



Behavior Adjustment Training



Grisha Stewart  
Academy



# GOING TO BAT FOR ALL DOGS

GRISHA STEWART MA, CPDT-KA, KPACTP

ASSOCIATION OF PROFESSIONAL DOG TRAINERS  
2022 CONFERENCE

1

## AGENDA OVERVIEW

- **Secure Attachment Family Education (SAFE)**
- **BAT Philosophy**
- **Prep work**
- **BAT Set-Ups**

© 2022. GRISHASTEWART.COM

2

2

## RESOURCES

- Bregman, E. (1932). An attempt to modify the emotional attitudes of infants by the conditioned response technique. *Journal of Genetic Psychology*, 45, 169–196.
- Bouton, M. E. (2000). A learning theory perspective on lapse, relapse, and the maintenance of behavior change. *Health Psychology*, 19(1S), 57.
- Bouton, M. E., & Peck, C. A. (1992). Spontaneous recovery in cross-motivational transfer (counterconditioning). *Animal Learning & Behavior*, 20(4), 313-321.
- Burnham, J. J., & Gullone, E. (1997). The fear survey schedule for children: 2. A psychometric investigation with American data. *Behaviour Research and Therapy*, 35(2), 165–173.
- Chance, P. (2009). *Learning and Behavior: Active Learning Edition*, (6<sup>th</sup> ed.). Belmont, California: Wadsworth.

3

## RESOURCES

- Cook, M., & Mineka, S. (1989). Observational conditioning of fear to fear-relevant versus fear-irrelevant stimuli in rhesus monkeys. *Journal of Abnormal Psychology*, 98(4), 448.
- Field, A. P. (2006). Is conditioning a useful framework for understanding the development and treatment of phobias? *Clinical Psychology Review*, 26(7), 857-875.
- Friedman, S. G. (2009). What's wrong with this picture? Effectiveness is not enough. *Journal of Applied Companion Animal Behavior*, 3(1), 41-45.
- Gullone, E., & King, N. J. (1992). Psychometric evaluation of a revised fear survey schedule for children and adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 33(6), 987–998.

4

## RESOURCES

- Herry, C., Ferraguti, F., Singewald, N., Letzkus, J. J., Ehrlich, I., & Lüthi, A. (2010). Neuronal circuits of fear extinction. *European Journal of Neuroscience*, 31(4), 599-612.
- Maier S. F., Amat J., Baratta M. V., Paul E., Watkins L. R. (2006). Behavioral control, the medial prefrontal cortex, and resilience. *Dialogues Clin. Neurosci.* 8, 397–406.
- Öhman, A., & Mineka, S. (2001). Fears, phobias, and preparedness: Toward an evolved module of fear and fear learning. *Psychological Review*, 108 (3), 483–522.
- Ollendick, T. H., & King, N. J. (1991). Origins of childhood fears—an evaluation of Rachman theory of fear acquisition. *Behaviour Research and Therapy*, 29(2), 117–123.
- Porges, S. W. (2008). The polyvagal theory: New insights into adaptive reactions of the autonomic nervous system. *Cleveland Journal of Medicine*, 75 (Suppl X), S1–S5.

5

## RESOURCES

- Seligman, M. E. P. (1971). Phobias and preparedness. *Behavior Therapy*, 2(3), 307–320.
- Stewart, G. (2016) *Behavior adjustment training 2.0: New practical techniques for fear, frustration, and aggression in dogs*. Wenatchee, WA: Dogwise Publishing.
- Stewart, G. (2011) *The official ahimsa dog training manual: A practical, force-free guide to problem solving and manners*. Anchorage, AK: Empowered Animals.
- Stewart, G. (2022). Can we make dog training SAFE? Secure Attachment Family Education. <https://grishastewart.com/safe>.
- Sutton, D., Wilson, M., Van Kessel, K., & Vanderpyl, J. (2013). Optimizing arousal to manage aggression: A pilot study of sensory modulation. *International Journal of Mental Health Nursing*, 22(6), 500-511.
- Valentine, C. W. (1946). *The psychology of early childhood* (3rd ed.). London: Meuthen.

6

## Secure Attachment Family Education: The SAFE Framework for Canine Interventions

Grisha Stewart

See <http://grishastewart.com/safe> for sharing and links.

We 'dog people' love our dogs, in ways that people who aren't bonded to dogs just don't understand. We have formed a special kind of connection, what scientists call an *attachment relationship*.

It's not just a preference to attach. We're literally biologically linked to our attachment figures. Our heart rates and breathing sync up, and if the relationship is secure, even imagining the attachment figure increases heart rate variability, meaning our mammalian nervous system is better able to respond to stress (Bryant & Hutanamon, 2018). Life is less scary, less painful (Failo, 2022, Davies, et al., 2009), and more interesting with healthy attachments.

Attachment includes *proximity seeking*, which is one explanation for why my dog, Joey, just brought his toy to chew on my leg.

We can make life better for our dogs by paying attention to their experience of attachment relationships. To that end, I've developed a framework to systematically apply attachment theory to canine learning, which I call Secure Attachment Family Education (S.A.F.E.). **This is big stuff and I hope you'll read it through!**

"Intimate attachments to other human beings are the hub around which a person's life revolves," wrote John Bowlby, father of attachment theory (1980, p. 422). His seminal work on attachment theory was written in 1951, based not on psychology, but ethology. Bowlby defined attachment as a safety regulation system via behavior targeted at specific individuals. "It is suggested that attachment is not only related to the behavioral control system for avoiding the danger of predation, but is also closely related to the feedback system of the neuroendocrinological system" (Nagasawa, Mogi, & Kikusui, 2009).

Over 70 years and mountains of research later, I think it's high time to start deliberately taking attachment theory into account in the way we live with dogs.

Why? Because the ways that we train and live with dogs can accidentally activate the dog's '*attachment system*' (and our own) and leading to a whole mess of unwanted behavior.

### **The what?**

I'll give an example. Let's say your partner is flying from New York to Seattle with a connecting flight somewhere in the middle of the country. As you're driving to lunch, you hear on the news that a plane from Chicago to Seattle crashed at take-off, and you suddenly panic, because you think your partner may have been on that flight.

You grab your phone to look up their itinerary, not even taking the time to pull over because you must know NOW. Nothing else matters in that moment except reconnecting with your loved one.

**That metaphorical lightning bolt that kicked logic and personal safety to the side is your attachment system activating.** As infants, when we were [separated](#) from our attachment figures, we pretty much all displayed characteristic distress vocalizations, such as crying, to bring our parents back and return to safety.

Dogs do that, too. I remember one time I was hiking in the woods and **from a mile away, I heard the loud cries of a 7-week old puppy** who had wandered away from her mother. As adult humans, an activated attachment system causes us to do all sorts of amazing and ridiculous things to save the connection between us and our attachment figures. We also see *protest behavior* in dogs when there's a rupture in or threat to their attachment relationships.

Attachment is a relationship between two individuals that isn't just important, it's fundamental. Attachment is a strong, enduring emotional connection that elicits [grief](#) when it's severed, like when we lose our dogs or even when we go to work without them. Attachment relationships promote a sense of security and safety, beyond simple familiarity (Thompson, 2021, p. 21).

Research shows that **attachment is a biological imperative**; human infants naturally form attachments to their caregivers, and the only exception found so far is when there's no consistent caregiver, for example in a group of orphans in Romania (Zeanah, Smyke, Koga, Carlson & Bucharest Early Intervention Project Core Group, 2005).

When an infant is "securely" attached to the caregiver, they're secure in the relationship. In an infant-caregiver relationship, the caregiver is a *safe haven, a secure base, and the baby seeks proximity* to the caregiver. In particular, they are confident in the caregiver's responsiveness and availability, because of a "history of attuned, sensitive responsiveness from the caregiver to the infant" (Thompson, Simpson, Berlin, 2021). In other words, being around the caregiver is the safest place, they are still under the caregiver's watchful eye for exploration away, and being near the caregiver feels good. When we grow up, we continue to form attachment relationships with friends, partners, children, and even animals (Kurdek, 2008; Nagasawa, Mogi, & Kikusui, 2009) and those can also be secure or insecure.

Humans develop different attachment orientations as a durable, individual characteristic, also called *attachment styles*. Each of us has learned a go-to way of forming attachment relationships, and our attachment orientation is stable. About 68-75% of the population has the same attachment style they developed in childhood (Fonagy, Bateman, Lorenzini, & Campbell, 2014), although **a person's attachment style can change over time** with therapy, catastrophe, significant healthy experiences, etc. Mine did, for the better. More on that later.

There are various research labels, but the main idea is that about 40% of people have a secure attachment style that meets needs for safety, belonging, and autonomy, and 60% have developed various flavors of insecure attachment, largely as a response to their environment.

In case you need a musical break from all of my words, here's a lovely song by [The Feelings Parade](#), written in the voice of a woman with an anxious attachment style. It's an excellent description of an activated attachment system. I sometimes imagine a dog singing it. The book

she refers to is called *Attached: The New Science of Adult Relationships* by Amir Levine and Rachel S. F. Heller.

[https://www.youtube.com/watch?v=MWHrI\\_nwXv8](https://www.youtube.com/watch?v=MWHrI_nwXv8)

People who have a *secure attachment style* are not afraid to love and be loved. They can trust people and share emotions because they've learned that is safe and nourishing. They trust their own judgement. If there's a rupture in the relationship, it still hurts, but then it's bravely repaired. Cycles of accidental rupture and empathetic repair actually make the relationship stronger.

In a **secure** attachment relationship, the **attachment figure is a secure base for exploration, a safe haven from danger, and there's proximity seeking** (they like to be together). In adult relationships, both parties are attachment figures to the other; they return to each other for protection in times of danger, they are comfortable with the other's need for solitude and individual expression, and they enjoy time together.

**Secure relationships help us be our best selves.** That's the sort of thing I want us to be looking at for dogs, too. **Are our interactions and training techniques promoting a secure attachment or damaging the attachment relationship?** More on that later.

One set of labels for insecure attachment (in humans) is anxious, avoidant, and disorganized (aka fearful-avoidant). The key feature is that an insecure attachment system gets more easily activated, and the strategies one uses to calm it down tend to be more destructive than in a secure attachment relationship.

For example, anxious attachment is characterized by needing extra reassurance that the attachment figure is attuned and available ("don't leave me!"). With avoidant attachment, one is triggered by the attachment figure not allowing enough solitude and individual exploration ("don't smother me!") Disorganized is like a blend of the two.

From a behaviorism lens, one can see these as response classes, general ways of dealing with a potentially unsafe situation, based on learning history. Dog training is steeped in learning theory, but the good news is that both are evidence based, and learning theory combines well with attachment theory. Bosmans, et al. (2022) recently proposed a new learning theory of Attachment to blend the two. They looked at successful sensitive parenting interventions based on attachment theory from the perspective of learning theory. Combining those lenses makes it possible to make changes to the interventions to make them more effective, and sheds light on the acquisition of fear and safety signals.

Combining lenses is what I'm proposing we do with our dog behavior interventions, but from the other direction – keeping our well-honed awareness of learning theory, but also **grounding our work in attachment theory, so that we don't just teach dogs how to behave, we help them thrive in community.**

A person with a secure attachment orientation can accurately read behavior that indicates a need for reassurance or more space without taking it personally. That's a giant piece of the work we can do with dogs.

Though dogs don't have the words to create stories around attachment, **they do show behavioral and endocrinological responses (like oxytocin release when looking at caregivers) that are similar to the various attachment styles.** (Nagasawa, Kikusui, Ohta, 2009, for example). It occurs to me that almost all dogs are orphans. Being taken from their canine and human families early on has got to have an effect on their attachment styles. I would love to see studies on the attachment styles of dogs who were raised in intact, multi-generation canine families in people's homes or as village dogs (not in a laboratory!). How common is secure attachment, for dogs, and what does that really look like?

What I do see is that most dog training techniques don't take attachment into account, although there's been a shift in the last decade or so. Can you see how some dog training and behavior modification techniques would help dogs have secure attachment relationships with their caregivers and others could lead to insecure attachment? It helps to learn your own attachment style, so you can know how that's informing the way you treat your dog and the other significant beings in your life.

With humans, experiencing secure attachment relationships and explicitly learning how to respond to attachment system activation behavior can **change the attachment style over time.** As Bowlby wrote, "corrective attachment experiences may compensate for early adversity" (Bowlby, 1988). For example, adoption to parents with a secure attachment orientation before the first year of a child's life seems to prevent significant insecurity in the attachment system, and Emotionally Focused Therapy (EFT) can change adult attachment styles when the client has a secure attachment relationship with their therapist (Badihi & Mousavi, 2016; Johnson & Best, 2003; Johnson & Whiffen, 1999).

**I propose that we (as individuals and as an industry) focus on interventions that improve attachment security for dogs.** In behaviorism terms, that changes the antecedent of relationship attachment, so **dogs have a baseline experience of security, which could make it so much easier for dogs to thrive in human families.** Much of the **behavior that people work so hard to change or suppress seems to me to actually be protest behavior** from an activated attachment system.

Protest behavior is what we do when attachment is threatened or broken, i.e., behavior whose function is to restore the connection to an attachment figure. For example, calling the airline 100 times to see about the crash mentioned above, when our partner didn't even actually fly through Chicago. Or a dog biting his way out of a crate or tearing apart the doorframe to get to his human.

Looking at attachment as a source of behavior in dogs isn't a huge stretch; I think it's the **next logical step.** [BAT](#) and several other canine education approaches like [ACE](#), Play Way, RCT, [L.E.G.S.](#), and [C.A.K.E.](#) have been developed in the modern era that focus heavily on relationship and the experience of the dog. I know I've been mentioning attachment theory here and there for

the last decade, and I imagine others have, too, but it's time to formally operationalize it in the industry. I think the attachment theory research ties the modern shift toward canine mental health together. The S.A.F.E. framework gives us a new criterion by which we can evaluate any technique or activity with dogs (and other species that bonds with humans).

There's been a lot of research showing that humans form attachment relationships with dogs and we've known for a few decades that dogs do form attachment bonds with humans. Recently, there's also been a small amount of research showing that dogs also have attachment styles, for example Sipple et. al found primarily infant-caregiver attachment styles between dogs and humans and sibling attachment styles between dogs, although that varied (Sipple, Thielke, L., Smith, Vitale, & Udell, 2021) and D'Aniello, et. al found features of attachment that were not found in infant-caregiver relationships (D'Aniello, Scandurra, Pinelli, Marinelli, & Mongillo, 2022).

Sipple et. al concluded, "Dog-human attachment may play a distinct and important role in the success and resilience of adult dogs living in at least some anthropogenic environments. Bonds formed with other adult dogs, while important, likely serve a different function." My guess is that this is different in free-living dogs.

My main goal for the dog behavior field is that we deliberately focus on techniques that create what John Bowlby (1958) coined the Secure Base Effect and that we use it as a criterion for evaluating whether or not a technique or interaction is the most humane option.

**"Quality of attachment is typically evaluated based on the presence or absence of the Secure Base Effect (SBE), first described by ethologist John Bowlby (Bowlby 1958). The SBE is observed when an individual displays a **contact-exploration balance in the presence of their attachment figure**. In other words, **in addition to seeking caregiver proximity**, individuals exhibiting the SBE are also more likely to **investigate novel environments and unfamiliar situations while periodically "checking in"** with the attachment figure (Bowlby 1958). In this context, the **attachment figure serves as a source of security and stress reduction that promotes individual growth and learning about the environment"** (Sipple, et al., 2021)**

That's pretty much exactly the work I've been doing with [BAT](#) for over a decade, having humans be a source of security and stress reduction, giving dogs a chance to explore and learn about the social and physical environment, and become their best selves. However, the S.A.F.E. framework will help me steer BAT more accurately, with secure attachment as my North Star. I hope S.A.F.E. does the same for other dog education techniques, too.

**5 Pillars of Secure Attachment** (I can't seem to find the original source for this - email me if you know it)

1. FELT SAFETY (consistency, reliability, and protection - "I am safe. I am loved and therefore loveable.")
2. ATTUNEMENT (being seen and known - watching your dog for [small signals](#) that indicate their inner state. "I can ask for what I need.")



3. FELT COMFORT (soothe when distressed. "I know what comfort feels like and eventually I can find comfort myself.")
4. BEING VALUED (expressed delight "I belong, they're glad I'm here and they enjoy my company.")
5. SUPPORT to explore (Consistent, reliable, unconditional support and encouragement for exploration. "I can figure out who I am and what I like to do.")

For the 40% of people who have developed a secure attachment style, the list above is a cornerstone of human attachment relationships and so it may come relatively easily when interacting with dogs. Adults with secure attachment are comfortable both giving and receiving love in the ways listed above; in secure attachment partnerships, both people care for each other.

For the 60% of people who have developed an insecure attachment style, giving or receiving love may come harder with humans, but it still may be more possible with dogs, and it seems to be an excellent place to start practicing the interaction skills that come naturally to a securely attached person. Attachment styles can change over a lifetime. Like most things, it's a blend of nature and nurture (Erkoreka, et al., 2021). The five pillars above are possible and healthy, and we can help dogs experience them.

By observing how essential secure attachment is for dogs, watching for the effects of one's actions, and deliberately choosing ways to interact that foster secure attachment, we don't just benefit the dogs. I believe that if we take a secure attachment approach to canine education, humans can help their dogs and hone their own skills for other types of relationships at the same time.

Let's take a look at the five pillars and apply that to how we might work with clients.

**FELT SAFETY:** Is the dog reliably safe from harm and intimidation? Does the family know why and how to provide experiences in which dogs feel safe enough and protect them when they need it?

**ATTUNEMENT:** Most 'behavior problems' are really just a mismatch of the dog trying to meet their need in a way that doesn't work for their family. Does the dog have a way to express their needs and meet them with behavior? This is a great overlap with a functional analysis of behavior. Help the family then learn how to assess their own needs in terms of the dog, and find a way for the dog to get their needs met in a way that doesn't conflict. With any dog, not just dogs with 'issues,' teach the client to look for and respond to small bids for contact from their dog, as well as requests for space. Help them learn to look for the locus of their dog's attention, not just as a tool for changing behavior, but in terms of understanding and improving the lived experience of their dog. For clients who have developed an avoidant attachment style, it may be hard to read signs that the dog needs more attention from them. They may find that need for proximity uncomfortable and label the dog as clingy. For clients who have developed an anxious (or pre-occupied) attachment style, they may have trouble recognizing when the dog needs space, or may find that need uncomfortable.

**FELT COMFORT:** Do the clients know how to recognize signs of distress or pain, and have way to help the dog feel comfort? This could be via physical contact, human relaxation exercises, enrichment activities, or moving to a more comfortable location, for example. For clients who have an avoidant attachment style, this may be difficult to do naturally.

**BEING VALUED:** Are clients able to express delight in their dog's presence and behavior? Some expressions of value that humans can do is apply positive reinforcement, play, and use happy body language, like the slow greeting stretch and frequent soft eye contact. Canine greeting behaviors are often met with punishment from humans. Regardless of the quadrant (positive punishment or negative punishment), punishing a dog's joyful greetings could possibly be unhealthy for attachment. Instead, clients can redirect greeting behavior to something that's more suitable for the family, say, jumping up on the couch for a love-fest.

**SUPPORT TO EXPLORE:** Does the client allow the dog to be an autonomous sentient being, able to play with friends, explore new environments, and have their own experiences that bring them joy and satisfaction? Giving the dog a chance to be a dog and do dog things may be stressful for clients who have developed an anxious attachment style. Exerting control and 'obedience' training can be human strategies to reduce their own anxiety, and it can be difficult to allow the dog to have agency.

As you can see, it's not just the dog's attachment that matters, but also the human family. I **propose that the dog training and behavior industry evaluate interventions through the lens of Secure Attachment Family Education (S.A.F.E.), applying attachment theory to dog behavior with the ethical orientation of promoting secure attachment.** S.A.F.E. adds a dimension that LIMA (Least Intrusive, Minimally Aversive) doesn't quite capture. I would prefer we rename it to something like Least Intrusive, Maximally Advantageous (to all).

The following questions are a way to decide whether a dog training or behavior modification technique is attachment theory informed, i.e., whether it will promote or hinder secure attachment in the dogs in our care.

### **S.A.F.E. Dog Interactions: Take the Quiz!**

1. **Does the dog consistently feel safe** or are they put into situations where they seem afraid, especially ones in which the caregiver doesn't protect them? Is the caregiver always safe or sometimes dangerous?
2. **Does the dog have a way to express their needs and interests** in a way that the caregiver understands? Does the caregiver make it clear that they understand the dog's needs (even if it's not always possible to meet them) or are the dog's expression of needs ignored or punished?
3. **Does the caregiver consistently, effectively connect and soothe** the dog when needed, or is the dog ignored, threatened, or distracted when they cannot cope with distress?
4. **Do the human and dog delight in each other** (play together, positive reinforcement, massage, etc.) or is emotion absent or negative?

5. **Does the caregiver promote curiosity** and provide unconditional support and opportunities to learn from the environment or is that behavior suppressed in favor of directing attention to the handler?

The questions in bold should be a YES. If the technique you just answered the quiz about didn't get 100%, what could you change about it to make it a S.A.F.E. technique?

**The S.A.F.E. questions can be applied to any technique or activity with our dogs.** By asking them, we shift what we do to help our dogs see the world through a more secure lens. Taking attachment theory into account when we choose how to address behavior makes a quantum shift in the quality of life for all involved. When we do that, we are all on the same team and everybody wins.

**P.S.** If you want **some practical take-home tips** you can share with clients right now, here you go:

- When you first see your dog (in the morning, coming home, walking into a room, etc.), **do a slow stretch together**, sort of like downward dog. They'll start to copy you (and you, them). See video below.
- Make **soft eye contact** when your dog seeks your attention (blink and look away as needed - it's not a staring contest). If it seems like your dog would want contact, invite your dog over for a scratch and use the 5-second rule to make sure they're still enjoying it and that you've got the right spots. See my YouTube video on that.
- **Your needs and wishes matter, too.** Just find ways to communicate boundaries that are non-violent and that let your dog know they're still loved. What can they do that works for both of you?

---

## SIDE NOTES

**For Self-Care enthusiasts:** If you love this sort of thing, check out my [How to Human](#) class. It's a blend of human care and dog training. It's available on a sliding scale, even free if that's what you need. I also really love the book [Attached: the New Science of Adult Attachment and How It Can Help You Find—and Keep—Love](#) by Amir Levine and Rachel Heller.

**For Buddhists** concerned about attachment: In case it's not clear, secure attachment is a good thing. I was confused about this for a while, but what attachment theory calls 'secure attachment' isn't the sort of attachment that Buddhism warns us against, which is a clinging non-acceptance. That's more like what researchers would call anxious attachment.

**For Science Lovers:** There are so many open questions here.

First and foremost, do dogs have attachment styles? (There is data to that effect, but we need more) Are they different with dogs than humans? What does secure attachment to humans look like in dogs? What's the best way to alter an attachment style to be more secure? Is that actually

what we want, or do humans prefer anxious attachment in their dogs? What's the link between dog aggression / separation anxiety and canine attachment styles (there are a few studies but we need more, looking at the dogs styles)? What's the link between punishment and canine attachment styles (in [humans](#), physical punishment leads to less security, more aggression, and other negative outcomes)? What effect, if any, is there on the human-to-dog attachment being more like a parent than a peer or child (for example is it unhealthy to dog or human if the human is attached to the dog as if the dog were the caregiver)? How does age of removal from the mother affect attachment style, taking attachment style of the mother and primary human caregiver (breeder) into account? What are the benefits to human attachment style when being mindful of S.A.F.E. for interactions with dogs?

## Resources

Badihi, Z. B., & Mousavi, R. (2016). Efficacy of emotion-focused couple therapy on the change of adult attachment styles and sexual intimacy of couples.

Bosmans, G., Van Vlierberghe, L., Bakermans-Kranenburg, M. J., Kobak, R., Hermans, D., & van IJzendoorn, M. H. (2022). A Learning Theory Approach to Attachment Theory: Exploring Clinical Applications. *Clinical child and family psychology review*, 1-22.

Bryant, R. A., & Hutnamon, T. (2018). Activating attachments enhances heart rate variability. *PloS one*, 13(2), e0151747.

Bowlby, J. (1980). Attachment and loss: Volume III: Loss, sadness and depression. In *Attachment and Loss: Volume III: Loss, Sadness and Depression* (pp. 1-462). London: The Hogarth press and the institute of psycho-analysis.

Bowlby, J. (2008). *A secure base: Parent-child attachment and healthy human development*. Basic books.

Davies, K. A., Macfarlane, G. J., McBeth, J., Morriss, R., & Dickens, C. (2009). Insecure attachment style is associated with chronic widespread pain. *PAIN®*, 143(3), 200-205.

D'Aniello, B., Scandurra, A., Pinelli, C., Marinelli, L., & Mongillo, P. (2022). Is this love? Sex differences in dog-owner attachment behavior suggest similarities with adult human bonds. *Animal cognition*, 25(1), 137-148.

Erkoreka, L., Zumarraga, M., Arrue, A., Zamalloa, M. I., Arnaiz, A., Olivas, O., ... & Basterreche, N. (2021). Genetics of adult attachment: An updated review of the literature. *World Journal of Psychiatry*, 11(9), 530.

Failo, A. (2022). Recent advances in the linkage of attachment and pain: A new review. *Features and Assessments of Pain, Anaesthesia, and Analgesia*, 15-25.

Fonagy, P., Bateman, A. W., Lorenzini, N., & Campbell, C. (2014). Development, attachment, and childhood experiences. *The American Psychiatric Publishing textbook of personality disorders*, 55-77.

Johnson, S. M., & Best, M. (2003). A systemic approach to restructuring adult attachment: The EFT model of couples therapy.

Johnson, S. M., & Whiffen, V. E. (1999). Made to measure: Adapting emotionally focused couple therapy to partners' attachment styles. *Clinical Psychology: Science and Practice*, 6(4), 366.

Kurdek, L. A. (2008). Pet dogs as attachment figures. *Journal of social and personal relationships*, 25(2), 247-266.

Lansford, J. E., Sharma, C., Malone, P. S., Woodlief, D., Dodge, K. A., Oburu, P., ... & Di Giunta, L. (2014). Corporal punishment, maternal warmth, and child adjustment: A longitudinal study in eight countries. *Journal of Clinical Child & Adolescent Psychology*, 43(4), 670-685.

Munir, A., & Hussain, B. (2019). Implications of Corporal Punishment on the Child's Mental Health in Peshawar, Pakistan. *Pakistan Journal of Criminology*, 11(1), 16-27.

Nagasawa, M., Kikusui, T., Onaka, T., & Ohta, M. (2009). Dog's gaze at its owner increases owner's urinary oxytocin during social interaction. *Hormones and Behavior*, 55, 434-441.

Nagasawa, M., Mogi, K., & Kikusui, T. (2009). Attachment between humans and dogs. *Japanese Psychological Research*, 51(3), 209-221.

Sipple, N., Thielke, L., Smith, A., Vitale, K. R., & Udell, M. A. (2021). Intraspecific and interspecific attachment between cohabitant dogs and human caregivers. *Integrative and Comparative Biology*, 61(1), 132-139.

Thompson, R. A., Simpson, J. A., & Berlin, L. J. (Eds.). (2021). *Attachment: The fundamental questions*. Guilford Publications.

Udell, M. A., Brubaker, L., Thielke, L. E., Wanser, S. S., Rosenlicht, G., & Vitale, K. R. (2021). Dog-Human Attachment as an Aspect of Social Cognition: Evaluating the Secure Base Test. In *Comparative Cognition* (pp. 305-320). Springer, Singapore.

Zeanah, C. H., Smyke, A. T., Koga, S. F., Carlson, E., & Bucharest Early Intervention Project Core Group. (2005). Attachment in institutionalized and community children in Romania. *Child development*, 76(5), 1015-1028.