# Cooperation Not Coercion

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In 2012, the staff at Canine Assistants began a review and assessment of our canine educational and developmental protocols with a multi-part question: “What do we want from and for our service dogs and how best can we achieve those goals?” Assessing what we want from and for our dogs was a fairly straightforward process. We want our dogs to live and work with their human partners peacefully, posing no threat to people or other animals. We want our dogs to live and work with their human partners collaboratively, assisting them as needed. Finally, as both a moral and practical imperative, we want our dogs to be well and happy. Facilitating such outcomes is more than our responsibility. It is our ethical obligation. Determining how best to do this required an extensive evaluation of past, present, and potential educational methodologies, as well as everything we know about dogs and their relationship with people.

For the first 20+ years, Canine Assistants, like virtually all animal training organizations, used educational techniques based on conditioning methods derived from the psychological school of *behaviorism* so we began our evaluation with a study of behaviorism itself.

**The Road to Behaviorism**

In 1883, Georges Ramones, a young disciple of Darwin’s, published a book entitled *Animal Intelligence* in which he told stories he believed provided evidence of human-like intelligence in animals. The use of stories based on observation was a common practice of the times known as the ‘anecdotal method.’ Ramones wasn’t alone in believing animals to be sentient and sapient beings either. His mentor, Charles Darwin, wrote often of the similarities between human and animal emotion and cognition. However, not everyone agreed and by the end of the century a backlash against such attributions began to build.

C. Lloyd Morgan, though educated in zoology and geology is the man considered by most to be the father of comparative psychology. In what is now known as Morgan’s Canon, he urged researchers to exercise caution in their interpretations of animal behavior:

> “In no case may we interpret an action as the outcome of the exercise of a higher psychical faculty, if it can be interpreted as the outcome of the exercise of one which stands lower in the psychological scale."

Morgan believed that the behaviors cited by Ramones and others as evidence of higher cognition in animals was more likely the result of trial-and-error learning, a process that requires far less intellectual prowess. His beliefs were strongly supported by those in a developing school of psychology known as behaviorism.

At the turn of the 20th century, psychology was a still a young science challenging the hold philosophy and religion had on the study of behavior. Many of its practitioners were struggling to be seen as serious scientists in a field where abstract concepts such as Freud's id, ego, and superego, dominated. Psychology was fertile ground for new concepts, particularly those that were data driven. The field was ripe for change and behaviorism with its focus on only what can be seen and quantified delivered.

Ivan Pavlov a Russian physiologist, made a significant, though unintended, contribution to behaviorism when he noticed that the dogs he was using to study digestion salivated in response to a sound they associated with food – even if the food was not there – just as they salivated when faced with the food itself. He labelled this spontaneous response the 'conditional reflex.' This concept of using a preceding environmental stimulus, later labelled an antecedent, to elicit a behavioral response became known as *classical conditioning*.

Ivan Pavlov, like Morgan and the other early behaviorists, refused to speculate about what might be happening in the dogs' brains. He considered brain activity unstable and needlessly speculative. Pavlov insisted that he'd proven dogs could be conditioned to drool in response to sound. In his mind, this merely meant the brain could be trained – period.

Also siding with Pavlov was an American psychologist named Edward Thorndike. Thorndike believed that animals could be conditioned, or trained, to look intelligent while possessing minimal cognitive ability. When animals solved problems in the experiments he'd set up, he insisted their successes were merely the fortunate result of the animals' natural inclination, rather than any thought-based process. Thorndike went on to develop what he called 'laws of animal behavior.' His Law of Effect said that actions followed by a satisfying outcome would become *connected* with a solution. His second law, the Law of Exercise, said than the more frequently this happened, the stronger the connection between action and result.

Though much of the groundwork had been laid by Pavlov, Thorndike, and others, it was John Watson, from South Carolina, who earned the appellation the *father of behaviorism* with his 1913 paper "Psychology as the behaviorist views it." In this paper, often referred to as the

Behaviorist Manifesto, Watson said, "Psychology, as the behaviorist views it, is a purely objective, experimental branch of natural science which needs introspection as little as do the sciences of chemistry and physics." Watson believed goal of behaviorism was the prediction and control of behavior and that all behavior, be it that of a person or a white rat, was simple conditioned reflex.

Watson counseled parents, especially mothers, against cuddling or comforting their children, insisting it would make them weak and overly sentimental. He maintained that parents should focus only on conditioning children. Perhaps his most famous, and revealing, quote was, "Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors." In his book, *Psychological Care Of Infant And Child*, he wrote of his dream of a baby farm where children could be raised and conditioned in a sterile environment free of the dangers of 'mother-love.'

Watson received a significant amount of support from physicians regarding the danger of parental affection. One doctor in particular, Luther Holt, from Columbia University publicly opposed contact between parent and child. Seeking cleanliness close to outright sterility, Holt argued that parents should avoid hugging and kissing their children. Allowing children to sleep in bed with their parents, a common practice at the time, was also something Holt strongly opposed.

The beginning of the 20th century saw a significant increase in the number of children being raised in orphanages. Shockingly, the mortality rate in many of those facilities was close to 100%. Infection, often spread by physical contact, was thought to be the primary cause. Holt and others in the medical community were genuinely trying to protect children from what they perceived to be a serious risk. But, when combined with the exhortations of John Watson, by then the president of the American Psychological Association, and other psychologists, it must have been an exceedingly lonely time to be a child.

Nonetheless the popularity and impact of behaviorism only increased when a young man from the small town of Susquehanna, Pennsylvania began to champion the cause. B. F. Skinner, then an aspiring writer, was working as a clerk in a New York City bookstore when he came across the writings of Pavlov and Watson. He was so captivated by their work that he enrolled in the Psychology School of Harvard University in order to follow in their footsteps.

Skinner was wholly committed to behaviorist ideals concerning the importance of what could be seen and quantified, often explaining that the inner workings of the mind, what he and other behaviorists call the black box, were both "unknowable and irrelevant." However, he didn't agree with everything Watson espoused. Watson and other early behaviorist believed we are born with minds that are "tableau rosa", a blank slate and all behavior is ontogenic or acquired. Skinner acknowledged both innate, phylogenic, and acquired, ontogenic, behavior. He also found classical conditioning an overly simplistic explanation for all behavior.

Reviewing Thorndike's Law of Effect and Pavlov's finings on conditioning lead Skinner to believe that there was a missing piece to the puzzle – what effect the result of a particular response to stimuli was. He theorized that rewarding (or punishing) responses would make that response more (or less) likely to occur in the future.

Combining a lifelong passion for building things with a fascination for experiment-based research, Skinner built a box – later known as a Skinner box – to test his theory. Using hungry rats and pigeons, Skinner discovered that he could use food rewards and various punishments to facilitate the development of all sorts of behaviors. Changing the rate of what he labelled *reinforcements* allowed those behaviors to be acquired more or less rapidly. And, breaking complicated actions into smaller, simpler tasks and combining them allowed for the shaping of complex behaviors.

Conditioning clearly worked. The question other scientists began to ask was, "At what cost?" The answers were disturbing.

## Beyond Behaviorism

It was an experiment done by John Watson himself that first caused a significant backlash against behaviorism. Watson and Rosalie Raynor, the graduate student who later became his wife, wanted to expand on Pavlov's work and prove that emotion could be conditioned. They started by introducing a 9-month old little boy known as Little Albert to stimuli, as they called it, such as a white rat, a rabbit, a monkey, burning newspaper, and various masks to gage his reactions. Little Albert was largely unaffected. The next time Raynor showed the baby the white rat, Watson hit a metal pipe with a hammer making a sudden, loud noise. Little Albert began to cry. After repeatedly making the loud noise when the white rat was presented, Little Albert began to cry hysterically the mere sight of the rat – no noise required. But that wasn't all. Fairly quickly,

Little Albert became hysterical at the sight of anything furry and white, including John Watson's mask. Watson and his supporters were thrilled, believing that Little Albert provided proof that emotions and actions are simple conditioned responses.

Others weren't so thrilled. While many scientists spoke out against the obvious ethical problems with Watson experiment, they were even more worried about what the experiment showed. When classical conditioning is deliberately undertaken it can have unintended consequences stemming from unplanned associations. In an effort to produce an emotional response to a single stimulus, Watson and Raynor created a child terrified of multiple stimuli. Anecdotal reports from those involved with the experiment reported that Little Albert's new found fears had a negative effect on his sleeping, eating, and social habits, as well. And though, it is obvious that the generalization of negative responses can prove harmful, Watson's critics pointed out that the same thing can be said of irrational positive associations.

Watson, who once cautioned mothers – "When you are tempted to pet your child, remember that mother love is a dangerous instrument" – found a particularly harsh critic in Stanford-educated researcher Harry Harlow. Harlow worried particularly about the things Watson was saying concerning the dangers of love and affection. Explaining his fervor in fighting Watson's recommendations, Harlow said, "For a generation there was no major mental institution in the country without its population of Watson-raised babies."

Harry Harlow had learned something about the importance of mothers when doing experiments with rats as a student. Without good mothers, he found it difficult to keep his young rats alive. When behaviorists, such as Watson, began insisting that loving mothers were harming their children and that babies only cared about their mothers because mothers provided milk, Harlow decided to seek empirical evidence that the behaviorists were incorrect in their assertions.

He and his team documented the disturbed behaviors – such as staring endlessly, spinning in aimless circles, and even self-mutilating – shown by rhesus monkey babies who'd been raised without their moms. Harlow also took eight young monkeys away from their mothers and divided them into two groups of four and housed each of the groups with two surrogate 'mothers.' One 'mother' was made of wire and the other was made of wire covered with foam, topped with terry cloth, and heated. In one room the terry cloth 'mother' provided milk and in the other room the wire 'mother' provided milk. If the behaviorists were correct, the babies should spend most of their time with whichever mother provided milk. As Harry predicted however that was not the case. Both groups spent as much time as was possible with the terry

cloth ‘mom.’ In the room where the wired ‘mother’ gave milk, the babies would quickly dash over to nurse and run right back to the warmer, snugglier mother-surrogate. Harry’s experiments showed that feelings of warmth and attachment are more important than even food. He explained, “If monkeys have taught us anything it’s that you’ve got to learn how to love before you learn how to live.”

Harlow wasn’t the lone voice speaking out in favor of loving mothers. Austrian psychologist , Katherine Wolf, proposed that allowing a mother into a hospital ward could improve an infant’s survival chances. Wolf despaired, “The best equipped and most hygienic institutions, succeeded in sterilizing the surroundings of the child from germs at the same time sterilized the child’s psyche.” British psychiatrist John Bowlby also denounced the behaviorist belief that affectionate mothering was irrelevant and that children could and should be trained. Bowlby believed strongly that the affection and security, or lack thereof, felt by young children had a lifelong impact. “Push a child away, abandon it,” he said, “and you do not see a well – disciplined miniature adult.”

B.F. Skinner’s form of behaviorism, what he called radical behaviorism, had its critics as well. Writing of peoples’ responses to being taught through operant conditioning, psychologist Miki Kashtan explained, “People described the experience as one of helplessness, being overpowered, discouraged, or at times indifferent. They had an experience of closing down in response. Beyond the obvious lack of freedom, the personal cost was also of connection and of respect, both in terms of not being respected and losing respect for the person making the demand.” In his book Punished by Rewards, Dr. Alfie Kohn said of radical behaviorism, “There is a time to admire the grace and persuasive power of an influential idea, and there is a time to fear its hold over us.”

Starting in the 1950’s, multiple alternatives to classical and operate conditioning were developed. Many early childhood development specialists and educators, aware of the drawbacks inherent in conditioning, turned to these newer methodologies. Tragically, animal trainers did not.

## What We Saw At Canine Assistants

For more than twenty years, Canine Assistants utilized some form of operant conditioning as our primary method of educating dogs. We were, after all, a service dog training school. When we first started, we used what would now be called old-fashioned obedience training methods. I call

it the *because-I-said-so* method. We told the dogs what to do and corrected them if they didn't do it. Yes, we also used rewards, but I'd say that it was our use of positive punishment that had the most impact on our dogs. The dogs wore choke chains or pinch collars so that we could physically force them to do as directed.

Since so much of our time with the dogs was spent in an effort to educate them, our training method was really the same thing as our relationship template. We said and they did. It made me as uncomfortable as it made the dogs. And, while it was extraordinarily effective in developing dogs who graduated showing an impressive level of obedience, it didn't seem to last. Three weeks to three months after placement many of our clients called to tell us their dogs would no longer do as they were directed.

Never fear, behaviorism had the answer for this, too. It was simply a matter of the extinction of a conditioned response in the absence of reinforcement. Or, to put it in simpler terms, the dogs were no longer afraid of being punished if they didn't do what they were told, since the vast majority of our clients couldn't or wouldn't correct their dogs.

We had to find another way to force – I mean, encourage – the dogs to do as they were told. Operant conditioning had that covered as well. We merely moved from positive punishment to positive reinforcement. Our clients would use treats in a sort of 'fee for service' paradigm. That was somewhat better – unless you ran out of treats. Learning theory based on conditioning helped us understand that we just weren't using the appropriate reinforcement schedule with our rewards and that it was entirely possible to condition them to the point of lasting intrinsic motivation for compliance. So, we got better about using variable reinforcements, and it helped…somewhat. Mostly however, we just stuffed our clients' pockets full of food.

The people were much happier using positive reinforcement. I was almost smug about the fact that we were now among 'the good guys' who treated dogs with the respect they deserved. Our dogs, on the other hand, actually seemed to become more anxious when we started using positive reinforcement. They almost always had diarrhea during placement camps, something we wrote off to an increase in treats, and took up to a year or more after placement to get completely comfortable in their placements. But the positive reinforcement dogs showed additional signs of stress. They were restless and unable to settle during camp lectures. They constantly 'threw' behaviors seemingly desperate to earn praise or food. For the first time, I could completely understand why other assistance dogs schools who tried positive reinforcement training often didn't stick with it for long. Something was badly wrong.

As my husband and Canine Assistants' staff veterinarian, Kent Bruner, and I tried to figure out just exactly what was causing this increase in anxiety, I couldn't stop thinking about something Bonnie Bergin, the woman who originated the concept of service dogs, once said. We were at a conference together some years ago when someone asked Bonnie what type of training she used. Bonnie explained what they were doing and then added, "Dogs are capable of so much more than just conditioning." The look of absolute angst on her face when she said that was something I'd never forgot. This was clearly meaningful to her. Maybe it was also the answer to what was happening with our dogs.

First, we reviewed all those partnerships that we felt were exemplary in an effort to understand why it took so long for the dogs to get truly in sync with their people. The answer quickly became obvious. It took a year or more for people to get tired of doing what we'd asked them to do and begin leaving the dogs in peace. Once the pressure was off, the dogs seemed to relax. Once they relaxed, they began to do everything asked…and more. Often without waiting to be asked.

Clearly what we were asking people to do – use conditioning to educate and manage their dogs – was impeding the development of a functional partnership. But why? We turned to recent research from canine cognition centers to help us figure out the answer to that question.

## What We Know About Dogs

After the often cruel experiments conducted on dogs around the turn of the 20th century, dogs blessedly fell out of favor as laboratory subjects. This happened in part because of a Russian trotting horse named Clever Hans who had been purchased by a retired Prussian schoolteacher in 1900. The schoolteacher, Wilhelm von Osten, was a man who couldn't stop teaching simply because he retired, so he taught his horse. Clever Hans seemed to learn. He would paw out his answer to math problems and other questions with amazing accuracy. The horse genuinely appeared brilliant…until researchers finally realized that he was reading the body language of his questioners in order to know when to stop pawing. A remarkable feat of social awareness, but not as advertised. Researchers were then warned to watch out for the Clever Hans Effect. Since dogs were already known to be capable of similar "trickery," true scientists thought it best to steer clear of them in serious research. Additionally, dogs were commonly sharing hearth and home with people. This made people less comfortable with seeing them used as laboratory

subjects. It was also more difficult to separate dog from man – something the developing school of ethology, the study of animal behavior under somewhat natural conditions, found vexing.

Even in the later part of the 20th century very little research was being done with dogs. Only six peer-reviewed articles on canine cognition were published before 1965. Between 1990 and 1994 eight peer-reviewed articles were published on canine cognition and fourteen were published between 1995 and 1999 (Bensky, 2013). But at the beginning of the 21st century, we began to see the popularity of dogs as research subjects increase quickly. Forty-nine peer-reviewed articles on canine cognition were published between 2000 and 2004 and ninety articles were published between 2005 and 2009 (Bensky, 2013). By 2018, we saw 267 articles published in peer-reviewed journals in a single year.

**What the Research Says**

Dogs had become popular subjects of research for a multitude of scientific disciplines, including ethology, psychology, zoology, biology, anthropology, neuroscience, genetics, and veterinary medicine. A neuroscientist from Emory University, Gregory Berns, explains, "There is now a veritable renaissance in canine behavioral research." The numbers support his statement. Miles Bensky and colleagues did an analysis of peer-reviewed canine cognition research through 2009, and I have done an analysis of peer-reviewed publications for 2018.

| Years | Total Number of Peer-Reviewed Articles | Number of Articles Focused on Social Cognition |
|---|---|---|
| **Before 1965** | 6 | Unknown |
| **1990-1994** | 8 | 1 or 12.5% |
| **1995-1999** | 14 | 5 or 35.7% |
| **2000-2004** | 49 | 22 or 44.9% |
| **2005-2009** | 90 | 62 or 68.9% |
| **2018** | 267 | 195 or 73% |

The first thing we noticed as we reviewed the cognition studies that had been published was an increasing shift toward social cognition studies. Only one in eight or 12.5% of the articles published between 1990 and 1994 focused on social cognition (Bensky, 2013). By 2018, that number had increased to nearly 74% or 197 out of the 267 published. An increase that dramatic had to be caused by more than mere changes in fields of focus.

The information we needed to understand the anxiety we were seeing in our dogs and how best to resolve it was clearly available to us thanks to this surge in research. We simply had to pay attention to what the research was showing us.

The shift toward social cognition would prove to be meaningful for our program. In fact, a single realization based on the increase in social cognition research changed everything for us. **Dogs, like man, are highly social animals and they are willing to form social relationships with us.**

**On Being Social**

Consider what research tells us about social animals in general.

Benefits of Social Living

It is generally accepted that animals who live in social groups enjoy certain advantages:

- Those who live together enjoy greater projection against predation – resulting in increased reproductive success, as well as longer individual life expectancies (Alexander, 1975).
- Social animals have a greater capacity for obtaining adequate food, water, and shelter (McGlynn, 2010).
- The energy demands on individuals is decreased when living in groups (Rault, 2012).
- The challenges of social living – of having to pay attention to the moods and movements of others and coordinate one's own behavior accordingly – is believed by many to result in increased cognitive ability (Borrego, 2016).

Characteristics of Social Animals

Social animals share these characteristics:

- They form lasting attachments to others in their social group. The security and functionality of these bonds may well be the product of the security of the individuals first bond (Bowlby, 1958).
- Social animals want to be accepted and valued by those in their social group. Being accepted is a vital part of thriving emotionally for socially animals. A feeling of being valued is closely associated with feelings of being safely part of the group, something vital for physical and emotional wellbeing (Mikulincer and Shaver, 2014).
- They want to be like the others in their social group. They want to conform. Conformity is a change in beliefs or behavior as the result of real or imagined pressure from others (Pesendorfer et al., 2009).
- Social animals have the ability and desire to engage in both productive and receptive communication (Hebbets and Anderson, 2018).
- Given the benefits involved in living with others, it makes sense that social animals have a desire to maintain proximity – to stay close to those in their social group. Staying close may well be an evolutionary strategy for social animals. John Bowlby (1958) believed that only those social animals who had successful proximity-maintenance strategies were able to reproduce.
- Social animals show prosocial behavior, meaning they do things that benefit others even if so doing does not benefit them. There are various theories regarding why this happens ranging from altruism to the hope that the favor will be returned (Rushton, 1982).
- Social animals have a neurochemical response to, and produce a neurochemical response in, those in their social group as the result of various interactions (Cozolino, 2014).
- Social animals suffer physical and emotional pain as the result of damage or threat to their social relationships (Panskepp, 2014).

## Dogs Choose People as Social Partners

Knowing that dogs and people are both highly social, it is not surprising that we would form relationships. However, what is astonishing is the intensity of those relationships – from both sides, but particularly from the dogs' perspective. Many dogs seem to prefer the company of people to that of other dogs. A study undertaken at Wright State and Ohio State (Tuber et al,

1996) on littermate pairs of mixed breed dogs used in research showed that the dogs had a marked preference for a human caretaker over their own littermate.

Many dogs also seem more deeply attached to the people in their lives than they do to the other dogs in their lives. At Emory University in Atlanta, Greg Berns and his colleagues used fMRIs to assess the activation of the nucleus caudate of dogs, as a measure as enjoyment, when presented with odor swabs of their owners, an unfamiliar person, a familiar dog, and an unfamiliar dog. Only the smell of their person caused a response in the nucleus caudate, leading the researchers to speculate that dogs may well experience the same feelings of love toward us as we do toward them (Berns, Spivak, and Brooks, 2015).

It is worth noting that domestic dogs not only want to have relationships with people but they *need* us as well. Our dogs depend on us to feed, water, shelter, exercise, and even toilet them. This is the reality that I suspect remains an unconscious awareness and strong influence for our dogs.

**Social Competence**

Social competence refers to an individual's ability to use available social information to optimize social behavior (Taborsky and Rui, 2012). We have ample evidence that dogs want to have relationships with people, but what does the research say regarding their competence in so doing?

Let's analyze by using the characteristics of social animals previously listed and reviewing what we know about various aspects of social competence in our dogs.

**Do dogs form lasting attachments to people?**

A British psychologist named John Bowlby developed Attachment Theory in the late 1950's as a way of explaining why human beings, particularly babies, form attachments to others. It was his belief that the desire to attach in infants is an inborn evolutionary safety measure allowing safety and security.

Using Bowlby's findings, psychologist Mary Ainsworth (1969) formalized several styles of attachment and later Ainsworth and Witting (1969) developed the Strange Situation Test as a way of determining an individual child's attachment style.

<u>Characteristics of a Secure Attachment:</u>

Proximity Maintenance: The child's desire to stay close to caregiver.

Safe Haven: The child running back to the caregiver when frightened or uncertain.

Secure Base: The caregiver forming a stable base from which the child can explore his environment.

Separation Distress: The child feeling anxiety when caregiver is not present. (This is not the same as the highly demonstrative, inconsolable apprehension as one might see in a dog with serious separation anxiety.)

Parents of securely attached children tend to respond quickly to their child's needs. In addition, they are more engaged, spending the necessary time to play, read, and be involved. Parents who respond inconsistently to their children's needs or who are overly occupied in directing their activities tend to produce infants who explore less, cry more, and are more anxious. Parents who consistently reject or ignore their infant's needs tend to produce children who try to avoid contact.

Secure Attachment is marked by separation distress when away from caregivers and joy when reunited with them. Children who are securely attached seek comfort from their caregivers in times of need, comfortable in the knowledge that caregivers will promptly provide reassurance.

Ambivalent-Insecure Attachment is marked by children becoming distraught when their caregiver leaves and displaying inconsistent reactions, such as anger or rejection, upon being reunited with the caregiver. Teachers may later describe these children as clingy or overly needy. This attachment style is thought to be the result of the lack of availability on the part of early caregivers.

Avoidant-Insecure Attachment is evident in children who show no preference between caregivers and total strangers. They tend to be altogether emotionally withdrawn. Since this style is thought to be the result of punishment or abuse, these children learn not to seek reassurance from caregivers.

In the mid 1980's, researchers Hesse and Main (2000) added a fourth style to Dr. Ainsworth's original three. Disorganized-Insecure Attachment represents those children whose attachment styles change frequently. This attachment pattern is thought to be the result of inconsistent behavior on the part of caregivers, such that they may be the sources of both comfort and fear. It

has been repeatedly shown that this type of attachment puts children at risk for high levels of hostility and aggression later in life.

Multiple studies – beginning with one done by Topál, Miklósi, Csányi, and Dóka (1998) at Etovos Lorand in Hungary – have indicated that dogs develop similar attachment patterns to those developed by children.

**Dog dogs seek the acceptance of the people to whom they are attached?**

Dogs clearly seek the acceptance of people, particularly those to whom they are attached. Anecdotal stories of dogs giving "gifts" to their people are common. So too are stories of dogs trying to pacify their people using various appeasement gestures. Appeasement has also been documented in empirical studies. Firnkes, et al, studied the appeasement signals shown by 116 different dogs when guided through multiple scenarios by their owners. Lip-licking and looking away were commonly used appeasement gestures most often offered toward researchers, but also see in communications with owners.

**Do dogs conform or synchronize with the people in their social groups?**

A review by Duranton and Gaunet (2015) reveals that dogs synchronize to the gait of the people next to whom they walk. This is something we see at Canine Assistants frequently and often within minutes of the person and dog meeting. The synchronization is clearly the result of the dogs altering their gait rather than any effort on the part of the person. Further Duranton and Gaunet (2015) explain that dogs adjust their behaviors after watching the interaction between a person and another dog. Multiple studies, including ones we've done at Canine Assistants, show that dogs adjust their communicative behaviors according to the attention states of people.

Multiple studies have also shown that the domestication of dogs, as well as their relationships with people, act to inhibit aggression so that they may better function in human society (Gacsi et al., 2009; Hare & Tomasello, 2005; Hare et al., 2002; MacLean & Hare, 2015; Topal et al., 2009).

**Can dogs understand our communicative efforts? Can they produce communicative signals we can understand?**

Border collies Rico and Chaser, and others like them, have proven that dogs are capable of learning hundreds of human words and can recognize that some are used to denote action while

others label an object, individual, or place (Pilley, 2013). Recent fMRIs done in Hungary (Andics and Miklosi) indicate that dogs have an area in the brain, similar to that found in people, which allows for the assessment of vocal communication from a soci-emotional perspective.

Spoken language isn't the only way that we can give our dogs information. That dogs can and will follow the pointing gestures of people – something even primates don't do – has been documented multiple times starting with Brian Hare and his colleagues (1998) and Adam Miklosi and his colleagues (1998) almost simultaneously. Miklosi and colleagues also provided evidence that dogs display what is shown as "showing behavior" by using gaze alteration, a type of productive communication.

**Do dogs show a desire to maintain proximity to those people to whom they are attached?**

We know securely attached dogs should proximity maintenance, as discussed in the section on attachment above, but interesting even free-range dogs choose to den near people, despite that most animals living near human populations choose places to den as far from humans as possible. Majumder et al (2016) followed 15 pregnant free-range females and found that they chose to maintain proximity to concentrated human populations in which to whelp and raise their young. Scientists speculate that this proximity maintenance, absent any real connection with people, is an evolutionary adaption designed to increase survival for dogs in urban settings.

Researchers gave 103 free-ranging dogs in India a choice between food from human hands or from the ground and analyzed their response in the short and long-term (Bhattacharjee, 2017). Most dogs initially hesitated to make contact with the people but actively sought contact over food once familiar with their person. The researchers explained, "Our results revealed that these dogs tend to build trust based on affection, not food." I suspect that most dogs, much like Harry Harlow's infant monkeys, value a feeling of connectedness even more than a full stomach.

**Do dogs show prosocial behavior toward their people?**

Emily Sanford and her colleagues (2017) did a study with 34 dogs in which owners were situated behind a see-through closed door when they either hummed or cried out as directed by the researchers. The dogs opened the door much faster when hearing the cries. While more empirical research must be done on prosocial behaviors in dogs, both directed toward humans and other dogs, anecdotal reports of such helping behavior are numerous.

**Do our dogs experience a neurochemical response to us? Do we experience a neurochemical response to our dogs?**

Many studies have shown that dogs and their people have a physiological impact on one another, such as lowered blood pressure and heart-rates. Multiple studies also show a neurochemical impact. Nagasawa, et al, (2015) showed that gazing behavior from dogs increased the amount of oxytocin in the urine of owners. This increased the owners' feelings of connectedness toward the dogs while increasing the amount of oxytocin in the dogs.

Do our dogs suffer when experiencing physical or emotional distance from beloved humans?

Domesticate dogs can experience social pain when experiencing physical or emotional distance from their people. The following section will review this pain in detail.

**Social Pain**

Affective neuroscientists have long known that in many mammals, including people and dogs, the neutral pathways for physical pain and those for socio-emotional pain overlap to such an extent that treating one treats the other (Panskepp, 2012). People on longterm narcotic therapy for chronic pain actually show a reduced need for social interaction. Likewise, dogs who have separation anxiety have been successfully treated with hydrocodone (Panskepp, 2012). What this tells us is that social pain hurts. It can hurt as much or more than physical pain, as our own language reflects. We speak of someone being "shattered" or having a "broken heart" when a close relationship ends.

Pain is a warning, an indication that something is badly wrong and must be righted. Being alone for a social animal can be as dangerous as a gun shot, so from a biological perspective it makes sense that both would elicit a pain response (Thornhill, 1990). Isolation is literally used as a very effective form of torture. And perceived isolation, such as when a relationship seems damaged or in peril, can be as painful as true isolation (MacMillan, 2015).

The *social buffering effe*ct is a reduction in the experience of stress and other negative emotions when in the presence of loved ones. We know that bonded dogs and their people have a social buffering effect on one another. Being together feels good and safe. Being apart does not. A study by J.P. Scott (1967) showed that puppies would rather endure physically painful shocks than emotional pain of being separated from the people they love.

We know our dogs don't want to be physically separated from us, though most can cope. But how much do they worry about the perceived isolation from us that comes with the feeling they

have to keep us happy to keep us at all? Based on what we have seen at Canine Assistants, I'd say a great deal. The enormous anxiety we were seeing in our dogs when we used positive reinforcement training stemmed from the fear of emotional pain, a pain that seems to hurt them far more than any physical pain could.

**Anxiety**

Something stunning happened at a Bond-Based Approach® seminar a few years ago. Several times a year we offer classes at the Canine Assistants facility for those who want to learn our way of educating dogs. In this seminar, we had seven of Canine Assistants' young adult dogs, – those six months or less away from graduating as service dogs – available for practice sessions.

All the dogs were lovely, agreeable Goldens and Goldens mixes but three of the seven showed more anxiety than the others. While the other four dogs rested quietly, these three were restless. They pulled back on their leashes. They stalled occasionally when being walked. I looked at every variable I could come up with to figure out why some, but not all, of the dogs seemed stressed; breeding, instructors, housing, sex, age, socialization, and habituation. Though there were some differences, none that applied exclusively to those three dogs. That led me to look at handling techniques used by those volunteers who interacted with the dogs on a regular basis. All of the dogs at Canine Assistants are to be raised using the Bond-Based Approach®, which means they are educated rather than trained to perform traditional obedience behaviors, such as "Stay" on cue (we, of course, do not use cues in the Bond-based Approach®.) However, it hasn't been easy for all our of volunteers to commit to letting go of obedience training. I decided to evaluate all seven dogs to see if any of them showed signs of having been obedience trained.

In an effort to minimize variables, I decided to handle all seven dogs myself. After a brief get-to-know-you food-sharing exercise, I lured the dogs one at a time into a sitting position with a tasty treat and said "Staaaay" drawing out the a so the word sounded like the action. The first dog kissed the palm of my hand. The second handed me his leash. The third stayed still as I went across the room and remained in place until I called her. The fourth brought me a very nice squeaky toy. The fifth dog stayed still until I was about twenty feet away and then slowly stood. The sixth stayed still until I called him from across the room. The seventh looked at me for a moment or two and then walked over to get a drink of water. All the dogs made an effort to understand what it was I was asking, but four of them had clearly never heard that word. Three of them had unquestionably had some exposure to the cue and concept of "Stay."

Subsequent evaluations with other dogs have shown me that this had nothing to do with the actual stay behavior. It had to do with the fact that the dogs who complied with my directive

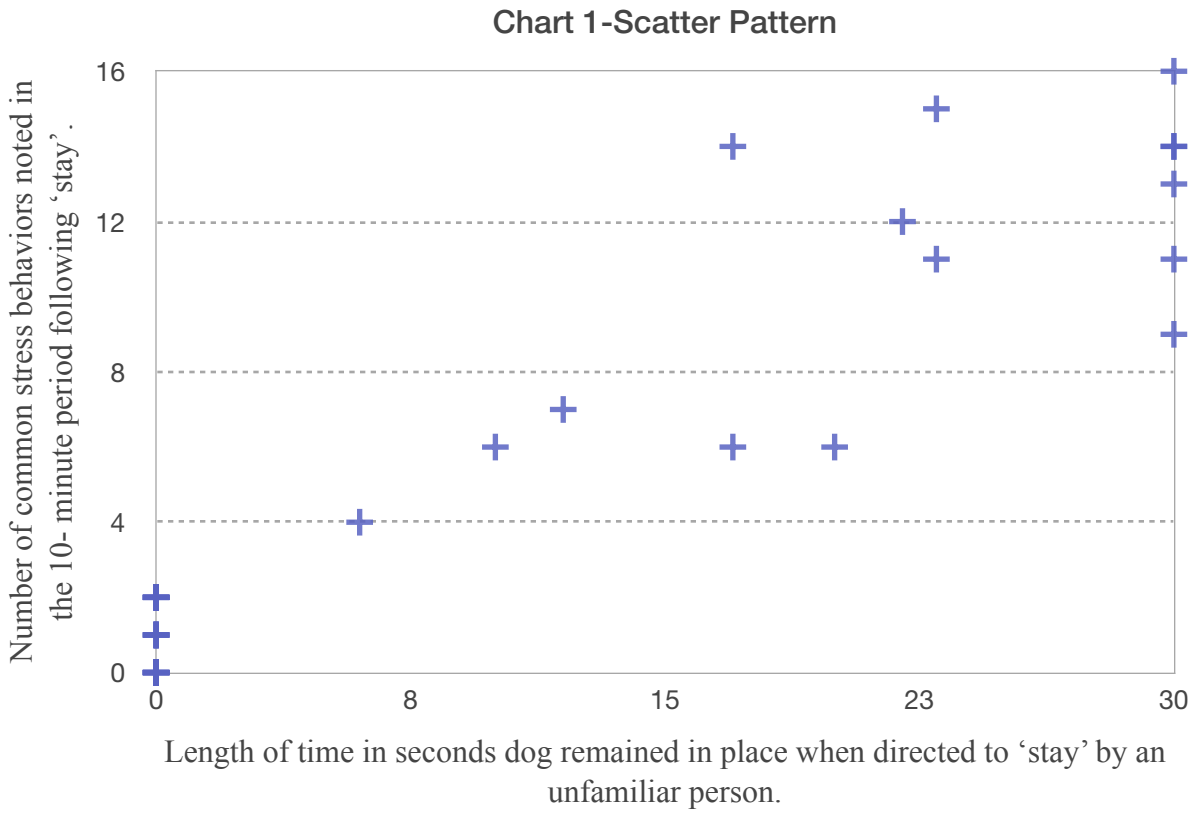
clearly believed that they must obey a relative stranger. Such adherence requires that the dog fear people, or at least fear not making people happy. Google the definition of **bully** and this is what you see – "to use superior strength or influence to intimidate (someone), typically to force him or her to do what you want." I was attempting to bullying those dogs and those dogs who'd known fear and self-doubt previously at the hands of a person allowed me to get away with it. The others politely and respectfully declined.

I do not want to raise dogs who fear not obeying the commands of relative strangers anymore than I'd want to have a child who obeyed any adult. It isn't safe. It cannot be good for any living creature's mental health to believe that you exist through the mercy of all you meet. Being polite to everyone is important. Doing whatever you are told by anyone who tells you is a recipe for disaster.

We later expanded our assessment to include 30 dogs. Though we knew we'd see some positive correlation between the need to obey the directives of an unfamiliar person and stress behaviors, we were stunned to see how dramatic that correlation actually was (see Chart 1). In this case, given the absence of any other variable shared only by the dogs who did not stay when so commanded, we feel that correlation does absolutely provide evidence of causation. Given our small sample size and the potential impact of such a finding, however, further research is needed and ongoing.

**Doing Better**

There are two ways dog training works. The first uses punishment and the second uses reward. What they both use is FEAR. Training either makes dogs afraid they will be punished or afraid they won't be rewarded. It is a mistake to believe that any kind of dog training is other than dictatorial. Training is about controlling actions, seeking mindless compliance with directives.




How such control is established isn't really the point. Punishment-based techniques create overt fear of being physically hurt. Positive reinforcement approaches use conditional approval to create fear of abandonment. The resulting loss of control is equally as harmful, though the effects may be manifested in different ways. One creates dogs who hide from their humans and the other dogs who vibrant with anxiety, constantly throwing behaviors in an effort to please their humans.

To debate which is better is to ignore the fact that they are both doing untold damage to our dogs. How best to train dogs should no longer be the discussion. It time we turn our attention toward giving these sentient and sapient social beings the knowledge and skills needed so that they can control their own actions.

**Created Worry**

I can remember a time when I was very young – just past toddlerhood perhaps since it is one of my earliest memories – when my normally very loving mother seemed upset with me. I remember the sense of absolute panic that feeling gave me. I took her my little piggy bank, pleading that I would give her everything I had if she would love me again. Of course, my mom immediately righted my world by gathering me in her arms and reassuming me that nothing could ever make her not love me. The entire episode couldn't have lasted more than a few

minutes, and yet I remember the feeling of panic when I felt emotionally disconnected to the person I loved, and needed, most in the world some 50 years later.

Our dogs spend most of their time worried about our loving them. Studies show that dogs show *left gaze bias*, focusing on the right hand side of the face where negative emotions can most easily be read, whenever they look at human faces. They only show left gaze bias when they look at a dog who is upset or angry (Duo, 2012). They worry a great deal about our being happy with them. It's why dogs who have been trained using positive rewards get frantic to hear the clicker or to get that tiny taste of treat. It's not about the reward. It's about our being pleased and therefore their feeling safe.

Training dogs prevents our being able to accurately judge how safe they feel and thus how safe they are. It makes dogs so afraid to potentially be wrong that they often will only do those things we cue.

Training pits us against our dogs. It separates us from them. We have allowed the dog training movement, a trend, to take away what we need the most from our dogs. We need someone on our team.

Training relies on reward and punishment. Punishment is something you impose. Rewards are merely the flip-side of punishment. Both are equally controlling.

Training does nothing to help our dogs assimilate into human culture.

Training does not give assistance dogs the knowledge and skills required to function optimally. MacLean and Hare (2018) in speaking of working dogs explain, "*The cognitive skills that dogs require in these roles are likely to be diverse, extending beyond the basic learning mechanisms typically emphasized in dog training (e.g., operant and classical conditioning*)."

Thanks to more than twenty years of research, we now know how to do better by our dogs.

> *"These days, we understand dogs in a completely new way. It's like having new glasses on."*
> Adam Miklosi from Animal Wise by Virginia Morrell

Dogs can imitate our actions, synchronize with our movements and demeanor, reason by exclusion, categorize based on physical characteristics and more (Miklosi, 2015). They are eager students who can be taught to do anything and more than they could ever be trained to do.

**What Do We Want From and For Our Dogs?**

Assistance dogs must have the ability and willingness to happily and safely render aid to their human partners to the fullest extent reasonably possible. Information made available in the past 20+ years leads one to wonder if dogs have become great assistants in spite of us rather than because of us.

In working with dogs, either as their humans or exclusive of their humans, our job is to help them acclimate to a living environment that, while their nature may have predisposed them to relatively easy adaption, is foreign to them. While such acclimation can certainly occur within dictatorial (I say-you do) relationships, it requires a loss of control on the part of the dogs that, based on all we know about sentient beings, is incompatible with good mental health.

It is the voluntary cooperation of secure and confident dogs that best allows us to meet our goals. Coercive training is unnecessary and may actually impede the development of the voluntarily cooperation – which serves as the most efficient and effective way of the skills and characteristics are dogs need. Rather than mandating compliance, we should facilitate dogs' feelings of security and confidence they need in order to offer us their voluntarily cooperation

**The Bond-Based Approach® Works Inside Out**

When you make dogs DO something, you take away their ability to choose causing them to FEEL powerless and helpless. This is an Outside In (Body Mind) approach. This is dog training.

When you make dogs FEEL something, they have the power to DO what they choose. This is an Inside Out (Mind Body) approach.

Dogs who have trust in you FEEL secure in their relationship with you. Dogs who have trust in themselves FEEL confident.

Dogs are highly social animals who want to be accepted by their teammates, hence their need to feel secure in their relationships, and valuable to their team, hence their need to feel confident in their own abilities.

Dogs who FEEL secure and confident CHOOSE to do the 'right' thing by team and teammates. This is Bond-Based.

Our focus need to be on our dogs' thoughts and feelings...their trust in us and trust in themselves.

**How We Accomplish Our Goals**

First We Remember:

Dogs, and their actions, are our responsibility. We have bred dogs to remain somewhat childlike their whole lives. We ask dogs to become members of our families and society rather than seeking to become members of theirs. Thus their actions are our responsibility for all of their lives. To help our dogs act appropriately, we must focus on their thoughts and feelings rather than mandating their behavior.

Please understand that allowing the dogs to control their own actions does NOT mean that they get to do whatever they want to do. It means we give the dogs what they need to behave appropriately without mandating their actions.

Remember, truly loving someone means we tell them when they are violating societal expectations, something that is unlikely to be in their best interest. You don't let your child go to school naked because that wouldn't be good for him. Likewise, there are things our dogs must learn are not appropriate. We teach them by influencing their minds, their thoughts and feelings, rather than directing their actions.

Volunteers at Canine Assistants hear time and again that they must set the dogs up for success. When they take a CA dog out of the kennels, they know the dog will be excited so they must be prepared with two hands for petting, food for sharing, a toy with which to play tug, or anything else that will help the dog relax enough not to jump and mouth and generally behave like a rabid squirrel. We no longer use our leashes or even our voices to control their actions. Our job is to influence their thoughts and feelings so that the dogs themselves can appropriately control their actions. We set them up for success and then we let them succeed. Failure is not an option! We see to it.

Dogs are, in so many ways, our children who never grow up. Their actions are their choice, as it should be, but the set-up is always our responsibility.

To help your dog develop trust in you and trust in himself so that he can and will voluntarily cooperate with you.

Your Role:

Nurture – Begin your relationship with any dog by nurturing, assuming the role of supportive grandparent thus helping the dog develop trust in you. Show the dog that you will meet all needs: food (by feeding and food-sharing), water (with water bowls and water sharing), shelter (by sharing space), safety (by using the We Leash and other means of protection), and connectedness (by showing him unconditional affection).

Nudge – As your dog and your relationship matures, your nurturing responsibilities remain but you add the additional function of becoming a mentoring friend. In this role, you nudge your dog toward taking responsibility for his own actions as he develops the knowledge (an understanding of the rules of human society gained by using such developmental exercises as Gentle and Ick) and skills (gained by using such cognitive exercises as yes/no, labeling, and Like Me) that he needs to do so. As your dog gains knowledge and skills, he begins to develop trust in himself.

Know – When your dog and your connection is fully mature and functional, you add a final role to your nurturing and nudging – that of PARTNER. You now know you can function as a team with each member voluntarily cooperating with and listening to one another.

First you nurture, then you nudge, and finally you know.

<u>Nurturing and Nudging:</u>

**Nurturing – Trust in You**

Before anything else can happen, you must nurture your dog enough for them to develop a secure attachment to you.

To do that, you must BE THERE and BE FAIR.

Be There and Be Fair

How to BE THERE

Respond quickly and consistently to dog's needs. It doesn't mean you have to say yes…you just have to say something!

Be fully engaged when working with your dog or when your dog requests your attention. Stay ON THE PHONE!

Never make your dog earn your affection or caregiving.  Freely share food, water, and sleeping space.

How to BE FAIR

Being fair to your dog is a little more complicated.  It requires you know about the canine culture.

Partnering with a member of a completely different species presents some unique challenges. Primary among them is that we as people lack an intuitive understanding of what dogs believe and know, what they can learn and how best to teach them.  As managing partner, it is our responsibility to learn as much about our dogs as we possibly can and to incorporate this knowledge into our interactions with them.

Your nurture should result in your dog's have a SECURE ATTACHMENT to you.

**Nudging – Trust in Himself**

In order to be a fully functional partner, your dog must learn to have as much trust in himself as he has in you.

In order to help your dog develop trust in himself, you must SET HIM UP TO SUCCEED and then LET HIM SUCCEED.

Setting Him Up to Succeed

Knowledge and Skills

Give your dog the knowledge and skills needed to make good decisions by helping him do the following:

Providing appropriate socialization and habituation.

Synchronize with your demeanor

Practice Exercises:  Patience, Ick, Gentle, Crazy/Calm, Freeze

Demonstrate an action and have him copy you using Like Me.

Practice Exercise:  Like Me

Teach him nouns and verbs by explaining what you call actions and objects and individuals as you go through your day.

Practice Exercises:  Labeling, Better Hurry

Letting Him Succeed

Finally, you must encourage your dog to use his VOICE and make his CHOICE.

A Voice and a Choice:

We control what and when our dogs eat.  What toys they have. Who their friends are.  Where and when they sleep.  Where and when they can go to bathroom.  AND SO MORE.

We need to give our dogs at least a sense of control.  How?  Give him a Voice and a Choice!

Teach him yes and no and ask him questions.  Do you want a treat?  Do you need to go outside?

Teach him colors and ask him what they are.  Which is blue?

Allow him a feeling of control by walking on the We Leash – the leash that allows him to carry his handle or toy without the feeling of constraint.

**In the End**

We used to believe that a good dog was a dog whose behavior we could control.  We now understand that truly good dogs are those dogs who control their own behavior.

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