

Relational Healing Through Animals: The Human-Animal Bond Therapist Toolkit

By

Kate Malone

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Abstract

Early attachment experiences and the resulting attachment security that develops has a lasting impact on human mental health and well-being, as well as challenges to interpersonal relationships. Without early experiences of emotional safety and attunement in relationship, individuals develop maladaptive ways of regulating emotion, making them vulnerable to trauma and stress. In therapy, a primary goal for individuals with attachment wound is to develop a secure relationship with the therapist from which to explore their experiences and learn new ways of emotion regulation. New research into neuroscience has linked the brain and body to early attachment, which is being integrated into new therapy modalities with much success. However, for some individuals their attachment histories make it extremely difficult to develop trust with a therapist to begin this healing journey, causing them to drop out of therapy or to not see results. Animals, however, have innate qualities that enable people to develop trust and feel safe quickly. Perceived by many as alternative attachment figures, animals can offer secure corrective relational experiences for individuals with attachment wounds. Animal-assisted therapy has harnessed the human-animal bond in order to provide a safe presence in the therapy space. Outside of animal-assisted therapy, however, there is limited research into how the human-animal bond can be integrated into therapy for individuals with attachment wounds. This capstone proposes the Human-Animal Bond Therapist Toolkit, a resource to use animals metaphorically in their work with clients to move towards more secure relationships.

Keywords: Attachment, Animal-Assisted Therapy, Human-animal bond, Affect Regulation, Somatic Therapy

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Chapter One

Attachment security and emotional attunement in human relationships can play a critical role in psychological well-being (Barry & Danquah, 2020; Taylor & Breen, 2014); in particular, it helps individuals develop the ability to self-regulate (McLeod et al., 2020), a key factor in good mental health. For individuals who struggle to find secure attachment with other people in their lives, therapists have typically used the therapeutic relationship as a corrective experience for the client to develop a safe and consistent relationship (Slade & Holmes, 2019). However, because of deep and usually early attachment wounds, some people remain unable to develop the necessary trust with a therapist, leading them to have worse therapy outcomes (Slade & Holmes, 2019), or to leave therapy entirely (Schore & Schore, 2008). However, many people with attachment wounds still find they can develop deep trust and connection with animals (Purewal et al., 2017); this builds on the long history of human-animal relational bonds. Since ancient human civilization, animals have been beloved companions to humans (Walsh, 2009a). Starting in the 1960s, therapists began to harness the human-animal bond therapeutically in animal-assisted therapy (AAT) (Bachi & Parish-Plass, 2017). Research has shown that human-animal relational bonds share features of human attachment (Payne et al., 2015), and can provide similar emotion regulation (Carter & Porges, 2016). New research developments into neuroscience over the last three decades have illuminated the mechanics underlying attachment between humans and underscored the importance of secure attachment to psychological health (Schore, 2017). Given that, it seems possible that these new understandings of the neuroscience of attachment might combine with insights from AAT to point to ways therapists can use the human-animal

bond in therapy, without the need to have an animal physically present. This capstone will explore that possibility.

In this chapter, I will discuss the background to the problem. I will explore attachment insecurity as a product of intergenerational patterns, systemic issues, and trauma. I will also discuss the effects of attachment wounds, including impacts on relationships and mental health. In this section I will also explore how traditional psychotherapy has addressed attachment, and what challenges may arise for these clients in the therapeutic relationship. I will also discuss the theoretical orientation, interpersonal neurobiology, that will serve as the lens for my capstone. In this chapter I will also cover the purpose and significance of this capstone, as well as my positionality in relation to the topic. In chapter two I will review the literature on attachment, neurobiology, the human-animal bond, as well as relevant therapy modalities. In chapter three, I will propose a toolkit as an intervention for therapists to harness the human-animal bond without having an animal present in the therapy space.

Background to the Problem

Attachment is an important factor in the development of mental health and well-being. Early attachment relationships have lasting impacts on adult relationships (Muetzelfeld et al., 2020), emotion regulation (McLeod et al., 2020), and vulnerability to stress and trauma (Schore & Schore, 2008). Individuals with insecure attachment may have difficulty feeling safe with others, developing trust, or feeling connected in relationships (Mikulincer & Shaver, 2016). Many people seek out psychotherapy to understand and heal from attachment wounds, in order to develop more fulfilling relationships. While therapy can be an effective way to develop secure attachment (Slade & Holmes, 2019), it also requires a level of trust, safety and connection with

the therapist to see results. For some, the inability to feel safe in relationship with a therapist may be a barrier to seeking out support or benefitting from it.

Attachment security has a long-lasting effect on individuals' lives: as children, into adulthood, and even intergenerationally as they have families of their own. With their primary caregivers, infants learn how to relate to themselves and others emotionally (Slade & Holmes, 2019). While some studies have estimated that 60% the population develops secure attachment (Moullin et al., 2014), many children's early emotional environments lead to attachment insecurity. Attachment insecurity can develop due to early experiences of trauma and abuse (Pascuzzo et al., 2015). It can also develop in environments where caregivers lack the ability to provide consistent emotional attunement to the infant (Schore & Schore, 2008). For the purposes of this capstone, attachment insecurity will also be referred to as attachment wounds, in order to encompass the diverse experiences of attachment insecurity and trauma. No one parent or family is at fault for these wounds—the ability to provide an infant with an optimal environment for emotional development is influenced by many variables. Secure attachment is passed on from parent to child (Iyengar et al., 2014), thus, if a caregiver's own childhood experience was not one of security, it is likely they cannot provide this for their own child. Many caregivers themselves are living with their own unresolved trauma, which inhibits their ability to be present to the degree that secure attachment requires (Iyengar et al., 2014). Systemic issues and historical trauma, such as poverty, racism, genocide, gender violence, oppression and slavery, and domestic violence can transmit stress and trauma (Stanley, 2016) so that survival becomes priority and attunement to children's emotional needs are neglected. Without healing, these attachment wounds are unconsciously passed on, along with the generational patterns of insecure attachment (Stanley, 2016).

For individuals with insecure attachment, they may find themselves in relationships that mirror the ones they grew up with (Joeng et al., 2017). A primary outcome for individuals with attachment insecurity is discomfort in interpersonal relationships (Read et al., 2018). Studies show that attachment insecurity is related to social anxiety (Read et al., 2018), distorted views and expectations of others (Pascuzzo et al., 2015), and loneliness (Helm et al., 2020). In romantic relationships, attachment insecurity in either partner is found to be associated with numerous relationship problems (Muetzelfeld et al., 2020), including difficulties communicating emotions constructively (Low et al., 2019). In the most extreme cases, insecure attachment in at least one partner is a risk factor for violence (Riggs et al., 2011).

Insecure attachment is associated with deficits in emotion regulation capabilities (Brumariu, 2015) which has implications for mental health. Lack of adaptive emotion regulation strategies creates vulnerability to pathology (Schoore & Schoore, 2008), with emotion dysregulation underlying many common mental health disorders (Koole & Tschacher, 2016). Attachment security is related to problematic substance use (Massey et al., 2014; Meredith et al., 2020) and other addictive behaviours (Valizadeh et al., 2017). Eating disorder behaviour is also associated with emotion regulation (Van Durme et al., 2017) and attachment insecurity (Kuipers et al., 2016; Faber & Dubé, 2015). Many common mental health presentations can be connected to early relational experiences, and the resulting attachment security that is formed. Attachment insecurity has been linked to anxiety disorders (Schimmenti & Bifulco, 2015), as well as depression (Monti & Rudolph, 2014). In complex clinical presentations such as personality disorders, attachment may also play a role. Studies show that individuals with borderline personality disorder share traits with disorganized attachment (Levy et al., 2015; Smith & South, 2020) and disorganized individuals are more likely to receive a personality disorder diagnosis

(Slade & Holmes, 2019). Attachment insecurity is linked to self-harm behaviours (Wrath & Adams, 2019) and in the worse instances can lead to suicide (Levi-Belz et al., 2013).

Research has found that in clinical populations, only 21% of individuals displayed secure attachment (Slade & Holmes, 2019). Many individuals seeking therapy are coming in with a history of attachment wounds. Psychotherapy can be an effective way for individuals to move towards secure attachment (Olufowote et al., 2020), by offering them a corrective experience of a safe relationship. In attachment-oriented therapy, the therapist is reliable, attentive, and attuned (Talia et al., 2020), mirroring the caregiver-infant attachment relationship in many ways. For some clients, however, their history of unsafety in relationships can be a barrier to the benefits that a therapeutic relationship can provide. Insecure attachment in individuals leads to worse therapy outcomes (Levy et al., 2018; Taylor et al., 2015), as well as higher therapy drop-out rates (Tait et al., 2004). Many factors influence this, including therapists' own attachment adaptations and ability to be attuned and present for the client (Talia et al., 2020). All therapists will have moments where they are distracted or triggered by their own past, and for some clients these moments will be too much of a barrier to feel secure in the relationship. This capstone will therefore propose the use of animals metaphorically in therapy as part of the therapist's multi-modal toolbox.

Purpose

This capstone explores how human-animal relationships can be used therapeutically without having an animal present in the therapy space. The research question is: *How can the relational bonds between humans and animals be harnessed metaphorically to help therapy clients move towards attachment security?* There is extensive literature about the therapeutic use of animals as well as attachment with animals. Most of this research, however, is focused on

AAT where animals are physically present in the therapy space, or on individual pet-owner relationships. There is little research into how human-animal relational bonds can be used metaphorically as an intervention rather than having animals present. To meet this need, in this capstone literature on attachment security and the mechanisms behind attachment will be explored, including affect regulation theory. The human-animal bond will be explored, including literature on pet-human attachment. Relevant therapy modalities to the research will also be explored, including attachment therapy, AAT, and somatic therapies.

In the last chapter of this capstone, I will propose a toolkit for therapists who wish to incorporate human-animal relational bonds into their therapeutic work with clients without needing an animal present. Therapists who work with attachment insecurity will most benefit from this toolkit and it can also be used with any clients who feel a close connection with animals. Individuals who struggle with interpersonal relationships who find solace and comfort in their animal relationships may also find this research valuable. The research aims to inform readers about the mechanisms behind relational bonds, including interpersonal neurobiology, to normalize why for so many animals can feel trustworthy and safe. Therapists who read this capstone will gain tools to use with clients who face barriers to feeling safe in the therapeutic relationship.

Definition of Terms

Affect: The physiological experience or expression of emotion (Erskine, 1998).

Affect Regulation: The behaviours, skills, and strategies, whether conscious or unconscious, automatic or effortful, that serve to modulate, inhibit, and enhance emotional experiences and expressions (Calkins & Hill, 2007, p. 229).

Animal Assisted Therapy (AAT): The integration of human-animal relations into the therapy setting (Chandler, 2018).

Attunement: An in the moment, resonant state of feeling felt by another and not alone, but in connection (Siegel, 2007).

Attachment: The bond that is formed between primary caregiver and infant in the early years of life that is the basis for social and emotional development (Schoore, 2017).

Autonomic Nervous System: A body-wide system that is designed to detect cues of danger, life threat, and safety (Stanley, 2016).

Coregulation: The synchronization of emotional responses between relationship partners, maintaining emotional arousal of the dyad around a healthy homeostatic balance (Timmons (Koole & Tschacher, 2016, p. 7).

Disorganized Attachment: An attachment adaptation that develops when a caregiver is a source of fear for the child. This adaptation leads to complex relationship struggles and a high level of dysregulation (Pascuzzo et al., 2015).

Human-Animal Bond: The profound connections between humans and animals characterized by physiological, psychological and social benefits (Walsh, 2009a).

Hypoarousal: Excess parasympathetic nervous system activation associated with body sensations that accompany sluggishness and sadness (Grabbe & Miller-Karas, 2015).

Hyperarousal: Excess sympathetic nervous system activation associated with body sensations that accompany anger and irritability (Grabbe & Miller-Karas, 2015).

Implicit Memory: Unconscious emotional memories that cannot be remembered or verbalized. (Mancia, 2006).

Insecure-Avoidant Attachment: An attachment adaptation that develops when expressing distress or the need for proximity in stressful situations evoked rejection for the caregiver. This adaptation leads to inhibition of emotions and an emphasis on independence. (Pascuzzo et al., 2015, p. 2).

Insecure-Ambivalent Attachment: An attachment adaptation that develops when a caregiver has been inconsistent or unpredictable, leading the child to worry about their availability to respond to distress. This adaptation leads to exaggeration and intensification of distress signals (Pascuzzo et al., 2015, p. 2).

Interpersonal Neurobiology: A field of study that attempts to explain how early experiences affect and alter the developing right brain, which for the rest of the life span is centrally involved in the innate psychobiological need for affiliation and social connection, and thereby for emotion regulation and growth (Schore & Schore, 2014).

Polyvagal Theory: A theory that proposes that a state of safety is mediated by neuroception, a neural process that may occur without awareness, which constantly evaluates risk and triggers adaptive physiological responses that respond to features of safety, danger, or life threat. According to the theory, when safety is communicated via expressed markers of social engagement, defensiveness is down-regulated (Geller & Porges, 2014, p. 178).

Relational Trauma: Violation in the context of an interpersonal relationship. Can be the result of a poor attachment bond between caregiver and infant (Schore, 2017).

Secure attachment: An attachment adaptation that develops when a child experiences a sensitive caregiver who consistently responds to their attachment needs. This adaptation is characterized by perceptions of others as dependable and available in times of need and is correlated with well-being (Pascuzzo et al., 2015, p. 1).

Somatic Therapy: An emerging area of psychology that understands traumatic experiences as impacting the body and the brain, not just the mind (Stanley, 2016).

Theoretical Orientation

In recent decades, there has been a paradigm shift in psychotherapy to integrate the neuroscience of human relationships. I will be approaching this capstone through the lens of interpersonal neurobiology. Interpersonal neurobiology has explored how human development and functioning occurs as a product of the mind, body, and relationships (Ng, 2017). When early caregivers fail to be consistently attuned and available, this causes physical changes to the brain of the infant, influencing how they relate to others throughout their lives (Ng, 2017).

Specifically, the autonomic nervous system is impacted, which has pathways that extend to the face, lungs, heart, gut and other organs (Stanley, 2016). This connection between body and mind has been intuitive wisdom of many cultures (Stanley, 2016); the field of interpersonal neurobiology has brought it to modern psychotherapy. The implications of this knowledge are that the body and bodily sensations are a primary pathway to how humans experience relationships and emotion.

These findings have given rise to a new understanding of what effects change in psychotherapy. The brain has neuroplasticity, meaning that neural pathways created in childhood are changeable through new experiences (Schore, 2014). Into adulthood, experiencing an optimal relationship can provide a reparative experience that can re-shape the brain and allow individuals to relate to others differently. With these insights, the therapist's role can now be understood as providing a safe and secure experience for the client in order to rewire these neural pathways (Schore, 2014). The therapeutic relationship is commonly understood as a key component of change in therapy (Koole & Tschacher, 2016), however through this lens it is understood as

occurring between not only two minds, but also two bodies (Miller-Karas, 2015). Today many different therapies are informed by interpersonal neurobiology, including Somatic Experiencing (Payne et al., 2015), Somatic Transformation (Stanley, 2016), Accelerated Experiential Dynamic Psychotherapy (Lipton & Fosha, 2011), and more. These relational therapies and interventions have opened new possibilities for therapists to help clients heal from trauma and attachment wounds.

Significance

Through exploring the literature on attachment and the human-animal bond, I will propose a toolkit offering various interventions for therapists working with clients with attachment insecurity. These findings aim to examine the mechanisms of attachment within human relationships, and to explore how animals can be relational teachers and healers for humans. Attachment security and its development is integral to how individuals' function in relationships, cope with stress, and to their overall psychological health. This capstone aims to support therapists to use clients' relationships with animals to bring awareness to their patterns in relationships, to build relational resources and feel connected, and ultimately to move towards security. This capstone can support therapists in their work with individuals whose attachment histories may challenge the therapeutic relationship. Therapists can use the information in this capstone to better understand clients' relationships to animals and integrate this resource into their understanding of their clients' relational lives. This capstone can be used as a resource for therapists who would like to harness the human-animal relational bond in their practice, but who are not able to provide AAT.

Reflexivity and Positionality Statement

This topic is important to me because of my own personal history of relationships with animals throughout my life. Because of this history, I have a level of comfort and positive association with animals. It is important to acknowledge that as a middle class, white Canadian woman with European ancestry, my family has had long history of access to dogs, cats and horses as pets and companions, which may not be the case in many families or cultures. I have also personally experienced the healing power of pets and animals, having felt positive mental health benefits from my bonds with animals. Lastly, I have also integrated the human-animal bond informally in my clinical practice as an intern; some of the ideas presented in this capstone have been inspired from witnessing clients heal through their bonds with animals. All of these personal experiences have influenced me to have a passion for this subject and a desire to deepen the use of animals in psychotherapy.

Chapter Summary

Attachment security is an important part of human development that informs how individuals will relate emotionally with themselves and others. Passed on through generations, a caregiver's ability to provide an optimal environment where the infants' emotional needs are met sets the stage for future relationships. Secure attachment builds resilience and promotes well-being, while early attachment wounds can lead to maladaptive emotion regulation, difficulty connecting to others, and increases vulnerability to stress and trauma. Furthermore, while many individuals are likely to seek out psychotherapy to heal these wounds, the very relational nature of psychotherapy can be too much of a barrier for some clients to benefit.

Individuals with attachment wounds may find deep connections in their relationships with animals. Animals have a presence that promotes trust and safety, allowing for individuals with a history of attachment wounds to experience security in relationship. AAT harnesses the

human-animal bond in therapy, allowing the client to form an attachment to a safe animal before beginning to build trust with the human therapist. Therapists that are not able to use AAT could benefit from interventions that use the human-animal bond without bringing an animal into the therapy space.

Insights from relational neuroscience have also informed therapies that emphasize the two-way emotional process in relational encounters. These therapies incorporate awareness of bodily sensations to promote self-regulation as well as bring awareness to, and ultimately heal, relational wounds. This capstone aims to answer the research question: *How can the relational bonds between humans and animals be harnessed metaphorically to help therapy clients move towards attachment security?* This capstone will explore attachment, neurobiology, and the human-animal bond in order to provide therapists with information to support clients with a history of attachment wounds.

In the next chapter, I will review the literature related to attachment, neurobiology, and the human-animal bond. Various therapeutic approaches relevant to the study will also be reviewed including AAT, somatic therapy, and attachment therapy.

Chapter Two: Literature Review

In chapter one, I suggested that new research findings in interpersonal neurobiology might combine fruitfully with the insights of AAT. Woven together, therapists might discover new ways to use the human-animal bond as a therapeutic tool even in settings without an animal present. In particular, the sense of safety that many therapy clients have already experienced with pets or with other animals they have encountered might become a building block that can help clients understand and feel themselves regulated and willing to engage in psychotherapy sessions.

In this chapter, I will explore attachment, the human-animal bond, and existing therapies relevant to attachment and animals. The first section will explore attachment theory, including attunement, coregulation, and self-regulation. The next section will discuss neurobiology, including the polyvagal theory, the implications of affect regulation on attachment, and animals as coregulators. The third section will explore the literature on the human-animal bond, including animals as pets, nonverbal communication, and attachment with animals. Lastly, relevant therapy modalities will be explored, including attachment therapy, AAT, and somatic therapy.

Attachment Theory

Attachment is what drives humans to seek physical and emotional closeness to others, especially when in distress. The early researchers of attachment theory, John Bowlby and Mary Ainsworth, observed mother-child interactions and their effects on child development (Slade & Holmes, 2019). Infants depend on others for their emotional and physical survival and become attached to their early caregivers (Slade & Holmes, 2019). If the caregiver meets the child's needs for safety and security, then this results in a secure attachment relationship (Slade & Holmes, 2019). A secure attachment relationship is foundational for a person's ability to connect

with others and develop healthy interpersonal relationships (Purewal et al., 2017). Bowlby's research found that the attachment figure acts as a secure base from which the child could gain confidence while exploring the world (Wanser et al., 2019). When a child experiences distress, they retreat to their attachment figure who provides a safe haven by offering comfort and protection (Wanser et al., 2019). These patterns are repeated throughout childhood, eventually developing into internal working models, which Bowlby defined as cognitive schemas about the self and others that are internalized and are then mapped onto relationships later in life (Purewal et al., 2017).

Attachment theory posits that, when a child is securely attached, they can explore the world with more confidence while simultaneously developing a positive expectation of others as sources of support and comfort. A secure attachment builds resilience to adversity (Hoof, 2017), supports positive future interpersonal relationships (Joeng et al., 2017), and strengthens the ability to benefit from social support (Beetz, 2017).

An insecure attachment will develop if the caregiver is insensitive, unresponsive or inconsistent to the child, thus threatening the child's sense of emotional or physical safety (Slade & Holmes, 2019). These early models of relationships map onto later ones (Brumariu, 2015), jeopardizing the individuals' future ability to benefit from the support of others. An insecurely attached child cannot depend on their caregiver to explore the world safely, leading to higher levels of emotional distress (Slade & Holmes, 2019), and less ability to cope with future trauma and adversity (Hoof, 2017). Insecurely attached adults are more at risk for challenges in life as well as more clinical symptoms than their secure counterparts (Brumariu, 2015).

In addition to secure, Mary Ainsworth identified two other important categories of attachment based on observations of caregiving experiences: insecure-avoidant and insecure-

ambivalent (Slade & Holmes, 2019). Insecure-avoidant individuals experienced rejection from their caregivers. In response, they learn to inhibit their expression of emotion and over-value independence (Pascuzzo et al., 2015), in an unconscious determination to avoid experiencing rejection again. Insecure-ambivalent individuals experienced inconsistent caregiving in childhood, not being able to predict when they would receive a parental response. The adaptation for these individuals is to intensify their emotions in order to elicit a response, resulting in a sense of dependency and helplessness (Pascuzzo et al., 2015). Moreover, Mary Main later identified disorganized attachment, a fourth category of attachment characterized by children whose caregivers were scary or threatening in some way: in situations of abuse, trauma, or loss (Pascuzzo et al., 2015). These individuals have complex and contradictory strategies in their approach to relationships and have the highest level of dysregulation in both childhood and later in life (Pascuzzo et al., 2015). The resulting emotional impact from the mis-attunement that precedes insecure or disorganized attachment is sometimes called an attachment wound or relational trauma.

Attunement

Attunement is an important psychological process in early childhood (Jerak et al., 2018) and is one of the key processes involved in creating secure attachment (Schoore, 2017).

Attunement differs from an attachment in that attunement is a moment-to-moment process that can occur in any relational encounter, even with those who are not attachment figures (Ostlund et al., 2017). Attachment relationships on the other hand require consistency and familiarity for the child to see this person as their source of safety (Brumariu, 2015) and require attunement in order for the attachment bond to be secure (Ostlund et al., 2017). Attunement involves two processes happening almost simultaneously. The first is sensing into the feelings and emotional

experience of another through nonverbal signals such as facial expressions and body language. The second process involves communicating that emotional understanding back to the person, also through nonverbal cues (Jerak et al., 2018). It is a two-way, unconscious communication between nervous systems (Geller & Porges, 2014), resulting in a sense of connectedness and understanding (Jerak et al., 2018). Siegel (2007) describes the experience of an attuned encounter as “feeling felt” (p. 25). Attunement allows for a relational experience that feels safe, harmonious and connected (Jerak et al., 2018). The presence of attuned interactions in infancy has been found to impact the quality of interpersonal relationships throughout life, including romantic partnerships (Schoore, 2017). When an individual feels understood in this way, their physiology calms and the nervous system can regulate (Geller & Porges, 2014). The presence of enough emotional attunement in early childhood relationships is a requirement for optimal relational and emotional development to occur, especially in the cases of early relational trauma.

Relational trauma describes not only the patterns of relating and the internal emotion regulation strategies that develop with insecure attachment in the moment, but the long-term impact on the individuals’ sense of safety and nervous system. Infants who are left to deal with intense emotions (or affect) on their own for too long experience this as a life threat (Schoore, 2017). Without any capacity for emotion regulation, any prolonged intense affect (both positive or negative) such as joy, fear, anger, or excitement, can feel intolerable and overwhelming to an infant. Even the experience of intimacy and closeness can result in overwhelming arousal that needs to be attended to. When caregivers fail to respond to such distress—when they are not attuned to the baby’s needs—the infant’s brain will respond to this as a threat with survival responses of fight, flight or freeze. Upon experiencing this mis-attunement chronically, such as with abuse, emotional neglect, or an overwhelming parent, the infant becomes stuck in

traumatized survival responses in future relational encounters (Stanley, 2016), rather than experiencing the benefits of social engagement. This is important because working with those with relational trauma requires the therapist to be attuned.

Attunement is the foundational process for the mother-infant dyad to sense into each other's affective states, thus is critical to facilitating the development of affect regulation. Affect regulation strategies are widely understood as essential to psychosocial well-being (Ostlund et al., 2017) and are integral to how individuals cope with stress (Cao et al., 2017). Infants are born with limited strategies for affect regulation. In the first months of life, primary caregivers provide, and model affect regulation for them during moments of intense negative or positive affect (Schore & Schore, 2014), through a process called coregulation (Ostlund et al., 2017).

Coregulation. In order to provide coregulation, the caregiver interprets nonverbal cues such as facial expressions, vocalizations, and gestures of her infant, regulates them within herself, and mirrors them back (Schore, 2017) through her own face, eyes, tone of voice. This process is unconscious: happening between brains, bodies, and nervous systems. As the caregiver matches the affective state of the infant, she is modeling how to tolerate the overwhelming sensations they are feeling. Rather than matching absolutely, the caregiver responds with a slightly mismatched affect to encourage regulation. For example, if a baby is crying, the caregiver would not begin to cry as well, but instead mirror a lesser degree of affect back through her facial expressions and tone of voice. Over time, the infant begins to internalize this modulation (Ostlund et al., 2017). Coregulation shapes the capacity of the infant to cope with a dysregulated state and ultimately return to regulation with the help of another (Ostlund et al., 2017).

Coregulation is happening very rapidly between the two right brains of caregiver and infant (Schore & Schore, 2014). The right brain is the center responsible for processing emotion, modulating stress, and self-regulation (Schore, 2014), and develops before the left brain. This means that the emotional neural circuits are active in infants before verbal and cognitive ones (Schore & Schore, 2014), pointing to the primary importance of emotion in our relational exchanges. These early emotional exchanges are not remembered or verbalized explicitly; instead, they form implicit, or emotional, memories (Mancia, 2006). Unlike explicit memories, implicit memories cannot be retrieved consciously, but instead they leave an emotional or affective imprint on the child (Mancia, 2006). This early affective communication and the resulting implicit memories of coregulation sets the groundwork for all emotional and relational experiences later in life.

Self-regulation. The ability of the caregiver to coregulate with the infant provides a template for how the child will develop their own self-regulation abilities. Self-regulation is an individual's capacity to regulate emotional states internally without the help of another (Schore & Schore, 2014). Research shows that early caregiver interactions are correlated with self-regulation later in childhood (Tronick & Beeghly, 2011). Over time, as the caregiver helps the infant to modulate their affective state, the infant begins to develop their own capacity to do so when their caregiver is absent (Price, 2018). Infants with an attentive caregiver will become adults who use regulation strategies like seeking help from others and expressing their emotions in order to reduce stress (Ustundag-Budak, 2019). Emotion regulation strategies are closely linked to mental health the lack of which predicts anxiety, depression, and even a vulnerability to trauma (Ustundag-Budak, 2019). These mental health outcomes demonstrate just how important coregulation and resulting self-regulation is for human development.

Neurobiology

In the last few decades, developments in neuroscience have expanded and illuminated the understanding of early attunement and affect regulation.

Polyvagal Theory

The polyvagal theory helps explain the role of the brain in social relationships, including what happens in attachment and attunement. Developed in the last three decades, this theory posits that humans and other mammals all have a neural circuit, the social engagement system, that is necessary for feeling safe and connected with others (Geller & Porges, 2014). This theory derives its name from the two vagus nerves—ventral vagal and dorsal vagal. The ventral vagal nerve is associated with social engagement, safety, and connection, while the dorsal vagal is a parasympathetic response to danger, associated with collapse and dissociation (Dana, 2018). Neuroception is an adaptive process in the nervous system to detect cues in the environment for safety or danger (Perez & Sundheim, 2018). The vagus nerve is the “face-heart connection” (Dana, 2018, p. 21), meaning that these cues for safety or danger are communicated from the nervous system through the muscles in the face and head (Dana, 2018). These include prosody of voice, facial expressions, gestures, and other nonverbal cues. If threat or danger is detected through neuroception, the survival responses such as fight, flight, and freeze will become activated, and the social engagement system will be shut down (Geller & Porges, 2014). When safety is detected, healthy social engagement can occur (Geller & Porges, 2014). In early relationships, nonverbal communication through elevated pitch of voice and facial expressions elicits social engagement with babies in order to help them regulate and to connect.

Individuals with insecure and disorganized attachment find it hard to achieve a regulated nervous system and may cycle between both hypo- and hyper-arousal in the face of stress or

events that trigger these relational wounds (Stanley, 2016). Both states reflect a level of disembodiment and loss of connection from bodily sensations, increasing vulnerability to further trauma in the current situation (Stanley, 2016). Hyperarousal is an up-regulated state when the body is preparing to fight or flee (Grabbe & Miller-Karas, 2018). For example, when the child becomes hypervigilant to a caregiver who is inconsistent with meeting their needs. Hypoarousal is a down-regulated state and is the body's shut down response to threat, a state of frozen immobility that arises from excess parasympathetic activation (Grabbe & Miller-Karas, 2018). For example, an infant who initially cries and screams for their parent and is not attended to will eventually drop down into hyporarousal; they may seem calm but are actually shut down with fear (Stanley, 2016). Later in life, chronic hyper and hypoarousal can manifest as anxiety, anger aggression, fatigue, despair and dissociation. (Stanley, 2016).

Implications of Affect Regulation Theory on Attachment Security

Through repeated interactions with an attuned caregiver, securely attached children will learn effective ways to manage heightened arousal (Brumariu, 2015), including fear (Hoof, 2017) as well as positive emotions like intimacy (Schore, 2017). A securely attached infant increases their capacity for self-regulation over time (Stanley, 2016). Secure children and adults will feel comfortable expressing their emotions, as well as seeking help from others when in distress. This provides the child with resilience in the face of life's challenges, including a buffer against the effects of trauma (Hoof, 2017). Someone with secure attachment may easily feel calm and safe during social engagement and in relationships (Stanley, 2016). For example, someone with secure attachment can more easily share their emotional experiences with others and benefit from coregulation.

In contrast to children with secure attachment, children with insecure or disorganized attachment learn to cope with overwhelming arousal through alternative strategies that can become harmful or maladaptive later in life (Van Hoof, 2017). Children who do not receive adequate coregulation may not learn to cope with the high nervous system arousal that can result from perceptions of threat (Stanley, 2016), or closeness and intimacy (Schore, 2017). Because of the lack of coregulation, they are unlikely to experience relationships as a source of relief during times of stress (Parish-Plass, 2020), or could also be uncomfortable with closeness (Read et al., 2018). Maladaptive emotion regulation strategies include denial and suppressing the need for help (Ustundag-Budak et al., 2019), causing an unlikelihood to reach out to others for support. Other strategies may be to heighten emotions through rumination, or to display emotional intensity in relationships (Ustundag-Budak et al., 2019). These alternative strategies, while adaptive in early life, lead to problems in relationships as well as psychopathology that brings people into therapy (Slade & Holmes, 2019).

Animals as Coregulators

Many individuals may not experience coregulation in human relationships easily because of these maladaptive emotion regulation strategies. Animals can be important in the lives of many who experience other people as unsafe and may also be a potential source of coregulation (Schlote, 2019). Some aspects of social communication and neural mechanisms are similar across mammals, including maternal behaviour (Carter & Porges, 2016). It is likely that the safety that humans experience with well-socialized animals does facilitate regulation of physiological and emotional states (Carter & Porges, 2016). However, scientific evidence has not yet proven coregulation between humans and animals (Schlote, 2019). This does not mean it does not exist, but instead that there is more research necessary to make this claim (Schlote,

2019). Despite the inability to claim that animals are coregulators to humans, research into the human-animal bond is a strong indicator that there is relational healing power in animal relationships.

The Human-Animal Bond

This section will explore the human-animal bond and how it connects to attachment theory. The human-animal bond will be explored, including important roles that animals fill as social facilitators, giving humans meaning and purpose, and offering companionship. Pets as sources of emotional support will be discussed, as well as how humans and animals communicate nonverbally, and the impact of certain qualities like presence and authenticity. Lastly, how animals might be sources of attachment to humans will be explored.

Animals as Pets

Humans and animals have a long history together. Throughout ancient times, as humans developed societies and began to live domestically, pets were companions throughout that evolution (Walsh, 2009a). Relationships between humans and animals benefitted both—with each side getting needs met such as shelter, food, and protection (Walsh, 2009a). In modern times, a large field of research has explored this mutual bond between humans and animals, and how it may impact the physical and psychological health and well-being of both—referred to as human-animal interactions (Purewal et al., 2017). The literature in this field refers to companion animals, animals that have been caught or bred domestically to live in human communities for certain tasks such as companionship, service or working animals, or psychological support (Ratschen et al., 2020). Research shows that animals play many psychologically healthy roles in human lives. They can act as social facilitators; give meaning and purpose to the lives of adults and children; provide companionship and family; and offer comfort and support.

Social connection is an important aspect of human well-being. Not only do pets offer that connection themselves, but they can also encourage their owners to socialize with other people. People who are accompanied by their pet dogs are approached more and engaged in more social interactions with other people (Glenk, 2017). Pets can help people to build rapport with others by acting as a bridge to connection (Hui Gan et al., 2019; Wood et al., 2017). For individuals with social anxiety, having an animal present had an anxiety-reducing effect (Wood et al., 2017), offering a catalyst for conversation that may be otherwise difficult. Christian et al. (2010) found that when companion animals live in communities, there is an overall perception of more support and friendliness. This increased connection may be linked to the finding that the company of an animals can promote trust in the owner (Beetz, 2017). Individuals seem to feel safer to engage with others when they see they have an animal companion, and the animal seems also to offer a shared subject about which to connect.

Taking care of a pet is an important aspect of the human-animal bond. Successfully caring for a pet long-term can be a source of self-esteem and purpose for individuals (Hui Gan et al., 2019), and even give their lives more meaning. Providing care for pets gives individuals something to look forward to (Hui Gan et al., 2019) and is a task that requires planning and commitment (Chandler et al., 2015). Caring for pets is correlated with individuals feeling socially competent and having higher self-esteem (Wanser et al., 2019). Giving support to an animal results in owners feeling fulfilled and experiencing less psychological distress (Kanat-Maymon et al., 2020). In studies of individuals with long-term mental health concerns, the continuity of having a pet gave their lives meaning and order and contributed to a sense of identity (Hui Gan et al., 2019). Survivors of child sexual assault who struggle with the impacts of trauma reported that companion animals provided a reason for them to live (Wanser et al., 2019),

and similarly pets have been found to be a protective factor against suicide in older adults (Young et al., 2020). Pets can be a rich source of meaning and purpose, aspects of life that are integral to psychological well-being.

Pets are considered by many owners to be part of their family and companions in their lives. They can also serve important roles in family life. Grief reactions to losing a pet are similar to those when losing a human family member, with individuals reporting shock, sadness, emptiness (Kemp et al., 2016). Pets are often the first experience of grief that a child will have, preparing them for future losses in life. Walsh (2009b) also found that children with companion animals showed less anxiety in the face of major life changes.

For individuals without families and for vulnerable adult populations, pets can be important companions. Pets provide companionship simply with their presence and witnessing of life (Hui Gan et al., 2019). For individuals who feel alienated or marginalized, meaning may be found through their bond with pets (Walsh, 2009a). Companion animals are a way for vulnerable adolescents to cope with loneliness (Purewal et al., 2017). In a study by Rhoades et al. (2015), homeless youth with companion animals reported lower rates of loneliness than their peers without companion animals. Older adults who live alone have reported that their pets act as a buffer against loneliness (Branson et al., 2017). Muraco et al. (2018) reported that for older LGBTQ adults, pets provided a sense of belonging, meaningful connection, and acted as substitute children and family they did not have because of structural constraints. In a recent study done during the COVID-19 pandemic, pet ownership was found to decrease the negative effects of the lockdown, including loneliness (Ratschen et al., 2020). Companionship with animals offers connectedness that protects people from loneliness and isolation.

Pets are emotional support figures for their owners. Owners talk to their pets, seek comfort, express emotions as they would with a human companion. In a study of older adult pet owners (Hui Gan et al., 2019), individuals felt relief when they communicated their feelings with the animals. Overall, pets supplied participants with comfort and a sense of safety. Physical touch through cuddling and stroking their pet also provided tactile comfort. Additionally, having a pet present in their lives increased participants' mental health. During the COVID-19 lockdown, an important impact of having a pet was having a source of emotional support during isolation (Ratschen et al., 2020). Bonding with a pet offers comfort, affection, and a sense of emotional security (Walsh, 2009b). According to Chandler et al. (2015), emotional support and comfort were one dimension of pet ownership found to be significant in pet owner wellness. Research shows that pets lead to reduced anxiety in their human counterparts (Meehan et al., 2017; Purewal et al., 2017), even in a brief encounter (Bachi & Parish-Plass, 2017; Crossman et al., 2015). Relationships with animals seem to support feelings of calm, comfort and safety.

Nonverbal Communication

Nonverbal communication is an important part of establishing social relations for humans and animals; comparing the two can highlight some key differences. Human-to-human nonverbal communication includes eye contact, facial expressions, touch, tone of voice (prosody), and movement synchrony (Geller & Porges, 2014; Schore, 2017; Talia et al., 2020). These channels of communication are the first that humans learn in infancy, before verbal processing happens. Infants use facial expressions and eye gaze in the first year of life to communicate with their caregiver (Mehrabian, 2017). Prosody, the higher and softer tones used with babies or animals, is a cue for social engagement (Geller & Porges, 2014). Humans can also sense emotion through touch. An infant in distress can be regulated simply through a touch from their caregiver, without

being able to see them (Schore, 2017). Additionally, movement synchrony of vocal pitch, head movements, body movements, or breathing patterns is a nonverbal process that is often unconscious but plays an important role in communication (Koole & Tschacher, 2016).

Comparatively, animals have more sensory pathways than humans do (Chandler, 2018), meaning they may have an enhanced ability to detect human emotions. For example, some animals may be able to smell humans' emotional state, and licking behavior is thought to also be a pathway to gain emotional information (Chandler, 2018). Similar to humans, animals use vocalizing behaviors. A dog barking or cat meowing is known to elicit an emotional reaction in humans (Beetz, 2017). Andics et al. (2016) found that dogs read human emotions through tone of voice, and some animals have demonstrated the use of prosody when interacting (Beetz, 2017). A dog licking or cat purring are examples of how animals may communicate affection. Even without words, animals have various means of communicating with humans which, coupled with their authenticity can make them excellent social partners. Relating with other humans, on the other hand, can be more complicated.

As children develop into adults, emphasis is placed on communicating with other people through language. However, unconscious nonverbal cues continue to be a primary form of communication in most relational exchanges (Schore & Schore, 2008). The impact of an encounter between two individuals is often not what is said, but the emotional messages being picked up through these subtle cues, often outside of awareness (Docan-Morgan et al., 2013). When nonverbal cues do not match the verbal exchange, this sends conflicting and confusing messages (Docan-Morgan et al., 2013) and can be interpreted by the nervous system as cues that this person may not be safe (Geller & Porges, 2014).

In contrast, nonverbal communication is the basis of the majority of interactions between humans and animals (Koyasu et al., 2020). This means that human-animal communication is more straightforward, and thus, can facilitate feelings of safety in an encounter, especially with a well-socialized animal. Animals have an innate presence and an authenticity to their emotional responses that encourages people to approach them with an openness to security (Beetz et al., 2017). When animals interact socially, they are completely genuine in what they reflect outward in their behaviours (Chandler, 2018). With animals, there is never an incongruence between their behaviours and what they are feeling or sensing in the moment, which allows for an experience of safety for their human companion (Buck et al., 2017). Participants in a study of equine therapy reported that their trust in the horse to provide honest feedback was part of what allowed them to open up emotionally (Buck et al., 2017).

Many individuals also report feeling that animals are non-judgmental (Geist, 2011; Wanser et al., 2019). Since animals are always completely present in their feelings, having no sense of history as humans do, they are much more forgiving (Wanser et al., 2019) and more likely to take every relational encounter as it comes. They do not have biases or any hidden agendas in relationships (Buck et al., 2017), offering only their genuine responses, whether those be positive or negative. If an animal sets a boundary by moving away, for example, humans can more easily trust that when they do move in again, it is genuine.

These qualities of presence and authenticity in animals allow people to feel that animals' affection is unconditional and, thus, feel safer to both give and receive it themselves (Beetz, 2017). Feeling unconditional love is a powerful benefit of the human-animal bond (Amerine & Hubbard 2016, Hui Gan et al., 2019) and is an important aspect of safety in relationships.

Pet Attachment

Humans and animals develop meaningful relationships, and many believe that they are attachment relationships (Beetz, 2017; Meehan et al., 2017). The way that people turn to pets for social support is reminiscent of an attachment bond (Beetz, 2017). Meehan et al. (2017) write that pets were reported as primary attachment figures for some owners and were even ranked higher than other close human relationships in some cases. The way that companion animals give and receive affection, among other instinctual socially motivated behaviors, demonstrate that they can partially meet owner's attachment needs (Purewal et al., 2017).

One of the main characteristics of an attachment figure is their ability to be a secure base and safe haven, important emotional regulatory functions of attachment. Various studies show that pets can demonstrate these features (Beetz et al., 2017; Meehan et al., 2017; Wanser et al., 2019). A safe haven is a reliable figure that is trusted to provide comfort and safety when an individual is in distress or danger. Research into how pet owners experience their pets as safe havens show that pets help to comfort during times of distress, offer a sense of security or protection (Wanser et al., 2019) and emotional support (Purewal et al., 2017).

A secure base functions as an anchor point for an individual to feel confident in exploring the world. Pet relationships can function as a such a secure base for humans (Wanser et al., 2019). Studies have found pet owners believed their pets would consistently be there for them (Beetz, 2017; Meehan et al., 2017) and have shown that the presence of a pet in their lives increases self-confidence in the world (Carr & Rockett, 2017; Wanser et al., 2019). As with human attachment figures, simply calling to mind the image of a pet had positive impacts on distress (Meehan et al., 2017; Wanser et al., 2019).

Animals have parallel processes to humans in the way their social brains function (Beetz, 2017). Mammals are wired for social interaction, dogs and horses are especially attuned to social

interactions, because of their pack animal biology (Chandler, 2018). Well-socialized dogs and horses will engage in interactions including play, comfort-seeking, and nurturance (Chandler, 2018). Dogs have been found to sniff, nuzzle and lick the human participants who pretended to cry (Custance & Mayer, 2012), and cats engaged in more rubbing behaviours when their owners were depressed (Branson et al., 2017), both demonstrating an ability to attune with humans.

There is a reciprocal sensitivity between humans and animals that allows for emotional communication and regulation (Beetz, 2017). The inherent qualities that make animals feel safe, along with their capacity for social engagement and coregulation, make them welcome attachment partners to humans.

Therapies Relevant to Working with Attachment Wounds

This section will outline traditional therapy modalities that address attachment wounds. The first modality that will be explored is attachment therapy including the beliefs and goals that therapists have while working with clients through this lens. The next therapy that will be explored is AAT, including specific techniques that incorporate animals into therapeutic work. Lastly, a brief summary of somatic therapy will be given, outlining the general theory behind working with bodily awareness in psychotherapy.

Attachment Therapy

In attachment therapy, one goal is for the therapist to become a secure attachment figure for clients (Talia et al., 2020). Bowlby wrote of the therapist as a secure base who is responsive, reliable, and sensitive, mirroring an optimal early caregiver relationship (Talia et al., 2020). Once a secure relationship has been built, the client can feel safer to engage therapeutically from this secure base (Slade & Holmes, 2019) and explore their internal emotional world. Therapists must

also be aware of their own attachment histories and states, since these can easily be triggered in the therapeutic relationship (Slade & Holmes, 2019).

Therapy will inevitably activate attachment responses in clients as they engage relationally and share emotional content (Slade & Holmes, 2019). The therapist will observe the interpersonal dynamics that reflect attachment patterns of anxiety or preoccupation, or dismissing and avoiding emotions (Slade & Holmes, 2019), strategies that the client learned in early relationships that are now maladaptive and causing distress or dysregulation. Therapist and client will develop an understanding together by learning about previous relationships and attachment history.

It is through the identification, understanding, and modifying of these attachment patterns, with the secure base of a therapist, that change happens in attachment therapy (Slade & Holmes, 2019). Attachment therapists will respond to clients' diverse attachment adaptations with different strategies. If a client shows more avoidance, therapy is focused on encouraging emotional expression and closeness. For example, the therapist may initially engage with these clients through less emotional content, and then gradually try to elicit more intimacy and emotion from them (Daly & Mallinckrodt, 2009). For clients who are primarily preoccupied or disorganized, the focus of the therapy may be on encouraging self-regulation of overwhelming emotions (Slade & Holmes, 2019). For example, anxious clients may initially rely on the therapist to help cope with challenging emotions, but over time the therapist may encourage more independence and self-regulation in the client (Daly & Mallinckrodt, 2009). Through these strategies, attachment patterns are reconfigured by challenging and disconfirming existing beliefs about self, emotions, and relationships.

Animal-Assisted Therapy

AAT is a recognized field in psychotherapy and describes the use of animals across various psychotherapy approaches and modalities (Amerine & Hubbard, 2016). AAT is used with clients of all ages, and the animal is not only present in the therapeutic space but active in the therapeutic process (Amerine & Hubbard, 2016). AAT does not have a unified framework (Geist, 2011) but instead is integrated with other modalities such as cognitive therapy, play therapy, group therapy, attachment-oriented therapies (Parish-Plass, 2020).

One basic function of having an animal in the therapy space is to create an environment of calmness (Amerine & Hubbard, 2016; Bachi & Parish-Plass, 2017) and reduce anxiety in the client (Chandler, 2018; Lee & Makela, 2018). Animals are known to reduce humans' physiological response to stress and petting an animal throughout a therapy session can help the client stay present and engaged (Chandler, 2018). The therapy animal is also an excellent icebreaker (Zilcha-Mano et al., 2011), by providing a common topic of interest, allowing therapist and client to play and laugh (Parish-Plass, 2020), which can be helpful if a client has nerves about engaging in therapy.

Another function of the animal in AAT is to alert both the therapist and the client to their own emotional states. Chandler (2018) introduces her framework for AAT that harnesses animals' innate social and stress response systems. Animals will move towards someone to comfort or move away if they are feeling too much distress (Chandler, 2018). By staying attuned to the animals' behaviors, the AAT therapist can read these movements as signals in the therapy space. For example, the animal may change their position in the space based on an emotional shift in the client (Chandler, 2018). In this way, the therapy animal acts as an alert or hint at what

may be happening under the surface. Since animals are authentic in their reactions, their behaviors can be a valuable source of therapeutic information (Chandler, 2018).

Relationships with animals provide a wealth of relational dynamics to explore. Various relational moments can happen with a therapy animal, both nurturing and challenging (Chandler, 2018). As in other psychotherapies, both positive and negative relational encounters can provide an opportunity to discuss the clients' experience and how it relates to their inner lives (Chandler, 2018). Because the animal is responsive and available for attachment, they can easily become an object for transference and projection (Parish-Plass, 2020). When the client expresses thoughts or feelings about the animal and its behavior, these are opportunities to process what the animal is bringing up in their relational history (Parish-Plass, 2020).

The AAT therapist can explore what types of feelings are evoked by the animal (Chandler, 2018). When the therapist perceives transference or a projection, the client can be reminded that the animal does not have complex thoughts or judgements about the client (Beetz, 2017). Instead, the client can explore the patterns and relational dynamics that are being re-enacted with this animal (Beetz, 2017). The therapist can also use these moments to gain more information about the pattern of relating that the client may have. As the client learns to reframe some of their relational patterns within the safety of AAT, they begin to develop secure attachment with the animal (Zilcha-Mano et al., 2011).

Somatic Therapies

Somatic therapy is an area of psychology that understands traumatic experiences as impacting the body and the brain, not just the mind, as previously thought (Stanley, 2016). There are several modalities that take different approaches to somatic work; however, they all share a

common understanding about bodily awareness and discharge of trauma in the body (Grabbe & Miller-Karas, 2018).

Unlike traditional talk therapy, somatic therapy addresses experiences of trauma through bodily awareness (Payne et al., 2015). Clients learn to track their own nervous systems and physiological responses to triggers. Tracking helps clients to discern between when they are in a state of calm well-being, or when they may be in a state of hyper or hypoarousal (Grabbe & Miller-Karas, 2018).

Clients are supported to learn self-regulation skills, first through coregulation with the therapist (Stanley, 2016), then through skills like resourcing. Resourcing involves clients bringing into awareness real or imagined people, places, qualities, skills that promote a regulated state (Grabbe & Miller-Karas, 2018), with the intention to call upon them in instances of dysregulation. In somatic attachment therapy, these resources are often real or imagined secure attachment relationships (Poole Heller, 2019) that bring regulation.

Payne et al. (2015) describe trauma as “a highly activated incomplete biological response to threat, frozen in time” (p. 14). Somatic practices provide corrective emotional experiences that allow for a release of the trauma from the body, allowing for healing to occur (Grabbe & Miller-Karas, 2018). In some somatic therapy, this includes encouraging clients to complete biological responses by moving, speaking, or shaking in ways that the body was not able to do during the traumatic event (Grabbe & Miller-Karas, 2018).

Certain somatic therapies highlight the importance of relational experience in healing trauma (Lipton & Fosha, 2011; Poole Heller, 2019; Stanley, 2016). Corrective experiences between client and therapist can heal attachment wounds and foster security (Lipton & Fosha, 2011). Therapists may also use other sources of security, such as past and present relationships,

imagined relationships (Poole Heller, 2019), and even a secure internal self (Fisher, 2017). By having new experiences of relational safety and attunement, the client begins to develop a felt sense of safety in relationships.

Chapter Summary

This chapter has explored the literature surrounding several areas related to animals and attachment: attachment theory, including attunement, coregulation and self-regulation; neurobiology, including the polyvagal theory, implications of affect regulation on attachment, and animals as coregulators; the human-animal bond including pets, nonverbal communication, and attachment with animals.

Lastly, therapy modalities relevant to this capstone were explored: attachment therapy, AAT, and somatic therapy. Each of these modalities provides different approaches to working with relational wounds that can be incorporated into therapeutic work centered around relationships with animals.

This literature review indicates that early attachment is a complex process that significantly impacts individual's ability to trust and feel safe in relationship. The human-animal bond may provide access to safety in relationship for humans in a way that circumvents the threat that people with attachment wounds often feel.

Chapter three will integrate the literature from this chapter to create a toolkit for incorporating the human-animal bond into the therapy space without the use of live animals. This toolkit is meant to support individuals with attachment insecurity or trauma to move towards security in relationship.

Chapter Three: Summary and Recommendations

Summary

Attachment security is an important factor in mental health, creating feelings of safety in interpersonal relationships. For individuals with attachment wounds, stemming from a lack of enough emotional attunement and in early relationships, feeling safe in relationships can be a lifelong challenge (Slade & Holmes, 2019). Emotional attunement is also fundamental to developing emotion regulation, therefore individuals with attachment wounds may develop maladaptive strategies, increasing their vulnerability to trauma and psychopathology (Schore & Schore, 2008). Individuals with these attachment wounds make up the majority of clinical populations (Slade & Holmes, 2019). Many therapy modalities imply that security as a primary goal between therapist and client (Talia et al., 2020). New understandings of the neuroscience of attachment relationships have illuminated how early experiences shape the brain (Schore & Schore, 2014). Classic attachment therapies build safety and security within the therapeutic relationship, offering a corrective experience (Berry & Danquah, 2020). Relational therapies emphasize therapist-client attunement, coregulation and an awareness of body sensations to foster a felt sense of safety in the therapeutic relationship (Stanley, 2016).

To engage in therapeutic work, it requires the individual to feel safe enough to approach therapy and to share emotionally with another person. Even once that happens, many individuals with attachment wounds may be re-triggered by the expected ruptures or mis-attunements that happen in a therapeutic relationship (Slade & Holmes, 2019). While therapy can help some individuals develop secure attachment, for some individuals with significant attachment wounds, the threat they feel in interpersonal relationships can be too high of a bar to begin or continue the journey.

At the same time, many people use animals as a source of connection; they can provide coregulation, attunement, and provide feelings of security and safety with another being (Beetz, 2017). When the innate social qualities of animals, particularly pets, communicate safety to humans, animals can become alternative secure attachment figures for those whose attachment wounds prevent them from feeling safely connected to other people (Zilcha-Mano et al., 2011). AAT harnesses this special human-animal bond to both promote trust in the therapeutic relationship, and to explore relational dynamics that may arise between the client and the animal (Chandler, 2018). For clients who have described animals as an important resource in their lives, therapists might find it useful to incorporate the human-animal bond into their practice without having a live animal present. These clients could benefit from interventions that build attachment security by talking about, and somatically sensing, their past, present, or imaginary attachments with animals.

Gaps in the Research

There is considerable literature dedicated to attachment in psychotherapy as well as the therapeutic outcomes of AAT. There is a gap in the research however, into whether and how the human-animal bond could be integrated into the therapy space in other ways. This capstone aims to offer a resource for therapists who may want to work within that gap. This chapter presents a toolkit that therapists can use with clients to bring animals metaphorically into their therapeutic space: they can then work with clients without having an animal physically present, with the ultimate goal of building the capacity for more secure attachment in human relationships.

Recommendations

This capstone is proposing the Human-Animal Bond Therapist Toolkit, a resource for therapists who are interested in incorporating the human-animal bond into their work with clients

in this metaphorical way. The interventions are designed for clients who have attachment wounds and may present with difficulty feeling safe in the therapeutic relationship, but also for any clients who express that animals play an important role in their relational lives. This toolkit outlines various interventions to help clients move towards more secure attachment in their human relationships. Inspired by AAT, attachment therapy, and somatic therapy interventions, this new toolkit will help therapists to use the human-animal bond in various ways. Therapist and client will explore relational dynamics with animal companions, identify and amplify animals as resources in the clients' lives, and offer somatic exercises based on the sense of safety felt with animals. The purpose of this toolkit is to give therapists tools to build client self-awareness of their own attachment patterns, as well as develop a sense of what safety feels like in relationship, ultimately leading to more secure attachment.

The Human-Animal Bond Therapist Toolkit

The Human-Animal Bond Therapist Toolkit is a new document that will provide counselling therapists with a resource for using with clients who express a connection with animals, and who would benefit from attachment-based interventions. The toolkit is divided into four sections related to the type of interventions. The first section is *Guidance for Therapists to Track Attunement*, which is the precursor to using the toolkit with clients, ensuring the therapist has the ability to attune with their client and that a level of safety is achieved before beginning the other exercises. The second section is *Exploring Relational Dynamics with Pets*, which includes questions that will encourage the client to reflect on their patterns of relating to both animals and humans. The third section is *Building and Amplifying Animals as Resources*, which includes questions to identify how animals function as a resource for the client, and exercises to amplify these benefits. The fourth section is *Somatic Interventions*, which introduces several

interventions that work with clients' body awareness to further explore and integrate their secure attachment to animals.

Before using the toolkit, the therapist will want to assess if these interventions are well suited to the client. They may explore whether animals have ever played an important relational role or acted as an emotional resource in clients' lives. If animals have been sources of comfort, emotional support, grounding and companionship, or brought a sense of calm, then the toolkit will be an excellent resource to use with the client.

The interventions can be used for clients with strong past or present animal relationships; others can use an imaginary animal. Because animals are attachment figures, memories of them can touch on attachment wounds and may bring up emotion in the client. Depending on the intervention, this can either be explored, or, if the intention in the moment is to ground, then a new animal may be chosen that is less activating. In these cases, imagining a less triggering animal may be beneficial. Because these questions may trigger attachment wounds, it may be important to establish an emotional safety plan for if this happens. Therapists should use their discretion.

The toolkit will consist of a series of suggested topics and questions to be explored with clients in sessions. Presented to therapists as a short booklet, it will cover the four themes outlined above- guidance for therapists to track attunement, relational dynamics with animals, amplifying the human-animal bond, and somatic interventions- with suggested topics and discussion questions around each, as well as sample guided exercises. The first theme should be reviewed first by the therapist on their own, and the next three can be presented to the client in any order or worked through progressively over several sessions.

Guidance for the Therapist to Track Attunement

Knowing Your Own System. In order to attune with clients, the therapist must first have experience tracking and understanding their own physiology and emotional state. This exercise can be a daily practice to build awareness of therapists' own nervous system and can be done before a session with a client to track activation levels.

Exercise. Start by feeling your feet on the ground. Begin to notice the sensations in your body. Notice, how is your breathing, or are there any muscles that are tight? Bring attention to any areas where you notice sensation. Do you notice any signs of your nervous system being activated? For example, this could be a fast heartbeat, muscle tightness, butterflies in stomach. Do you notice any signs of your system being deactivated? For example, this could be difficulty connecting with bodily sensations, being lost in thought, numbness or fatigue. Do you notice any signs of regulation in your body? This could feel like a sense of clarity and calm, relaxed posture, or deep and steady breathing. Just take note of what is present, without judgement, but with curiosity as to why it may be there.

Assessing Attunement. These questions are designed to understand whether a therapist is experiencing attunement with a particular client. The client may not be able to take this attunement in as regulating, however the therapist can still maintain safety in the therapy space through their own tracking of the client. If attunement between client-therapist is not achieved first, the remaining interventions in the toolkit will be less effective.

Questions to Self-Assess for Attunement. How do you feel when you are with this client? Do you feel at ease and grounded with this client, or do you notice any signs of dysregulation? What is the quality of your thoughts when with this client? Are there any indicators that you may not be attuned with this client? For example, any self-criticism or self-doubt, any judgement of the client, or negative feelings towards them? If these barriers do show

up, are you able to notice them and refocus on the clients' experience? Are you able to notice your own signals of safety while in session with this client, such as facial expression, eye gaze, tone of voice? Are you able to pick up on this clients' nonverbal cues such as breathing, facial expressions, or posture?

Self-regulation. While therapist dysregulation and resulting mis-attunements are not uncommon in therapy, what is important is the therapist's ability to self-regulate and refocus their awareness on the client when these moments occur. When the therapist is able to regulate themselves upon noticing their own up- or down-regulation, this maintains the necessary cues of safety for the client to stay engaged in the process. Rather than being offered in one specific exercise, this is a skill that is unique to each therapist. It may involve taking several deep breaths or planting your feet on the floor. It may also include touching parts of your body to re-engage the nervous system. Therapists should have their own internal resources they can use to self-regulate in the face of a client that activates their nervous system. The work of learning self-regulation belongs to therapists as much as it belongs to clients and is necessary to maintain attunement.

Exploring Relational Dynamics with Animals

Relating to Animals vs. People. These questions are to open a discussion about the qualities in animals (non-judgment, authenticity, presence) that make them feel safe, in order to explore safety in the clients' human relationships. Questions include: What qualities in animals make you feel connected and safe? In what ways is this different or similar to relating to people? Can you share some experiences where you felt safe or unsafe relating with an animal or person?

Exploring Challenges in the Relationship. These questions are to use the neutrality of animals to explore what relational patterns might be leading to conflict or distress in human relationships. By framing animals as neutral, who do not judge but simply express their present experiences, the client can gain insight into what attachment patterns may be activated in this relationship. Questions include: Can you talk about a time where you felt challenging emotions between you and an animal? For example, have you ever had a pet scare you or make you angry (like when a cat scratches you or a dog wakes you up at night?) Or, have you ever felt rejected by an animal (such as when they chose to greet someone else first?) What were you presuming the animal felt about you? What did you feel about yourself? What did you feel about the animal? Does this feel familiar within other relationships, past or present?

Giving and Receiving Affection. These questions address how the client relates to affection in relationships. Many people with attachment insecurity feel more comfortable showing and receiving love within animal relationships. Questions include: How do you feel giving and receiving affection with animals? How do you show affection with animals? How do they show affection to you and how do you like it? How does that compare with humans?

Emotional Support. These questions explore the topic of how the client seeks support from others. This can open an exploration of what challenges the client faces in seeking support from people. Questions include: Do you or have you turned to animals for emotional support? What does this look like and how does it help? How is this different or similar to asking another person for emotional support?

Attunement. These questions explore attunement in the clients' life, whether they experience it in close relationships, and bring some awareness to what it may feel like. Questions

include: In what ways do you feel understood by animals? How do they communicate this understanding with you? Is this your experience in human relationships? Why or why not?

Building and Amplifying Animals as Resources

Animals in Early Childhood. These questions are to explore how the client may have had animals as a resource in childhood. The goal is to amplify the positive role of animals and to build a sense of connectedness to another in thinking about their past. Questions include: Were animals an important part of your life growing up? What role did they play? In what ways did these relationships help you?

Compassionate Animal. This exercise is adapted from the exercise “Building a Compassionate Image” by Gilbert and Procter (2006). This exercise involves creating a compassionate figure to call to mind during times of distress or self-blame. Animals can be excellent sources of compassion because of their presence and non-judgement. This intervention would include choosing an animal that embodies the qualities of wisdom, strength, non-judgement, warmth. This can be a pet (past or present), another animal in the client's life, or an imagined animal. Ask the client to call to mind a situation in their life that is difficult. Now imagine the animal witnessing you in this situation. Ask the client to imagine what this animal would say about the situation. This requires some imagination but try to remember the qualities of compassion that this animal was chosen for. Some examples of phrases might be “it’s okay” “I love you” “You are doing your best”. How does it feel hearing those things about you?

Guided Imagery. This exercise can be used in times of distress when the client may need to settle their nervous system. The client can either choose an animal in their lives (past or present) or imagine any animal they would like. The exercise will be done in session as a guided imagery, but the client may choose to use it at home with a real pet, with consideration for the

boundaries of the animal. In this exercise the client is invited to imagine this animal and begin to describe their features. What kind of animal is it? Do they have fur? What colour are they? What size? Now imagine the animal being next to them, maybe the client reaches out to the animal. What texture are they? Continue to ask questions for the client to describe the animal vividly. By focusing on an animal in this way, the client can settle their nervous system by drawing attention to the senses.

Somatic Interventions: These exercises are adapted from Poole-Heller (2019)

Investigating Security. This initial exercise is meant to explore what sensations arise when we notice how secure relationships feel. This exercise may bring up a variety of sensations- pleasant, unpleasant, or even distressing. The idea is to notice what happens in the body when the client senses, and feels, a secure relationship. The therapist should use their discretion if the client communicates the emotions have become overwhelming; they may need to discontinue the exercise to offer a grounding practice.

Sample Guided Exercise. Begin by placing your feet on the floor and bringing awareness to your body. Take a moment to notice your breathing, feel your feet on the floor. Scan your mind for an animal that stands out as important in your life. This animal should give you a sense of trust, safety, support, reliability, understanding, and presence. Just notice what happens inside. This animal could be a pet – past or present, it could be the pet of a friend or family, or another animal you have encountered in your life. Imagine this animal beside you. What happens emotionally when you feel them with you? Do you find that you are becoming more relaxed, or more tense? What do you notice about your breathing now? What sensations do you notice in your body? Spend some time noticing what happens when you imagine this animal here. What is it like inside?

My Guardian Animal. If it has been determined that the client has had a secure attachment to an animal that brings feelings of calm, then this exercise can be used in session or outside of it for the client to settle feelings of distress. By summoning a secure animal, the client can internally access a sense of reassurance and regulation.

Sample Guided Exercise. Begin by placing your feet on the floor and bringing awareness to your body. Take a moment to notice your breathing, feel your feet on the floor. Now call to mind an animal that has been important in your life. This is an animal, maybe a pet, who has been reliable, who you trust, who upon seeing them you feel a strong connection. You can be at ease in their presence.

How do you feel when you imagine this animal? What happens in your body? Notice signs of relaxation or regulation. Maybe you are breathing more deeply, your heart rate is slowing, or shoulders relaxing. Notice any sensations in your body, and where relaxation may be happening. Pay close attention to where the safety of this animal's presence is showing up in your body.

Being with Others. This exercise is designed to bring awareness to the client's internal experience when alone, then when relating to a safe animal, and then when relating to others in their lives. This exercise is about bringing awareness to what happens in their nervous system when meeting another. The last part of the practice- noticing the therapist's presence- could be optional, depending on the comfort and regulation of the client.

Sample Guided Exercise. Begin by placing your feet on the floor and bringing awareness to your body. Take a moment to notice your breathing, feel your feet on the floor. For this exercise it helps to close your eyes, to at first feel that you are on your own. Take some time to

notice what is going on inside, any sensations, emotions, tension or relaxation. Make note of how it feels just being with yourself.

Now, imagine that there is a safe animal here with you. Imagine them sitting next to you and notice their presence there. Track what happens inside when you imagine this animal. Does anything shift from when you were on your own?

Now, imagine the animal leaving and instead another person joins you. This could be someone real or imagined, maybe a friend, a past teacher, or a character from TV or a book. Try to choose someone who feels warm, caring, and trustworthy. Notice what happens inside when you imagine their presence. Does anything shift inside?

Lastly, open your eyes and look up at me (therapist). This can be as little or as much as you like. You could just peek at my feet, or glance in my eyes. Feel me here with you in this room. Now take note of what happens inside while you notice me here. Do any different sensations come up inside?

Limitations of this Capstone

There is so much potential in harnessing the human-animal bond for therapeutic purposes, but there is also an ethical consideration for the well-being of the animals that are the subjects of this therapeutic work. The goal of these exercises is to benefit human well-being (Glenk, 2017), but animal welfare must not be a cost of that. While many of the interventions presented in this toolkit do not involve the physical presence of an animal, clients may be encouraged to practice these exercises with animals outside of the therapy space. Tactile contact with animals has shown to be mutually beneficial for animal and human (Glenk, 2017), however animals also disengage or move away from overwhelming emotion in humans (Chandler, 2018). Since the therapist will not be present for these interactions, special care must be taken to discuss

animals' boundaries with the client. While individuals with attachment insecurity can benefit from the human-animal bond, animal cruelty has also been linked with insecure attachment (Hawkins et al., 2017). Special care should be taken by therapists to assess for this risk as well.

This capstone emphasizes the qualities that animals possess that can allow humans to feel safety and trust, and ultimately secure attachment. This bond, however, cannot replace the trust that must be present within the therapeutic relationship. Regardless of the modality, therapeutic relationship is an important factor in therapy outcomes (Berry & Danquah, 2020). For clients with attachment wounds, relationships with animals can feel safer to explore than the immediacy of the therapeutic relationship (Parish-Plass, 2020). However, when working through the exercises in the toolkit, ultimately the trust, safety, and attunement between client and therapist will dictate progress. With that in mind, the spirit of these exercises is to ultimately build awareness and foster secure attachment with other humans, using security with an animal as a template (Schlote, 2019). While there is huge potential for the human-animal bond to facilitate healing, the larger societal and generational wounds are healed in connection and community with other people.

Conclusion

Relationships are central to human well-being and happiness. Whether it is to feel supported through moments of struggle, or to share in moments of joy and play, relating with others is what makes humans feel connected and alive. For many individuals, however, because of their attachment histories, relationships with other people are a source of pain. Animals can offer these individuals warmth, care, and love that is uncomplicated and safe.

This capstone provides therapists with insight into how the human-animal bond can benefit clients with attachment wounds. I hope that in reading this capstone, therapists will

harness the relational power of animals in their clients lives. Through exploring and somatically feeling into these relationships, clients can come to realize that they are wired for safe and secure relationships after all.

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