Inventory for Therapists-Short Form

The short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) measures the working alliance between a therapist and client based upon the model developed by Bordin (1979) in which the working alliance is formed through the development of the bond, agreement on tasks, and agreement on goals. Consisting of 12 items corresponding with three subscales (Bond, Tasks, and Goals), the short form of the Working Alliance Inventory for Therapists examines the working alliance from the mental health practitioner's perspective. Respondents indicated their level of agreement with each item on a Likert-style response ranging from 1 (*never*) to 7 (*always*). Two items were reverse-coded, and all items were summed to create a total score of the working alliance. To obtain scores for the subscales, all items respective to the subscale are summed. The range of scores possible for the overall alliance is 12 to 84 while the range of scores possible for the three subscales (Bond, Tasks, and Goals) is 4 to 28. Higher total scores are indicative of a stronger working alliance as perceived by the mental health practitioner, and higher scores of the subscales indicate a stronger bond, stronger agreement of tasks, or stronger agreement of goals as perceived by the mental health practitioner. In this study, the measure had good internal consistency (α = .89, *n* = 95). This is consistent with other research, including Ligiéro and Gelso (2002)'s findings in which Cronbach's α = .90 for the entire scale. The subscales had acceptable reliability estimates, although lower than the overall score (.77 for Bond, .79 for Tasks, and .68 for Goals, *n* = 95).

Participant and Session-Specific Information

Respondents provided demographic details by completing the information form. Demographics collected included training and educational experiences related to AAI-C and personal characteristics. Participants also provided information on the session they reflected upon when completing the survey as well as specific details about the therapy animal. Session-specific information included client's level of care, presenting issue, and familiarity with the species of therapy animal incorporated into session.

Participants' mean age was 46.41 years (*SD* = 13.51). They practiced mental health for a mean of 15.31 years (*SD* = 11.63) and AAI-C for a mean of 7.97 years (*SD* = 7.38). Of the 95 participants, 59 (62.1%) were registered as a team with a therapy animal registration organization, 38 (40%) completed behavioral training classes with their therapy animal, 33 (34.7%) completed a multiple-day training, 31 (32.6%) completed a relevant advanced certificate program, 17 (17.9%) completed a university course, and 11 (11.6%) completed a one-day workshop. Twenty-five (26.3%) respondents noted receiving "Other" training and education; these participants cited experiences such as serving as an animal trainer, conducting workshops, and receiving supervision of AAI-C. Almost half of the sample identified as a professional counselor (39 respondents; 41.1%) while 28 (29.5%) respondents identified as an "Other" profession. These professions included addiction specialties, mental healthcare, disaster mental health, and school counseling. The remaining represented professions were social work (11 respondents; 11.6%), psychology (9 respondents; 9.5%), and marriage and family therapy (8 respondents; 8.4%). In terms of gender, 86 (90.5%) participants identified as female, 5 (5.3%) identified as male, 1 (1.1%) identified as non-binary, 1 (1.1%) identified as a transgender male, and 2 (2.1%) preferred not to answer. Racially, 86 (90.5%) participants identified as

Caucasian/White, 4 (4.2%) identified as Hispanic/Latino/Spanish origin, 2 (2.1%) identified as Asian, 2 (2%) identified as Other (one identified as Jewish and another preferred not to respond), 1 (1.1%) identified as African/American/Black, and 1 (1.1%) identified as American Indian or Alaska Native. See Table 1 for demographic descriptive statistics and Table 2 for demographic frequencies.

Table 1
Demographic Descriptive Statistics

	n	Minimum	Maximum	*M*	*SD*
Age	94	26	73	46.41	13.51
Years Total Practice	95	0	43	15.31	11.63
Years AAI-C Practice	95	1	40	7.97	7.38

Table 2
Demographic Frequencies

	Frequency	Percent
Education/Training		
Registered Team	59	62.1%
Behavioral Training Classes	38	40%
Multi-Day Training	33	34.7%
Certificate	17	17.9%
University Course	17	17.9%
One-Day Workshop	11	11.6%
Other	25	26.3%
Professional Identity		
Professional Counseling	39	41.1%
Social Work	11	11.6%
Psychology	9	9.5%
Marriage and Family Therapy	8	8.4%
Other	28	29.5%
Gender Identity		
Female	86	90.5%
Male	5	5.3%
Non-Binary	1	1.1%
Transgender Male	1	1.1%
Prefer Not to Answer	2	2.1%
Racial Identity		
Caucasian/White	86	90.5%
Hispanic/Latino/Spanish	4	4.2%
Asian	2	2%
African-American/Black	1	1.1%
American Indian or Alaska Native	1	1.1%
Other	2	2%

Note: n = 95

Regarding session-specific information about the therapy animal, 73 (76.8%) participants incorporated a dog into session while 14 (14.7%) worked with a horse, 3 (3.2%) partnered with a cat, 2 (2.1%) included a rabbit, 2 (2.1%) identified working with a different species, and 1 (1.1%) incorporated a rat. The Other species were a calf and a donkey. Seventy-four (77.9%) participants considered the animal to be their personal pet while 21 (22.1%) reported no ownership of the therapy animal. The average age of the therapy animals was 8.22 years (*SD* =

5.44) while the average client age was 23.92 (*SD* = 15.65). Regarding the client's degree of exposure to the species of therapy animal, 29 respondents (30.5%) believed their client seldom interacted with the species of therapy animal, 23 (24.4%) believed their client interacted with the species of therapy animal to a considerable degree, 22 (23.2%) believed there was occasional interaction, 14 (14.7%) felt the client almost always interacted with the species of therapy animal, and 7 (7.4%) were unsure. The majority of AAI-C sessions happened in an outpatient setting (62 respondents; 65.3%). Other settings included intensive-outpatient (10 respondents; 10.5%), early intervention (9 respondents; 9.5%), hospitalization (3 respondents; 3.2%), and partial hospitalization (1 respondents; 1.1%). Ten respondents (10.5%) reported working with clients in a setting not specified in the survey. Trauma was the most represented presenting problem in the session (28 respondents; 29.5%) with interpersonal relationship issues (19 respondents; 20%) and anxiety (17 respondents; 17.9%) as the next most represented. Respondents also identified depression (10 respondents; 10.5%), overall mental health (7 respondents; 7.4%), substance use (5 respondents; 5.3%), suicidality/self-harm (3 respondents; 3.2%), mania (1 respondent, 1.1%), and eating disorders (1 respondent, 1.1%) as the reason for work in the session. Four respondents (4.2%) reported working on an issue not specified in the survey. Most participants felt skilled in working with the presenting issue with 49 (51.6%) identifying as extremely skilled, 37 (38.9%) identifying as very skilled, 8 (8.4%) identifying as moderately skilled, and 1 (1.1%) identifying as slightly skilled. See Table 3 for session-specific descriptive statistics and Table 4 for session-specific frequencies. Table 5 contains the session-specific frequencies that are also utilized as control variables: (a) theoretical orientation, (b) client prior exposure to the species of therapy animal, (c) practitioner skills and comfort in working with the presenting problem.

Table 3

Session-Specific Descriptive Statistics

	n	Minimum	Maximum	*M*	*SD*
Therapy Animal Age	95	0	39	8.22	5.44
Client Age	95	6	80	23.92	15.65

Table 4

Session-Specific Frequencies

	Frequency	Percent
Therapy Animal Species		
Dog	73	76.8%
Horse	14	14.7%
Cat	3	3.2%
Rabbit	2	2.1%
Rat	1	1.1%
Other	2	2.1%
Therapy Animal as Pet		
Yes	74	77.9%
No	21	22.1%
Level of Care		
Outpatient	62	65.3%
Intensive-Outpatient	10	10.5%
Early Intervention	9	9.5%
Hospitalization	3	3.2%
Partial Hospitalization	1	1.1%
Other	10	10.5%
Presenting Problem		
Trauma	28	29.5%
Interpersonal Relationships	19	20%
Anxiety	17	17.9%
Depression	10	10.5%
Overall Mental Health	7	7.4%
Substance Use	5	5.3%
Suicidality/Self-Harm	3	3.2%
Mania	1	1.1%
Eating Disorders	1	1.1%
Other	4	4.2%

Note: $n = 95$

Table 5
Session-Specific Frequencies of Control Variables

	Frequency	Percent
Theoretical Orientation		
Cognitive-Behavioral	32	33.7%
Humanistic/Existential	19	20%
Integrative/Eclectic	19	20%
Other	10	10.5%
Psychodynamic	9	9.5%
Family Systems	3	3.2%
Feminist	2	2.1%
Multicultural	1	1.1%
Client Prior Exposure to Species of Therapy Animal		
Seldom	29	30.5%
To a Considerable Degree	23	24.4%
Occasional	22	23.2%
Almost Always	14	14.7%
Unsure	7	7.4%
Practitioner Skill and Comfort Level		
Extremely Skilled	49	51.6%
Very Skilled	37	38.9%
Moderately Skilled	8	8.4%
Slightly Skilled	1	1.1%

Note: $n = 95$

Correlation of Instruments

Correlations of the validated scales and subscales were examined. As expected, the correlations between the Lexington Attachment to Pets Scale and the short form of the Working Alliance Inventory for Therapists total score and two of three subscales were negative due to lower scores on the Lexington Attachment to Pets Scale indicating greater attachment. The Bond subscale had a statistically significant negative, moderate correlation with the Lexington Attachment to Pets Scale ($r = -.32$, $p < .01$), likely due to their common measurement of a bonding construct while the short form of the Working Alliance Inventory for Therapists total score was also statistically significant in correlation with the Lexington Attachment to Pets Scale ($r = -.25$, $p < .05$); however, this relationship was weaker. The other two subscales were also

negative and weak in relationship although not statistically significant. All subscales of the short form of the Working Alliance Inventory for Therapists had statistically significant strong, positive correlations with each other as well as with the total scale. Strong correlations between the Working Alliance Inventory for Therapists and its subscales are expected due to prior researchers uncovering similar correlations from the interplay of the components of the working alliance (Brusseri & Tyler, 2003; Erdur et al., 2000; Hatcher & Gillaspy, 2006; Horvath & Greenberg, 1989). Table 6 outlines the results of the correlational analysis of the Lexington Attachment to Pets Scale and the short form of the Working Alliance Inventory for Therapists.

Table 6
Correlations Matrix of Validated Scales

Measure	1	2	3	4	5
1. LAPS					
2. WAI-T	-.201				
3. WAI-T Bond	-.315**	.748**			
4. WAI-T Goal	.215*	.149	-.162		
5. WAI-T Task	-.142	.934**	.559**	.284**	

Note: $n = 95$
* $p < .05$, ** $p < .01$

Findings

This section reviews the results of the analyses conducted to answer the two research questions. This will include an examination of the assumptions and the findings.

Assumptions of the Analyses

In order to study the constructs, the assumptions for each variable were examined. First, an examination of linear relationships was conducted to ensure the regression would analyze accurately the relationship between the dependent variable and independent variables (Schneider, Hommel, & Blettner, 2010). The linearity of the Working Alliance Inventory for Therapists was

tested with both continuous independent variables, the Lexington Attachment to Pets Scale and Interaction. A Loess line added to a scatterplot of the standardized predicted values and the standardized residuals indicated that the relationship between the Working Alliance Inventory for Therapists and both continuous independent variables were generally linear. This indicates the estimates produced true population values (Keith, 2015). Second, the assumption of independence of errors was met through observation of a scatter plot demonstrating no correlation between the residuals; meeting this assumption reduces the risk of underestimating the standard errors (Keith, 2015).Third, homoscedasticity, which is the understanding that "the variance of errors is not a function of any of the independent variables" (Keith, 2015, p. 188), was tested for both independent variables. A small pattern was present in the scatterplot for the Lexington Attachment to Pets Scale variable; however, the pattern was not clearly defined. Additionally, regression can tolerate minor violations of homoscedasticity (Kline, 1998). The scatterplot for Interaction demonstrated better homoscedasticity due to a clear lack of pattern for the data points. Next, both continuous independent variables were tested for normality by examining a histogram and P-Plot. For both Lexington Attachment to Pets Scale and Interaction, the histogram and P-Plot demonstrated normality as the histogram created a normal distribution and the P-Plot indicated a general following of the line with a few minor deviations. Therefore, they plot a normal curve (Keith, 2015).

Both variables also met the assumption of no multicollinearity; their collinearity diagnostics fell within the appropriate threshold. Table 7 shows the Tolerance Levels and Variance Inflation Factor values of the two independent variables. These values indicate the absence of collinearity in which the independent variables are highly correlated; therefore, it is unlikely the regression produced misleading results (Keith, 2015)**.** Finally, outliers in the data

were examined. After finding the leverage values and using the appropriate equation for a regression model with 2 predictors (2 (k + 1)/ N), outliers for both variables were determined to have Leverage values >.063. Further analysis revealed five outliers for the Lexington Attachment to Pets Scale variable, specifically for cases in which the therapy animal was not the companion animal of the practitioner, and two outliers on the Interaction variable in which clients minimally displayed observable attachment behaviors with the therapy animal during session. Therefore, the outlier data is important for studying the overall construct of bonding in animal-assisted interventions in counseling. In addition, removal of the outliers minimally affected the variance explained and the standard error; as a result, outliers are included in the results.

Table 7
Tolerance Levels and Variance Inflation Factors

Measure	Tolerance Levels	Variance Inflation Factors
Interaction	.979	1.021
LAPS	.979	1.021

Note: n = 95

Research Question 1: What is the quality of the attachment and bonding that occur during an animal-assisted intervention in counseling as perceived by the practitioner?

The quality of the attachment and bonding within an AAI-C was measured with the Interaction variable (the amount of interaction a client had with the therapy animal as perceived by the mental health practitioner) and the resulting specific attachment behaviors observed by the mental health practitioner, the Lexington Attachment to Pets Scale (Johnson et al., 1992) and the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). Across the 95 participants, respondents reported that clients interacted with animals an average of 71.8% of session. Within these interactions, participants

noted specific behaviors indicative of client attachment to the therapy animal. Approximately 62.3% of sessions was spent engaging in spontaneous touch while only 15.1% was spent engaging in guided touch. On average, participants reported clients maintained eye contact with the therapy animal half of session (50.9%) and received comfort from the therapy animal 60% of the session. Clients engaged in nonverbal communication with the therapy animal (60.1% of session) more than they engaged in verbal communication (42.7%). Client-therapy animal attachment behaviors are shown in Table 8**.**

Table 8
Client-Therapy Animal Attachment Behaviors Descriptive Statistics

	n	Minimum	Maximum	*M*	*SD*
Interaction	95	5	100	71.8	22.81
Spontaneous Touch	95	1	100	62.3	28.03
Guided Touch	95	0	90	15.1	21.13
Eye Contact	95	0	100	50.9	28.90
Comforting	95	0	100	60.0	29.45
Verbal Communication	95	0	100	42.7	29.68
Nonverbal Communication	95	0	100	60.1	29.44

Participants completed the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al., 1992) as a measure of the quality of their attachment to the therapy animal. Descriptive statistics for the Lexington Attachment to Pets Scale and its individual items can be found in Table 9. Individual items were analyzed to answer more thoroughly this research question. For mental health practitioners, their bond with the therapy animal was strong (M = 14.29, SD = 4.01) with the scale's range of 11 to 44 and 11 indicating strongest attachment. For individual items, all items demonstrated further a strong attachment from the practitioner to the therapy animal, particularly on items related to maintaining a close relationship with the therapy animal that contributes to positive health and happiness.

Table 9

General Attachment Subscale of the Lexington Attachment to Pets Scale Descriptive Statistics

	n	Minimum	Maximum	*M*	*SD*
My therapy animal knows when I'm feeling bad.	95	1	4	1.40	.60
I often talk to other people about my therapy animal.	95	1	4	1.33	.61
My therapy animal understands me.	95	1	4	1.49	.67
I believe that loving my therapy animal helps me stay healthy.	95	1	3	1.20	.48
My therapy animal and I have a very close relationship.	95	1	3	1.18	.48
I play with my therapy animal quite often.	95	1	4	1.49	.73
I consider my therapy animal to be a great companion.	95	1	3	1.23	.52
My therapy animal makes me feel happy.	95	1	2	1.13	.33
I am not very attached to my therapy animal. *	95	1	4	1.26	.69
Owning a therapy animal adds to my happiness.	95	0	3	1.18	.48
I consider my therapy animal to be a friend.	95	1	4	1.40	.71
LAPS	95	11	32	14.30	4.01

Note: *Reverse-scored item

Participants provided their perceptions of the quality of working alliance between the practitioner and client within an AAI-C by completing the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). See Table 10 for descriptive statistics of the Working Alliance Inventory for Therapists and its subscales. The mean of the total score demonstrates a moderately strong working alliance, although the scores

of the subscales indicate that the components of the working alliance are stronger than the overall alliance. Specifically, mental health practitioners perceive a greater quality of the bond within the working alliance of an AAI-C than they do mutually agreed upon tasks and goals.

Table 10
Working Alliance Inventory Descriptive Statistics

	n	Minimum	Maximum	*M*	*SD*
WAI-T	95	43	82	68.55	8.20
Bond	95	14	28	24.20	2.78
Goal	95	15	28	22.41	3.15
Task	95	11	28	21.94	3.23

Research Question 2: How do mental health practitioners' attachment to the therapy animal and clients' attachment to the therapy animal explain the attachment bond between a mental health practitioner and client in an animal-assisted intervention in counseling as perceived by the practitioner?

A multiple regression was conducted to explore how bonding and attachment to a therapy animal within a session of AAI-C impacted the working alliance and attachment bond between the mental health practitioner and client. Client attachment to the therapy animal and practitioner attachment to the therapy animal were used as predictor variables. For the analysis, the continuous Interaction variable measuring the degree of interaction between the client and therapy animal was used to measure their bond while the mean of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al., 1992) was used to measure the bond between the therapy animal and mental health practitioner. The mean of the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) was used as a measure for the outcome variable of attachment between the practitioner and client.

The three categorical variables were dummy-coded and included as control variables within the multiple regression model. The two predictor variables were placed in the first block, and the dummy variables were placed in the second block to observe changes in R^2 and model significance. In the initial model, the two predictor variables accounted for 8.4% of the variance (R^2= .084). The initial model was statistically significant ($F(2, 92) = 4.237$, $p < .05$); however, clients' interaction with the therapy animal was not a statistically significant predictor of the working alliance between the client and mental health practitioner ($\beta = .142$, $p = .163$) while the practitioner's attachment to the therapy animal was a significant predictor ($\beta = -.234$, $p < .05$). After the three control variables were added into the final model, there was a significant change in the variance explained (R^2= .307, $p < .001$). An additional 22.3% of the variance was accounted for in the working alliance between the mental health practitioner and client when theoretical orientation, clients' degree of exposure to the species of therapy animal, and the practitioners' level of skill and comfort in working with the presenting issue were added to the model. The final model with the inclusion of the two predictor variables and three control variables was also statistically significant ($F(5, 89) = 7.880$, $p < .001$). An analysis of the predictor and control variables within the final model revealed the predictors had no statistically significant effect on the outcome variable. However, the practitioners' level of skill and comfort in working with the presenting issue was statistically significant ($\beta = .491$, $p < .001$). Table 11 contains the regression statistics for the total score of the Working Alliance Inventory for Therapists.

Table 11
Regression Statistics for Working Alliance Inventory

	WAI-T							
	ΔR^2	F	*p*	*β*	Std. Error	*b*	t	*p*
Model 1	.084	4.24**	.017					
(Constant)				71.722	4.283		16.747	.000
Interaction				.051	.036	.142	1.408	.163
LAPS				-.478**	.206	-.234	-2.319	.023
Model 2	.307	7.89***	.000					
(Constant)				66.390	4.140		16.037	.000
Interaction				.026	.033	.072	.789	.432
LAPS				-.269	.189	-.131	-1.420	.159
Practitioner Skill				8.010***	1.512	.491	5.298	.000
Client Species Exposure				-.013	1.526	-.001	-.008	.993
Theoretical Orientation				.197	2.496	.007	.079	.937

Note: $^{**}p < .05$, $^{***}p < .001$

When exploring the subscales of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989), the same models were conducted three additional times with the subscales as dependent variables. For the Bond subscale, the initial was model was significant ($F(2, 92) = 5.899$, $p < .05$) and the two predictor variables explained 11.4% of the variance in the bond component of the working alliance between the practitioner and client. Adding the control variables to the model resulted in a statistically significant change in variance explained ($R^2 = .319$, $p < .001$). Once again, the attachment between the client and therapy animal did not have a statistically significant effect on the bond component of the working alliance between the practitioner and client ($\beta = .123$, $p = .220$), although the practitioner's bond to the therapy animal did ($\beta = -.297$, $p < .05$). However, contradictory to the total score model, practitioners' bond to the therapy animal remained statistically significant in explaining the bond between the practitioner and client even when adding the control variables to

the model (β = -.208, p < .05). Similar to the total score, practitioners' skill and comfort level in working with a particular issue was also statistically significant ((β = .491, p < .001).

Upon examination of the Task subscale, the predictor variables explained less of the variance in the task component of the working alliance between the practitioner and client (R^2= .056) although the model was still statistically significant (F(2, 92) = 5.899, p < .05). Practitioners' attachment to the therapy animal also remained statistically significant (β = -.177, p < .10) while clients' attachment to the therapy animal was not (β = .133, p = .196). Adding the control variables removed the statistically significant effect of practitioners' attachment on the Task subscale (β = .087, p = .370). Finally, the two predictor variables explained 4.8% of the variance in the goal component of the working alliance between a practitioner and client; however, the model was not statistically significant (F(2, 92) = 2.338, p = .102). Analysis of all dependent variables (total score, Bond subscale, Task subscale, and Goal subscale) resulted in a consistent statistically significant effect of one control variable, the practitioner's skill and comfort level in working with a particular issue. These regression statistics are contained in Tables 12-14.

Table 12

Regression Statistics for Working Alliance Inventory Bond Subscale

				WAI-T Bond				
	ΔR^2	F	*p*	*β*	Std. Error	*b*	t	*p*
Model 1	.114	5.899**	.004					
(Constant)				26.072	1.429		18.244	.000
Interaction				.015	.012	.123	1.236	.220
LAPS				-.206**	.069	-.297	-2.993	.004
Model 2	.319	8.353***	.000					
(Constant)				24.643	1.391		17.712	.000
Interaction				.006	.011	.052	.578	.565
LAPS				-.144**	.064	-.208	-2.265	.026
Practitioner Skill				2.535***	.508	.458	4.990	.000
Client Species Exposure				-.224	.513	-.039	-.436	.664
Theoretical Orientation				-.627	.839	-.066	-.747	.457

Note: ** $p < .05$, *** $p < .001$

Table 13

Regression Statistics for Working Alliance Inventory Task Subscale

				WAI-T Task				
	ΔR^2	F	*p*	*β*	Std. Error	*b*	t	*p*
Model 1	.056	2.734**	.070					
(Constant)				22.626	1.712		13.219	.000
Interaction				.019	.014	.133	1.302	.196
LAPS				-.143*	.082	-.177	-1.734	.086
Model 2	.238	5.548***	.000					
(Constant)				20.715	1.709		12.121	.000
Interaction				.010	.014	.068	.715	.477
LAPS				-.070	.078	-.087	-.901	.370
Practitioner Skill				2.861***	.624	.445	4.584	.000
Client Species Exposure				-.071	.630	-.011	-.112	.911
Theoretical Orientation				.917	1.030	.084	.890	.376

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Table 14

Regression Statistics for Working Alliance Inventory Goal Subscale

				WAI-T Goal				
	ΔR^2	F	*p*	*β*	Std. Error	*b*	t	*p*
Model 1	.048	2.338	.102					
(Constant)				23.023	1.679		13.712	.000
Interaction				.017	.014	.124	1.211	.229
LAPS				-.129	.081	-.164	-1.598	.113
Model 2	.214	4.849**	.001					
(Constant)				21.032	1.695		12.406	.000
Interaction				.010	.013	.071	.732	.466
LAPS				-.054	.078	-.069	-.700	.486
Practitioner Skill				2.613***	.619	.416	4.222	.000
Client Species Exposure				.282	.625	.044	.451	.653
Theoretical Orientation				-.092	1.022	-.009	-.090	.928

Note: ** $p < .05$, *** $p < .001$

Summary

Several findings emerged from this analysis of the relational processes with an AAI-C. First, mental health practitioners perceived clients engaging in potential attachment behaviors with the therapy animal almost three-quarters of the counseling session. The interactions contained primarily spontaneous touch and receiving comfort as well as nonverbal communication more often than verbal communication. Second, mental health practitioners perceived their bond with the therapy animal to be high; the highest scores were on items associated with maintaining a beneficial and health-fulfilling relationship with the therapy animal. Third, the overall working alliance between the practitioner and client was significant, although moderate in strength, whereas practitioners scored highest on the Bond subscale.

Then, a multiple regression analysis of client attachment to the therapy animal and practitioner attachment to the therapy animal explained 8.4% of the variance on the overall working alliance between the client and practitioner. Although clients' attachment to the therapy animal was not a significant predictor of attachment between the practitioner and client when measured by the working alliance, practitioners' attachment to the therapy animal did have a statistically significant effect. However, the addition of three control variables into the final model determined the two predictor variables were not statistically significant predictors of the working alliance. Including the control variables of theoretical orientation, client familiarity with the species of therapy animal, and practitioners' skill and comfort working with the client's presenting issue resulted in a statistically significant change in the model that explained 30.7% of the variance in the overall working alliance between the client and practitioner. Practitioners' perceptions of their skill and comfort in working with the presenting issue was the singular statistically significant control variable. Additional analyses of the subscales of the Working Alliance Inventory for Therapist (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989 as the outcome variables uncovered that the predictor variables explained 11.4% of the variance in the bond between the practitioner and client; they explained less of the variance in mutual agreement on goals and tasks. Similar to the total score analysis, practitioners' attachment to the therapy animal had a statistically significant effect on two of the three subscales: Bond and Task. Unlike other analyses in which adding the control variables resulted in a loss of statistical significance, practitioners' attachment to the therapy animal continued to have a statistically significant effect on the bond between the practitioner and client when controlling for theoretical orientation, client familiarity with the species of therapy animal, and practitioners' skill and comfort working with the client's presenting issue.

Chapter Five reviews the implications of these results for the counseling field, specifically for animal-assisted practitioners. The limitations of the study and areas for future research will also be provided.

CHAPTER FIVE

DISCUSSION

This chapter will include a discussion of the results of this study. First, an overview of the rationale for the study is provided. Second, the results for both research questions as well as the implications for practitioners and counselor educators and supervisors are discussed. Finally, the limitations and areas of future research are reviewed.

Overview of Study

Animal-assisted interventions in counseling are the process in which the human-animal bond is harnessed into a therapeutic tool through the incorporation of an animal(s) into counseling sessions (Stewart, 2018). Within this specialized modality, relational processes are amplified and more complex than traditional therapeutic encounters; thus, The Animal-Assisted Therapy in Counseling Competencies encourage comprehensive awareness and understanding of the bonding processes that occur during AAI-C (Stewart, Chang, et al., 2016). Specifically, the Competencies propose practitioners "understand the relevant aspects of the human animal bond...the impact of the human-animal bond on the therapeutic process...the impact of the provider's emotional bond with the animal and its impact on the therapeutic process…" (Stewart, Chang, et al., 2016, pp. 4-5). Therefore, it is critical that AAI-C mental health practitioners understand the influences of the relational processes within AAI-C. Many practitioners' primary rationale for including an animal in session is to enhance the therapeutic relationship (O'Callaghan & Chandler, 2011). However, there is not yet empirical evidence that elucidates the veracity of this intention. Chandler (2017) and Zilcha-Mano et al. (2011a) postulate the importance of clients witnessing the practitioner's relationship with the therapy animal; again, there is not yet empirical evidence supporting these positions. Due to the burgeoning field of

AAI-C (McCune et al., 2015), the counseling discipline must seek to understand better the relational processes within this intervention.

Utilizing a quantitative survey design, this study explored the impact of clients' attachment to the therapy animal and mental health practitioners' attachment to the therapy animal on the working alliance and bond between the client and practitioner as perceived by the practitioner. Participants were animal-assisted interventionists recruited from listservs and through snowball sampling methods. Ninety-five participants completed an online Qualtrics survey that included the following instruments:: (a) an information form developed by the researcher to obtain general information on clinical practice, observed behavioral occurrences indicating an attachment bond between a client and therapy animal during an animal-assisted intervention in counseling, and self-report of the control variables; (b) a modified version of the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992); and (c) the short form of the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). Data analyses included descriptive analysis and multiple regressions. Results from the analysis were reviewed in Chapter Four. The next section of this chapter will provide the discussion and implications of these results.

Discussion

Quality of Attachment in AAI-C

Overall, participants reported perceiving strong attachment between client and therapy animal, self and therapy animal, and self and client. These findings support prior literature that attachment processes may occur within the tripartite relationship of AAI-C (Rocket & Carr, 2014; Zilcha-Mano et al., 2011a). In terms of their perception of their working alliance with the client, the total score indicated a moderately strong working alliance. Robak, Kangos, Chiffriller,

& Griffin (2013) also found high levels of the working alliance, particularly on bonding and goal-agreement, when studying it in a group context. The next sections review the details of the components of the tripartite relationship and how these findings relate to prior research.

Client and Therapy Animal Attachment. Participants reported observing relatively high levels of attachment between the client and the therapy animal during a session of AAI-C. Using observable attachment behaviors suggested to indicate an attachment between a client and therapy animal (O'Haire, Guérin, & Kirkham, 2015; Pavlides, 2008; Peters & Wood, 2017; Stern & Chur-Hansen, 2013), participants indicated the degree of interaction between the client and therapy animal as a measure of attachment. They also indicated the specific attachment behaviors they observed within the interaction as a measurement of the quality of the bond between the client and therapy animal. Clients engaged in attachment behaviors with the therapy animal almost three-quarters of the session (71.8%). Participants described observing spontaneous touch most often during session (62.3%) as well as clients maintaining eye contact with the therapy animal (50.9% of session). Across participants, communication with the therapy animal was cited as a common occurrence with most being nonverbal (60.1%), although they did report fairly high levels of verbal communication with the therapy animal (42.7%). Participants also noticed clients receiving comfort from the therapy animal much of the time (60%). Guided touch was the least reported observable attachment behavior witnessed by participants (15.1%).

These findings support prior research that one value of incorporating therapy animals into therapeutic interventions lies in clients' ability to engage in appropriate touch (Friedmann, Son, & Saleem, 2015; Chandler, 2017). Touch between clients and mental health practitioners occurs, although many practitioners often avoid therapeutic touch to ensure maintaining ethical boundaries and risk management (Phelan, 2009). Therefore, incorporating an animal into session

allows for the potential development of a quality bond built on the human perception of touch as a sign of trust, safety, and receiving comfort (Keltner, 2010), another attachment behavior that participants observed occurring often between the client and therapy animal. The finding that participants observed clients maintaining eye contact with therapy animals half of the session is noteworthy as almost three-quarters of participants incorporated a dog into session. Nagasawa et al. (2015) discovered an increase in oxytocin levels when dogs engaged in gazing behaviors with humans; however, these behaviors occurred between dogs and their owners. In counseling, the transfer of gazing behavior to the client may be due to the specialized training that practitioners and their therapy animals are expected to receive to engage in therapy work (Stewart, Chang, et al., 2016). This demonstrates that it may be possible for clients to engage in attachment and bonding behaviors with therapy animals, specifically with dogs.

It is important to closely examine the least observed attachment behavior due to the stark contrast between the lengths of time practitioners witnessed clients engaging in it compared to the other attachment behaviors. Observed only an average of 15.1% of session, guided touch is a type of directive intervention in which the practitioner facilitates therapeutic touch between the client and therapy animal (Chandler, 2017; Stewart, 2018). Incorporating a directive intervention over a nondirective intervention illustrates the range of theoretical orientations and counseling styles utilized in AAI-C (Poznanski & McLennan, 1995). This also presents an opportunity to understand better the formalized training process of AAI-C. Participants' length of time practicing AAI-C ranged from 1 to 40 years; this indicates that a broad level of experience was represented within the sample. However, within this broad range of experience, just over a quarter of participants actually received some type of AAI-C specific training beyond behavioral training classes with the therapy animal. As referenced previously, Hartwig and Smelser (2018)

also discovered few practitioners (only 34 in a sample of 284 general mental health practitioners) had received AAI-C specific training. As a result, guided touch may be less incorporated into session because of the need for more formalized training to involve better this specialized skill. In addition, there is a greater liability associated with practicing AAI-C (Stewart, 2018). It is possible that practitioners may seek to reduce their liability by avoiding guided touch as a directive intervention to ensure safety within the counseling session.

Practitioner and Therapy Animal Attachment. Participants reported strong attachment to the therapy animal when completing the General Attachment subscale of the Lexington Attachment to Pets Scale (Johnson et al., 1992). They responded to 11 items on a 4-point Likert scale from *agree strongly* to *disagree strongly.* Lower total scores indicate greater practitioner attachment to the therapy animal. The mean total score (M = 14.29, SD = 4.01) is remarkably close to the highest possible total attachment score of 11. The strong bond between a practitioner and therapy animal found in this study supports prior literature proclaiming the importance of this particular relationship within AAI-C (Chandler, 2017). In addition, clients are able to better connect with the practitioner and therapy animal upon observing their positive, non-threatening interactions (Chandler, 2017; Parish-Plass, 2008). Furthermore, Stewart (2018) suggested that such a solid relationship is critical for client safety and session outcomes.

For individual items of the subscale, participants reported high levels of attachment; all scores were less than 1.5 with 1 being the highest possible score for an item indicating a strong bond. Their bond with the therapy animal was measured by indicating that the therapy animal makes them feel happy (M = 1.13, SD = .33), owning a therapy animal brought them happiness (M = 1.18, SD = .48), they have a close relationship with the therapy animal (M = 1.18, SD = .48), loving the therapy animal contributes to their optimal health (M = 1.20, SD = .48), they see

the therapy animal as their companion (M = 1.23, SD = .51), and they were attached to the therapy animal (M = 1.26, SD = .69), they spoke to others about the therapy animal (M = 1.33, SD = .61), they had a friendship with the therapy animal (M = 1.40, SD = .71), they believed the therapy animal could sense when they felt bad (M = 1.40, SD = .59), the therapy animal understood them (M = 1.49, SD = .67), and they engage in play with the therapy animal (M = 1.49, SD = .73). The two individual items indicating highest attachment are related to the therapy animal cultivating feelings of happiness within the practitioner. Mental health practitioners exhibiting positive emotions, such as hope and optimism, are considered to be most effective in therapy (Wampold, 2011). However, 22.1% of clients were not the guardians of the therapy animal incorporated in session. Chandler (2017) noted the preference of AAI-C models to involve a practitioner partnering with their companion animal in clinical practice to ensure a healthy bond and knowledge of the specific animal's emotional and behavioral responses. Despite this, high scores on this item demonstrate that the perceived responsibility of the practitioner for the therapy animal, regardless of actual guardianship, continued to bring participants joy. The small standard deviations also suggest minor variance from the mean (Howell, 2013); thus, overall practitioner attachment to the therapy animal is high within AAI-C.

The next highest items related to a close, health-promoting attachment relationship with the therapy animal. Animals encourage positive human health and well-being (Beetz, Julius, et al., 2012; Luhmann & Kalitzki, 2018) which enables practitioners to form meaningful relationships with clients (Skovholt & Jennings, 2017). Finally, the lowest scored items, although still indicating a strong attachment to the therapy animal, revolved around their friendship with the therapy animal and how well the therapy animal understood the practitioners. These lower scores might be indicative of the boundaries required to engage in counseling (ACA, 2014),

particularly in such a complex relational intervention (Allen & Colbert, 2016). To best serve clients by partnering with an animal, AAI-C practitioners must ensure their emotional bond with the therapy animal is not detrimental to the therapeutic process (Stewart, Chang, et al., 2016); as a result, their attachment to the therapy animal might exist less within the understanding that the therapy animal senses their own emotions in order to ensure the client's emotions are the primary focus. Furthermore, lower scores on friendship and play could also indicate the nature of the working relationship with the therapy animal. Macnamara et al. (2015) noted the need for practitioners to understand the purpose and expectations of animals in this intervention. Therefore, for practitioners whose therapy partner is also their companion animal, there is a duty to balance the dual relationships.

Client and Practitioner Attachment. Practitioners described a generally strong relationship with their client. They completed the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) by responding to items on a 7-point Likert scale. For the overall working alliance, possible values ranged from 12 to 84; in this sample of AAI-C practitioners, the mean indicated a moderately strong working alliance (M = 68.55, SD = .8.20). It is common for such a finding in studies using the Working Alliance Inventory for Therapists as a measure of practitioners' perceptions of the working alliance (Hawley & Garland, 2008; Hersoug, Hoglend, Havik, Lippe, & Monsen, 2009; Preschel, Maercker, & Wagner, 2011). Specifically in experiential and complementary therapies, the overall working alliance has also been high when measured with the Working Alliance Inventory for Therapists (Carryer & Greenberg, 2010; Harris, Atkins, & Alwyn, 2010; Watson & Geller, 2005; Wong & Pos, 2014). However, although often categorized as experiential and complementary (Creagan, Bauer, Thomley, & Borg, 2015; Morgan, 2017), this is the first study

to date in which the Working Alliance Inventory was incorporated as a measure of therapeutic alliance in AAI-C.

When exploring the three components of the working alliance, the subscale total possible values ranged from 4 to 28. Similar to the overall working alliance, participants described a high quality bond (M = 24.20, SD = 2.78) and high levels of mutual agreement on tasks (M = 21.94, SD = 3.23) and goals (M = 22.41, SD = 3.15). Therefore, participants felt their bond with the client was the strongest component of the working alliance. Prior researchers have found mixed results when analyzing the subscales of the Working Alliance Inventory for Therapists. For example, Preschel et al. (2011) discovered that the Bond subscale was lower than the Tasks and Goals subscales in their study comparing the working alliance in cognitive-behavioral therapy in online and face-to-face formats. However, Lorentzen et al. (2012) reported the opposite findings when exploring the working alliance in group therapy; the Bond subscale was also highest in their study. In the present study, there was least variance in the Bond subscale than Tasks and Goals; again, Lorentzen et al. found the least variance on the Bond subscale. This indicates the bonding processes in AAI-C may be stable and similar to the bonding processes of another relationally complex intervention, group therapy.

Relational Processes Within AAI-C

Multiple factors influenced the relational processes in AAI-C. The previously cited measures were used to conduct a multiple regression analysis to understand the formation of the working alliance and bond between a client and practitioner within an AAI-C. The two predictors of interest, client attachment to the therapy animal and practitioner attachment to the therapy animal, explained 8.4% of the variance in the working alliance between the client and practitioner and 11.4% of the variance in the bond between the client and practitioner. Although

these numbers are not high, an R^2 value of .10 is generally accepted and not uncommon in social sciences research (Keith, 2015). The variables together accounted for a small portion of the variance in the working alliance between the client and practitioner, but only attachment between the counselor and therapy animal had a significant effect. This is similar to the findings for the Bond and Task subscales.

Congruent with Chandler's (2017) notion that the practitioner's bond with the therapy animal is critical in AAI-C, Zilcha-Mano et al. (2011a) cited the importance of this bond for both the client's perception of the practitioner as a trusting, stable figure and the practitioner's feelings of safety and confidence. In this study, the unstandardized coefficient demonstrated that an increase in attachment between the practitioner and therapy animal also resulted in a statistically significant increase in the working alliance, specifically in bonding and mutual agreement on tasks. This is an expected relationship as other literature indicates that strong and healthy attachment patterns have a positive impact on the therapeutic alliance (Johnson, Ketring, Rohacs, & Brewer, 2006; Satterfield & Lyddon, 1998; Taylor et al., 2015). These findings support the idea that practitioner attachment to the therapy animal is most critical when compared to the client's attachment to the therapy animal. Despite the traditional overlap between the constructs of mutual agreement on tasks and goals (Hatcher & Barends, 1996), there was no statistically significant effect of the predictors on the client and practitioners' mutual agreement on goals. This might be expected due to the Goal subscale being the only subscale not correlated with the rest of the instrument.

The final regression model indicated additional factors beyond the presence of the therapy animal influenced the overall working alliance between a client and practitioner in an AAI-C. When accounting for practitioners' theoretical orientation, clients' degree of prior

exposure to the species of therapy animal, and practitioners' skill and comfort in working with the client's particular issues, a greater portion of the variance was explained. Additionally, the final model had greater statistical significance than the initial model, and the main effects of practitioners' attachment to the therapy animal disappeared when including the control variables. The loss of significance indicates the control variables allowed for a better estimation of the effect of the predictor variables (Ilvento, 2008). Practitioners' comfort and skill in working with a client's presenting issue was the only significant control variable within the model. Its inclusion demonstrated that, in this particular sample of animal-assisted interventionists, practitioners perceiving themselves as extremely skilled during session had a significant effect on the working alliance between the practitioner and client when compared to practitioners experiencing less confidence in their skill. Furthermore, the unstandardized coefficient demonstrated remarkable influence of practitioner skill and comfort; a unit increase in skill and comfort resulted in an eight point increase in the score of the working alliance. This finding supports Lynch's (2012) research that practitioners confident in their therapeutic interventions and skill are able to establish a better therapeutic alliance with their clients.

The remaining two control variables were not significant with their calculated probabilities almost equal to 1, indicating that 1) practitioners adhering to psychodynamic theory had no effect on the working alliance when compared to practitioners adhering to other theoretical orientations and 2) clients with high prior degree of prior exposure to the species of therapy animal had no effect on the working alliance when compared to those with less prior exposure. The comparison of theoretical orientation with psychodynamic theory is unexpected, as prior research indicates a psychodynamic orientation influences attachment and the therapeutic alliance (Fleischman & Shorey, 2016). In this sample of AAI-C practitioners, only

nine practitioners reported adhering to psychodynamic tenants during session. It is possible there was not a high enough representation of this population within the sample to discover any effects. To summarize, the multiple regression analysis indicated that practitioner attachment had a stronger influence on the working alliance between a practitioner and client within an AAI-C than the client's attachment to the therapy animal. However, practitioners' perceptions of their skill in working with the presenting issue mattered more for the working alliance than attachment to the therapy animal. This may be due to the necessity for practitioners to receive advanced and specialized training when choosing to incorporate AAI-C ethically and effectively (Stewart, Chang, et al., 2016).

Utilizing the subscales as the dependent variables revealed both similar and different results. First, clients' attachment to the therapy animal did not have a statistically significant effect on the subscales, indicating client attachment to the therapy animal did not influence the quality of the bond, mutual agreement on goals, or mutual agreement on tasks for the participants in this study. Second, the predictor variables explained a greater amount of variance in the bond between the practitioner and client than in the overall working alliance or the mutual agreement on goals and tasks. In addition, unlike the overall scale and the other two subscales, practitioners' attachment to the therapy animal retained its statistical significance when regressed on the bond subscale and controlling for practitioners' theoretical orientation, clients' degree of prior exposure to the species of therapy animal, and practitioners' skill and comfort in working with the client's particular issues. Furthermore, the standardized coefficient for practitioners' attachment to the therapy animal barely changed upon adding the control variables to the model which concludes the relative importance of this variable even when accounting for the other variables (National Centre for Research Methods, 2011). It continued to demonstrate that an

increase in the practitioner's attachment to the therapy animal resulted in an increase in the practitioner's perception of their bond with the client in an AAI-C. Therefore, this study supports prior literature indicating that practitioners' attachment to the therapy animal matters for the bonding that occurs between the practitioner and client (Chandler, 2017; Stewart, Chang, & Rice, 2013) and the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) that provide guidance on understanding the impact of the practitioner's bond with the therapy animal on the therapeutic process.

Implications

Animal-assisted interventionists are familiar with the concept of the human-animal bond and have chosen to incorporate it into therapeutic interventions. Thus, it is critical that they understand the therapeutic impact of these relational processes. Although practitioners and researchers of AAI-C refer to the bonding process that occur in the practice (Chandler, 2017; Fine, 2015), much of this information is anecdotal. Stewart et al. (2013) found in a qualitative study of AAI-C practitioners that AAI-C practitioners perceive their relationship to the therapy animal was integral to the therapeutic process. The findings from the current study provide quantitative support to these conclusions. The current study found that there are strong attachment and bonding relationships that develop within the tripartite relationship of AAI-C. In addition, results revealed that practitioners' attachment to the therapy animal has a greater impact on the working alliance between the practitioner and client than the client's attachment to the therapy animal. This proposes that there might be a positive influence of the practitioner's relationship with the therapy animal which supports a number of implications for clinical practice and counselor education. These implications are reviewed in the following sections.

Implications for Practitioners

The first implication relates to the importance of practitioner awareness. Multiple ethical codes already outline the importance of practitioners practicing with competency, awareness, and sensitivity (American Association for Marriage and Family Therapists, 2015; American Psychological Association, 2017; ACA, 2014; National Association of Social Workers, 2017, Practitioners partnering with an animal for therapeutic purposes have the additional duty of balancing the complex relational processes that are occurring in session. As a relationally-centered practice, mental health practitioners often focus on their bond with the client (Ardito & Rabellino, 2011; Obegi, 2008); however, the results of this study highlight the need for practitioners to consider also their bond with the therapy animal. It is critical that practitioners perceive themselves maintaining a quality bond with the therapy animal to better forge and maintain a quality bond and working alliance with their client. The relationship between the practitioner and therapy animal should be a model for healthy attachment (Sori, 2014). Therefore, the attachment patterns found in this study are important because they demonstrate that such healthy attachment promotes an increase in the attachment between the client and practitioner.

There are also implications related to the attachment behaviors exhibited between the therapy animal and client. It is important that the client is aware of the function of AAI-C; as such, the informed consent process provides an opportunity to advise the client of their options within this intervention (Stewart, 2018). For example, this study found that spontaneous touch occurred frequently between the client and therapy animal. Practitioners should encourage spontaneous healthy and consensual touch between the client and therapy animal as a means of maintaining their bond. Yorke, Adams, and Coady (2008) found that touch was a pivotal factor

in the healing and attachment-building processes of survivors of trauma receiving equine-facilitated therapy, Furthermore, the results of this study uncovered the regularity of nonverbal communication between the client and therapy animal. Although this nonverbal communication is valuable (Chandler, Portrie-Bethke, Barrio-Minton, Fernando, & O'Callaghan, 2010), they did not impact the working alliance or bond. Therefore, practitioners may not need to focus on whether these behaviors are occurring to ensure clients are developing a quality relationship with the therapy animal.

Practitioners can also advocate for AAI-C to work with a variety of presenting problems. AAI-C continues to grow at a rapid rate as well as be legitimized among mental health professions (Fine, 2015). This study found that practitioners are including animals in a breadth of therapeutic work. The most common issues were trauma, interpersonal relationships, anxiety, and depression, although other problems were also represented. These presenting problems align with the most common issues treated in the counseling field (Heafner, Silva, Tambling, & Anderson, 2016; Douglas & James, 2014). In this sample, AAI-C seems to be applicable to a breadth of client issues. This information can be valuable when practitioners encounter barriers related to policy as they are seeking to pursue the inclusion of AAI-C in clinical practice.

Implications for Counselor Educators and Supervisors

This study also produces implications for counselor educators and supervisors. First, the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) should be used a guide for AAI-C practitioners. Although this study did not examine all components of the Competencies, the results bolster the importance of the sections on bonding. It is important for counselor educators and supervisors to thoroughly uncover the meaning of bonding in AAI-C while training and supervising practitioners. Furthermore, there are no clear training guidelines

and standards for AAI-C (Hartwig & Smelser, 2018). This study found a range of educational and training experiences in AAI-C, yet no consistent experiences beyond registration as a handler/therapy animal team. Therefore, the Competencies may be used as a method of beginning to regulate and standardize practice, specifically as it pertains to understanding the complexity of the tripartite relationship within AAI-C.

A second implication for counselor educators and supervisors is ensuring the focus of attachment in AAI-C is understood appropriately. The AAI-C literature focuses primarily on client attachment to the therapy animal (Rockett & Carr, 2014; Zilcha-Mano et al., 2011a**)**. However, the importance of the practitioner's bond to the therapy animal should not be understated. When teaching AAI-C to counselors-in-training, counselor educators should frame the importance of this relationship. According to the results of this study, if there is not a strong bond between the practitioner and client, there could be a less strong working alliance and bond between the practitioner and client. Counselor educators and supervisors should facilitate students' and practitioners' understanding of their own attachment with the therapy animal.

Finally, AAI-C practitioners must have a foundation from which to begin practicing this specialized modality. Counselor educators and supervisors are tasked with ensuring students and practitioners whom they are supervising do not beginning incorporating an animal into session prior to developing a clinical foundation. The Animal-Assisted Therapy in Counseling Competencies state that practitioners should have a "mastery of basic counseling skills" (Stewart, Chang, et al., 2016, p. 5). When used as a control variable in this study, practitioners' perception of their skill and comfort in working with a particular presenting issue was found to be the most important factor influencing the working alliance and bond between a practitioner and client. Counselor educators and supervisors must ensure students and novice practitioners

who present with an idea to practice AAI-C immediately choose to practice basic counseling beforehand. This study suggests that AAI-C practitioners must feel like a seasoned counselor with a clinical foundation in advance of partnering with an animal to ensure a strong working alliance and bond.

Limitations

There are multiple limitations to acknowledge in this study. First, some results were close to statistical significance which indicates that a higher sample size might have produced more meaningful results and less opportunity for Type II error (Banerjee, Chitnis, Jadhav, Bhawalkar, & Chaudhury, 2009). Opportunities to increase sample size were likely lost due to confusion over what constitutes AAI-C compared to an animal-assisted activity. Similarly, over a quarter of the sample identified themselves as an "Other" profession. There is a need for greater clarity and agreement among the professions since there was overlap in the open-ended responses expanding upon the "Other" response. Diversity within the sample is an additional limitation associated with this study. The participants overwhelmingly identified as female and White. Moreover, comprehensive data on the cultural identities of the clients were not collected. Bonding can manifest differently across cultures (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000). Therefore, this study did not adequately account for the role of culture in attachment and bonding.

Second, there are a number of limitations associated with measurements in this study. The use of an observer-based attachment method for clients' attachment to the therapy animal is less useful than direct measurement of this construct. Due to this research being preliminary, it is acceptable; however, attachment behaviors are not a validated measurement for this bonding process. In addition, the use of Interaction as the sole variable for the inferential analyses may

have been less useful than the specific behaviors that stemmed from the interactions. These behaviors may have been more symbolic of attachment rather than solely interaction between the client and therapy animal. There was also no correlation between the Lexington Attachment to Pets Scale (Johnson et al., 1992) and the Working Alliance Inventory for Therapists (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989). A correlation would have been more meaningful when testing the associations between the predictor variable and outcome variable (Boston University School of Public Health, 2013). Although the Lexington Attachment to Pets Scale is validated for measuring attachment to a companion animal (Hall et al., 2016; Ramírez et al., 2014) and has been adapted for use with other human-animal bonds (Hosey et al., 2018), it is unclear if this is an appropriate measurement for the bond between a practitioner and therapy animal. Since it is not a validated measure, the Interaction variable was not included in the correlational analysis to determine the strength of the relationship between this predictor variable and the outcome variable. In addition, participants were asked to reflect upon their degree of skill and comfort in working with the client's presenting issue. Half of the sample identified that they felt extremely skilled; there could be a bias in this response as practitioners might not feel comfortable admitting a lack of confidence in their clinical skills.

A third limitation is that there is little empirical literature for comparison in terms of the bonding processes within AAI-C. This relates back to issues of measurement because there are no other studies that seek to explore empirically the bonding components of this intervention. Overall, studies in the AAI-C field lack methodological rigor (Fine, 2015, Siegel, 1993). Although the present study provides valuable information to the field, the preliminary nature of its design does not adequately answer the calls for a rigorous study. Furthermore, the AAI-C field supports and acknowledges the need for animal welfare to be a primary notion in all areas

of practice and research (Chandler, 2017; Fine, 2015; Stewart, Chang, et al., 2016; VanFleet & Faa-Thompson, 2010). However, the current research does not provide a perspective for the therapy animal in the attachment and bonding processes outside of the observed attachment behaviors between the therapy animal and client nor does it ensure animal welfare within the session of study. The field lacks appropriate measurements for this construct from the animal perspective beyond hormone-based research such as oxytocin (Handlin et al., 2012) and cortisol (Clark, Smidt, & Bauer, 2019). The bond that was measured is, in essence, human-sided and lacking in the holism required for AAI-C. A complete evaluation of the tripartite relationship would include an attachment measure for the animal to the humans in session.

Areas of Future Research

This study is preliminary and the first of its kind; therefore, there is much room for growth and many areas of future research. First, future studies can receive the perceptions of all members of the tripartite relationship. Clients could be given the Working Alliance Inventory for Clients (Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) to ensure the attachment between the client and therapy animal is less observer-based. Although it is a challenge to study animal attachment to a human, biological indicators, such as oxytocin and cortisol, could be obtained in a future study. The Strange Situation Procedure has also been employed to study attachment from an animal to a human (Mariti et al., 2013; Palmer & Custance, 2008; Scandurra et al., 2016). A future study could utilize this measure to study the therapy animal's relationship to the humans in AAI-C. Second, future research can also include instruments specific to attachment. The current study sought to keep the survey short in length and did not include formalized assessments that obtain attachment styles and orientations derived from the work of

Bowlby (1969), Ainsworth (1991), and Bartholomew and Horowitz (1991). A future study can explore attachment in place of the bond and working alliance.

Another area of future research includes expanding this research into a mixed or multiple methods study. Using multiple methods allows for "verifying or confirming results with multiple sources of data" (Creamer, 2018, p. 24). A line of inquiry to pursue related to this research involves obtaining the qualitative perspective of the practitioner and client to enhance the quantitative results. There should also be greater attention to cultural identities. As bonding is different based on cultural identification (Rothbaum et al., 2000), there is an opportunity to study intentionally its impact for both the practitioner and client. Future research should also seek to expand the sample size. Although the power analysis indicated the sample size was appropriate for the research, an expanded sample size might produce more useful results as well as provide greater diversity within the sample.

Also within the sample is an opportunity to compare levels of training and education among AAI-C practitioners. Despite the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) providing guidance for ethical and competent practice, there is no regulation or standardization regarding the preparation to practice this specialty. An exploration of how the range of training and educational experiences impact the working alliance and bond between an AAI-C practitioner and client is warranted. Similarly, a future study can include research comparing the bonding processes for practitioners who are the guardians of the therapy animal with those who are not. Chandler (2017) identified AAI-C practitioner guardianship of the therapy animal as ideal; studying this empirically might prove useful for the training and education of AAI-C practitioners. Finally, this study was restricted to AAI-C practitioners of various mental health disciplines and excluded those providing other services under the AAI

umbrella (i.e., animal-assisted activities and animal-assisted education). In the interest of further differentiating and bringing clarity to the range of AAI and helper animals, it would be useful to understand if and how the bonds within these activities might differ.

Conclusion

The purpose of this quantitative study is to examine how mental health practitioners incorporating animals into session perceive attachment occurring within the tripartite relationship of the practitioner, client, and therapy animal. The results revealed that practitioners perceive strong attachment and bonding processes occurring between the practitioner and therapy animal, client and therapy animal, and practitioner and client. This investigation also determined that practitioners' attachment to the therapy animal had a greater effect on the working alliance and bond between the practitioner and client than clients' attachment to the therapy animal. Accounting for theoretical orientation, clients' prior exposure to the species of therapy animal, and practitioners' skill and comfort in working with the presenting issue resulted in a loss of significance for practitioners' attachment to the therapy animal on the overall working alliance; however, practitioners' attachment to the therapy animal remained significant when regressed solely on the bond component of the working alliance. In all models, practitioners' skill and comfort as a control variable remained significant.

The findings of this study provide implications for practitioners and counselor educators/supervisors, specifically in cultivating student and practitioner awareness of their bond with the therapy animal and its influence on the overall working alliance and its components. The results also highlight the need to ensure practitioners honor the Animal-Assisted Therapy in Counseling Competencies (Stewart, Chang, et al., 2016) by practicing only after mastering a basic foundation of counseling skills. This implication can contribute to conversations

surrounding the regulation and standardization of AAI-C education and training to ensure such gatekeeping practices occur. There are multiple limitations in this study that can be addressed through future research, such as recruiting a larger and more diverse sample size, including more appropriate measurements for clients' attachment to the therapy animal, and ensuring ethical practice that honors animal welfare. This preliminary study provides a glimpse into the complex bonding processes that occur in AAI-C and supports the position that practitioners' attachment to the therapy animal is critical for the working alliance.

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Appendix A: IRB Approval

October 10, 2018

Laura E. Welfare, PhD
Virginia Tech
1750 Kraft Drive, Suite 2001
Blacksburg, VA 24060

Dear Dr. Welfare:

SUBJECT: REGULATORY OPINION—IRB EXEMPTION
Protocol Title: The Human-Animal Bond and Attachment in Animal-Assisted Interventions in Counseling
Investigator: Laura Welfare, PhD
Virginia Tech Protocol Number: 18-794

This letter is in response to your request for an opinion as to whether the changes to the above referenced research would alter the determination that this project does not constitute human subject research requiring IRB review.

The change to the research involves asking additional questions on the survey. The additional questions provide more information about the therapy animals and the interactions with the patients.

WIRB's IRB Affairs Department reviewed revised protocol under the exemption criteria 45 CFR §46.101(b)(2):

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
> (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

We believe that the revised research continues to fits the above exemption criteria. The data will be collected in a way so that the subjects can be identified, directly or through identifiers linked to the participants. However, any disclosure of the human subjects' responses outside the research will not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. You have also confirmed that the results of this study will not be submitted to the Food and Drug Administration (FDA) for marketing approval.

This exemption determination can apply to multiple sites, but it does not apply to any institution that has an institutional policy of requiring an entity other than WIRB (such as an internal IRB) to

Western Institutional Review Board®
1019 39th Avenue SE Suite 120 | Puyallup, WA 98374-2115
Office: (360) 252-2500 | **Fax:** (360) 252-2498 | **www.wirb.com**

make exemption determinations. WIRB cannot provide an exemption that overrides the jurisdiction of a local IRB or other institutional mechanism for determining exemptions. You are responsible for ensuring that each site to which this exemption applies can and will accept WIRB's exemption decision.

Please note that any future changes to the project may affect its exempt status, and you may want to contact WIRB about the effect these changes may have on the exemption status before implementing them. WIRB does not impose an expiration date on its IRB exemption determinations.

If you have any questions, or if we can be of further assistance, please contact R. Bert Wilkins at 360-252-2852, or e-mail RegulatoryAffairs@wirb.com.

RBW:dao
B2-Exemption-Welfare (10-10-2018)
cc: WIRB TA Tech
WIRB Accounting
WIRB Work Order #1-1114301-1

Appendix B: Recruitment Email

"Animals stimulate us not only by touch, but by some deeply buried aspect of nature within us, a connection to part of something greater, more healthy, more whole." - Peter Levine

Hello! My name is Ariann Robino. I am a doctoral candidate in the Counselor Education and Supervision program at Virginia Tech. I would like to extend an exciting research opportunity to mental health practitioners who incorporate animal-assisted interventions into their clinical practice. I am collecting data for my dissertation on the attachment and bonding processes that occur in the tripartite relationship within an animal-assisted intervention in counseling. Please consider sharing this invitation with mental health practitioners you know who integrate animals into session.

The purpose of this study is to understand how attachment to a therapy animal impacts the bond between a mental health practitioner and client. These complex relational experiences require greater exploration as the field of animal-assisted interventions in counseling continues to grow.

You are an eligible participant if you:

- identify as a licensed or license-eligible practitioner from a mental health discipline (i.e., counseling, social work, psychology, marriage and family therapy)
- incorporate an animal into therapeutic interventions

If you meet this criteria, I invite you to participate in this research. The study involves completion of an online survey via Qualtrics. This process will take approximately 5-10 minutes to complete.

No identifying information will be requested. At the end of the survey, you will have an opportunity to vote or suggest an animal-related organization to which I will make a donation based on the number of participants in the study.

Participation in the survey is voluntary and participants may drop out at any time. While there is no direct benefit, this will help advance and inform the counseling field, particularly the field of animal-assisted interventions in counseling.

I have obtained Institutional Review Board exemption through Virginia Tech and the Western Institutional Review Board.

If you are willing to participate, please follow this link or copy and paste it into your browser:

If you have questions about this study, you may contact Ariann Robino at arobino@vt.edu or my dissertation chair, Dr. Laura Welfare, at welfare@vt.edu

Thank you are your consideration and for the work you do!

Appendix C: Flyer

BONDING IN ANIMAL-ASSISTED INTERVENTIONS IN COUNSELING (AAI-C) STUDY

For my dissertation at Virginia Tech, I am conducting a research study on the attachment and bonding processes within AAI-C.

You might be eligible to participate if you:

- Identify as a licensed or licensed-eligible practitioner from a mental health discipline (i.e., counseling, social work, psychology, marriage and family therapy)
- Incorporate any type of animal into therapeutic interventions

The study includes the completion of a survey on your perceptions of the relational processes within a recent session of AAI-C. This will take approximately 5-10 minutes.
A donation will be made to an animal-related organization based on the number of participants.

Interested?

Participate by typing this link into a web browser:

https://tinyurl.com/ya4vr816

Contact Ariann Robino at (504) 919-3552 or arobino@vt.edu with questions.

Appendix D: Consent Form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants
in Research Projects Involving Human Subjects

Title: The Human-Animal Bond and Attachment in Animal-Assisted Interventions in Counseling

Investigator: Laura Welfare
1750 Kraft Drive, Suite 2001, Mail Code 0302
Blacksburg, VA 24060
United States

Study-Related Contact Information: Laura Welfare
(540) 231-8194
welfare@vt.edu

Ariann Robino
504-919-3552
arobino@vt.edu

Sub-Investigator: Ariann Robino

I. Purpose of this Research Project

The purpose of this research project is to understand how attachment to a therapy animal impacts the bond between a mental health practitioner and client. These complex relational experiences require greater exploration as the field of animal-assisted interventions in counseling continues its growth. The results of this research will be used for a dissertation study, publications, and conference presentations. We hope to include a minimum of 100 participants.

II. Procedures

You will need Internet access to participate in this study. Your role in this study will require approximately 5-10 minutes of your time to complete an online survey through Qualtrics. The survey may be completed on the computer or with a handheld device (i.e., smartphone, tablet) at any time and location of your choosing. You will be asked to reflect upon the most recent session with a client with whom you have incorporated animal-assisted interventions a minimum of three times. Your responses to the survey will pertain to occurrences in this particular session. You will also be asked to respond to two open-ended questions on the impact of incorporating an animal into counseling sessions.

III. Risks

There is minimal risk for your participation in the project. You will be asked to reflect on a routine part of your work as a mental health practitioner. Should you feel discomfort as you reflect on these counseling relationships, you are encouraged to seek supervision, consultation, or support as you would for any challenge related to your work as a mental health practitioner. If you experience long-term intense emotional states as a result of your participation in this study, a list of outside referrals can be made available to you upon request. However, any fees for services are your responsibility and not the responsibility of the research project, research team, or Virginia Tech.

IV. Benefits

No promise or guarantee of benefits has been made to encourage you to participate. Your participation may contribute to the research on animal-assisted interventions in counseling. As a result, this may help to increase access to these specialty services for clients. In addition, this research may bring greater understanding to the tripartite relationship in animal-assisted interventions.

V. Alternatives

This is not a treatment study. Your alternative is to not be involved in the study.

VI. Extent of Anonymity and Confidentiality

Should you choose to participate, no identifying information will be requested from you about you, your client, or the therapy animal. All data will be stored on a password-protected computer accessed only by the investigators. The Virginia Tech (VT) Institutional Review Board (IRB) and/or the Western Institutional Review Board (WIRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VII. Compensation

There will be no compensation for participating in this study. However, a monetary donation will be made to an animal-related organization based on the number of study participants. You will be given an opportunity at the end of the survey to vote on the receiving organization.

VIII. Freedom to Withdraw

It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty. Should you withdraw or otherwise discontinue participation, a monetary donation will still be made to an animal-related organization.

IX. Questions or Concerns

Should you have any questions about this study, you may contact one of the research investigators whose contact information is included at the beginning of this document. This research is being overseen by an Institutional Review Board ("IRB"). An IRB is a group of people who perform independent review of research studies. You may talk to them at (800) 562-4789, help@wirb.com if:

· You have questions, concerns, or complaints that are not being answered by the research team.
· You are not getting answers from the research team.
· You cannot reach the research team.
· You want to talk to someone else about the research.
· You have questions about your rights as a research subject.

X. Subject's Consent

Your initials documents your consent to take part in this research.

_____ _____
Subject initials Date

Appendix E: Information Form

Please complete the following information about yourself.

1.) What are you and your therapy animal's training experiences and credentials related to animal-assisted interventions? (mark all that apply)

_ Practitioner and therapy animal are registered through an organization (e.g., Pet Partners, Therapy Dogs International)
_ Practitioner and therapy animal completed behavioral training classes
_ Practitioner completed a certificate program in animal-assisted interventions, the human-animal bond, or a related topic (online or in-person)
_ Practitioner completed a one-day workshop
_ Practitioner completed a multiple-day training
_ Practitioner completed a university course
_ Other (specify) _____

2.) Please rank the following items based on how closely they match your reasons for choosing to include an animal in counseling. The higher items most closely match your reasons while the lowest items least match your reasons.

To rank the items, drag and drop each item.

I am a better counselor because I work with a therapy animal.
Working with a therapy animal improves my wellness.
I believe in the value of the human-animal relationship.
Working with a therapy animal provides my clients with opportunities for touch.
The therapy animal helps me and my client build rapport.
The therapy animal increases trust in the therapeutic relationship.
The therapy animal acts a transitional object for my clients.
I am able to access thoughts and feelings from my clients that would be more difficult to access if I worked alone.
I enjoy bringing the therapy animal to work.

3.) How many years have you practiced animal-assisted interventions in counseling? (Drop-down menu) 0-50

4.) How many years have you practiced professional counseling in total? (Drop-down menu) 0-50

5.) With which profession do you most closely identify? (mark one)

_ Professional Counseling
_ Social Work
_ Psychology
_ Marriage and Family Therapy
_ Other (specify) _____

6.) With which gender do you most closely identify?

_ Female
_ Male
_ Non-Binary
_ Transgender Female
_ Transgender Male
_ Prefer Not to Answer
_ Other (specify) _____

7.) What is your racial or ethnic heritage? (mark all that apply)

_ African-American/Black
_ American Indian/Alaska Native
_ Asian
_ Biracial/Multicultural
_ Caucasian/White
_ Hispanic/Latino/Spanish Origin
_ Middle Eastern or North African
_ Native Hawaiian or Other Pacific Islanders
_ Other (specify) _____

8.) In which state or country do you currently practice? _____

9.) What is your age in years? _____

10.) What do you feel are the best indicators of a bond between a client and therapy animal in an animal-assisted intervention in counseling?

Please reflect on the *most recent* client with whom you have incorporated animal-assisted interventions in counseling a minimum of *three* times. Answer the following questions as you reflect on the most recent session with this client.

11.) Which type of animal did you incorporate into this session?

_ Dog
_ Cat
_ Horse
_ Rabbit
_ Guinea pig
_ Llama
_ Alpaca
_ Bird
_ Miniature pig
_ Rat
_ Other (specify) _____

12.) Which breed is this animal?

13.) What age is this animal?
(Drop-down menu) 0-50

14.) Is this animal your personal Pet?

_ Yes
_ No

15.) As far as you are aware, what degree of exposure has your client had with this type of animal outside of session, currently or in the past?

_ Almost Always
_ To a Considerable Degree
_ Occasionally
_ Seldom
_ Unsure

16.) What is this client's approximate age?
(Drop-down menu) 0-100+

17.) As you think about your work with this client, how would you classify the level of care this client is receiving?

_ Early Intervention
_ Outpatient
_ Intensive-Outpatient
_ Partial Hospitalization
_ Hospitalization
_ Other

18.) Which reason most closely matches the work between you and your client in this session?

_ Depression
_ Anxiety
_ Interpersonal Relationships
_ Trauma
_ Substance Use
_ Mania
_ Eating Disorders
_ Suicidality/Self-Harm
_ Overall Mental Health
_ Other

19.) How skilled do you feel in working with this particular issue?

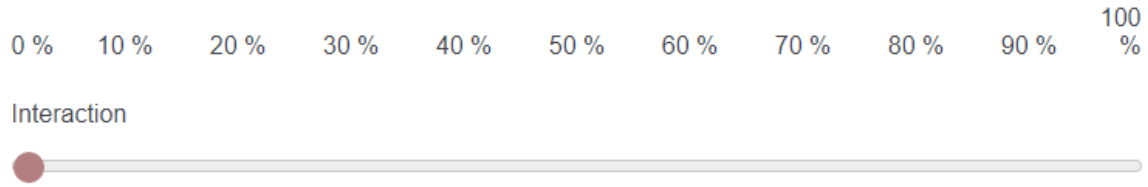
_ Extremely
_ Very
_ Moderately
_ Slightly
_ Not At All

20.) With which theoretical orientation did you most closely conceptualize your client in this particular session?

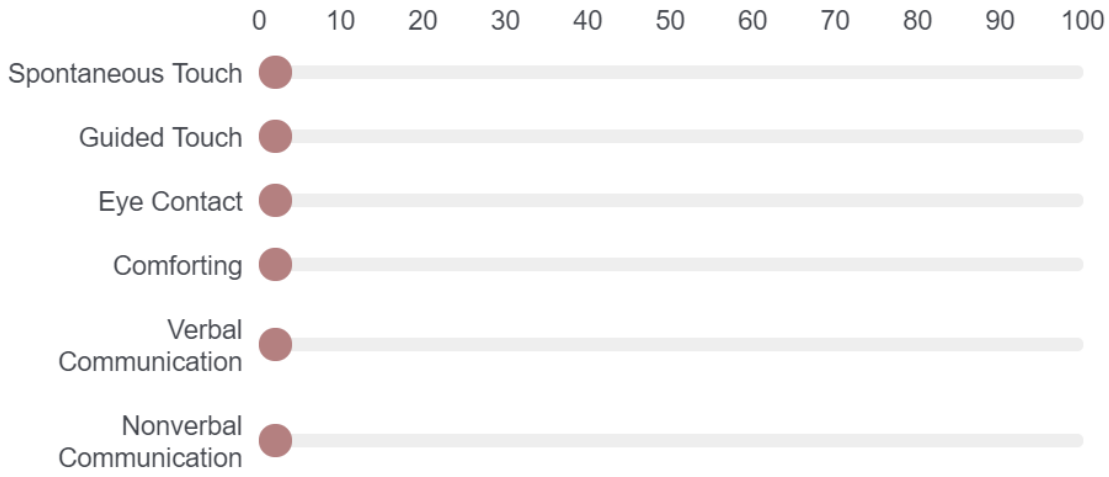
_ Psychodynamic
_ Humanistic/Existential
_ Cognitive-Behavioral
_ Family Systems
_ Feminist
_ Multicultural

_ Integrative/Eclectic
_ Other

21.) Approximately what percentage of time did you observe the client and therapy animal interact during the last session? Please move the slider below to the most accurate percentage.



22.) Approximately what percentage of time did you observe the following behaviors occur between the client and therapy animal during the last session? Please move the sliders below to the most accurate percentages.



Appendix F: General Attachment Subscale of the Lexington Attachment to Pets Scale - Modified

Please tell whether you agree or disagree with some very brief statements about this therapy animal. For each statement, select whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

	Agree Strongly	**Agree Somewhat**	**Disagree Somewhat**	**Disagree Strongly**
1) My therapy animal knows when I am feeling bad.				
2) I often talk to other people about my therapy animal.				
3) My therapy animal understands me.				
4) I believe that loving my therapy animal helps me stay healthy.				

5) My therapy animal and I have a very close relationship.				
6) I play with my therapy animal quite often.				
7) I consider my therapy animal to be a great companion.				
8) My therapy animal makes me feel happy.				
9) I am not very attached to my therapy animal.				
10) Owning a therapy animal adds to my happiness.				

11) I consider my therapy animal to be a friend.				

Appendix G: Working Alliance Inventory for Therapists- Short Form

Below are sentences that describe some of the different ways a person might think or feel about his or her client. Please reflect on the dyad between yourself and the *most recent* client with whom you have incorporated animal-assisted interventions in counseling a minimum of *three* times. As you read the sentences, mentally insert the name of your client in place of _____ in the text. If a statement describes the way you <u>always</u> feel (or think) the dyad, circle the number 7; if it <u>never</u> applies to you, circle the number 1. Use the numbers in between to describe the variations between these extremes.

	1 Never	**2 Rarely**	**3 Occasionally**	**4 Sometimes**	**5 Often**	**6 Very Often**	**7 Always**
1) _____ and I agree about the steps to be taken to improve his/her situation.							
2) My client and I both feel confident about the usefulness of our current activity in therapy.							

3) I believe _____ likes me.							
4) I have doubts about what we are trying to accomplish in therapy.							
5) I am confident in my ability to help _____.							
6) We are working toward mutually agreed upon goals.							
7) I appreciate _____ as a person.							
8) We agree on what is important for _____ to work on.							
9) _____ and I have built a mutual trust.							

10) _____ and I have different ideas of what his/her real problems are.							
11) We have established a good understanding between us of the kind of changes that would be good for _____.							
12) _____ believes the way we are working with her/his problem is correct.							

Appendix H: Open-Ended Questions

Please respond to the following open-ended questions. These responses are not limited to a particular client but seek to capture your overall experiences.

1) How do you think incorporating an animal into session has impacted your work as a counselor?

2) How does incorporating an animal into sessions change your therapeutic relationships?

Appendix I: Donation Vote

Please select or suggest an animal-related organization to receive a monetary donation.

If **50** participants respond to this survey, **$100** will be donated.
If **75** participants respond to this survey, **$125** will be donated.
If **100** or more participants respond to this survey, **$150** will be donated.

- ○ Pet Partners
- ○ Therapy Dogs International
- ○ Best Friends Animal Society
- ○ American Society for the Prevention of Cruelty to Animals
- ○ Humane Society of the United States
- ○ Other (specify)

Appendix J: Snowball Sampling

If you know of any animal-assisted interventionists who might be interested in participating in this survey, please provide their email address.