

Animal Behavior Terms and Definitions

Affiliative Behavior: literally defined, it means to connect oneself to. Behaviors such as play are called affiliative because the animal uses them to make a positive social connection with the evaluator or other human. Affiliative behaviors indicate a desire to interact with a humane or conspecific. Other examples include, ears forward or neutral position, soft eyes, perched lightly on person's lap, mouth or lips relaxed, tail neutral position.

Agonistic Pucker: a body posture in which the lips are raised revealing just the incisors and the canines.

Allogroom (Social Grooming): an animal licks the fur of another animal's head or body. This can also be used to describe when an animal licks a human.

Anxiety: defined as an emotional reaction of apprehension, uneasiness, and fear in the absence of a clear physical threat.

Appetitive (Desired) Stimulus: a pleasant stimulus that the animal wants

Approach: an animal moves towards (person, object, or animal) while looking at it.

Arch Back: used to describe when a cat curves its back upwards and stands rigidly; it may be accompanied by piloerection.

Arousal: a physiological and psychological state of alertness and heightened emotion. It is characterized by an increase in heart rate, blood pressure, sensory alertness, mobility and readiness to respond. When an individual is exposed to a high level of sensory stimulation, their brain is flooded with excitatory chemicals such as adrenaline and cortisol.

Aversive Conditioning: the process of pairing a negative consequence with an object, place, or being.

Aversive (Triggering) Stimulus: a perceived unpleasant event, object, or being that elicits a negative response from an animal. Anything the animal dislikes or avoids.

Avoid: an animal moves, or changes direction while moving, in order to keep away from (a person, object, or animal).

Back Chain: to train a series of behaviors by training the last behavior first and sequentially adding on additional behaviors that immediately precede the last one learned.

Back of Kennel: located between the back wall of the kennel, and up to, but not including, the midpoint of the kennel.

Bare Teeth: animal opens its mouth slightly while pulling lips back to expose teeth.

Barking: a vocalization of very short duration and low frequency that is observed in dogs.

Beg Position: a dog has two front paws lifted off the ground simultaneously while the back legs remain flexed.

Behavior (Response): the way an animal reacts to a particular stimulus or event.

Behavior Chain: a series of behaviors performed in sequence. Each behavior may be prompted by a cue or the previous behavior may serve as the cue. The procedure for building chains is called chaining.

Behavior Threshold: the point at which a stimulus is of sufficient intensity to begin to produce a response.

Behavioral Momentum: is a behavioral strategy that entails making requests that are easy for the animal to perform, by giving them easy tasks or demands that they are highly likely to do first, before presenting them with more difficult tasks. Instead of approaching the animal with what you want them to do, you start with what they are most likely to want to do or are able to do.

Belly Up: lying/sitting on ground lifting hind leg, or rolling onto back exposing the ventral side

Belongingness: the concept of certain responses naturally belonging with certain reinforcers such that animals are most likely to be able to learn certain responses when those responses are associated with the particular reinforcers.

Bite: an animal snaps their teeth at and is successful in making contact with (a person, object, animal).

Blocking Effect: prior conditioning of one cue interferes with or blocks the learning of a second cue for the same behavior if the two cues are presented together.

Body Rub: an animal rubs any part or the entire length of the body against (a person, object, animal).

Bribing: when the animal already knows how to perform the behavior well in the given context but the human has to show the animal the potential reward first in order to get that behavior to occur.

Bridging Stimulus: a conditioned stimulus or cue that bridges the gap between the behavior and the unconditioned stimulus. It can either bridge the gap between the correct behavior and the food reinforcement (or another reinforcer), or it can bridge the gap in time between the inappropriate behavior and the conditioned punishment.

Calming Signals: an umbrella term that came into popular usage among pet dog trainers after the publication of Turid Rugaas' book "On Talking Terms with Dogs: Calming Signals" (1997). According to Rugaas, canines use specific signals to announce their own peaceful intentions to other canines and people. Canines may use calming signals when they feel stressed, and when they perceive stress

or threats in environment. Ethologists have long recognized and categorized the same behaviors-- using the terms displacement behavior, and distance increasing behaviors, as well as identifying the many stress reactions that dogs portray using facial expressions and body posturing.

Capturing: involves observing an animal without any form of manipulation and reinforcing desired behaviors. When an animal offers a desired behavior, the handler instantly reinforces with a treat, play, or uses a secondary reinforcement, such as a clicker or cue word.

Carry: an animal picks up (an object or animal) off the ground and moves it to another location.

Charge: an animal rushes towards (a person, object, animal).

Chase: Animal runs rapidly in pursuit of (a person, object, animal).

Chasing Tail: when an animal orients towards their tail repeatedly and continuously.

Chew: when an animal grinds an item (object or food) in its mouth using the teeth.

Chirp: an affiliative vocal behavior, made by cats, that sounds like brrrt. The mouth is usually closed for this behavior.

Classical Conditioning: learning by association. When a previously neutral stimulus is repeatedly paired with an unconditioned stimulus, the neutral stimulus gradually comes to elicit the same response as the unconditioned stimulus.

Clawing (Scratching): when an animal drags front claws along an object, person or surface, likely leaving visual marks behind.

Clicker Training: training that involves positive reinforcement and a bridging stimulus where the bridging stimulus is the sound from a clicker.

Climb: when an animal ascends and/or descends an object or structure.

Commissure: "Commissure" refers to the commissure of the lips or where the lips meet and form a connection. Observing the commissure can provide valuable information about emotional state. Dogs displaying offensive aggression will have the commissure drawn forward. Dogs engaged in play or defensive aggression will have the mouth more widely open and the commissure is drawn back further.

Conditioned Response: a response that is learnt through association by repeatedly pairing of a previously neutral stimulus with an unconditioned stimulus.

Conditioned Stimulus: a previously neutral stimulus that is repeatedly paired with an unconditioned stimulus until it elicits the same response as the unconditioned stimulus.

Conspecific: belonging to the same species.

Coprophagy: when an animal feeds on their own/other animals' feces. Commonly seen in dogs.

Counterconditioning: the process of changing an animal's conditioned emotional response to a stimulus to a response that is mutually exclusive. There are two types: Classical Counterconditioning and Operant Counterconditioning.

Classical Counterconditioning: the process pairing the aversive stimulus with an animal's favored reward.

Operant Counterconditioning: the process of presenting an aversive stimulus and when the animal stops responding and elicits the desired behavior, the favored reward is given.

Difference: Classical Counterconditioning does not rely on a specific desired behavior occurring as Operant Counterconditioning does.

Cowering: when an animal's body is in a lowered, crouched position.

Crouch: when an animal is alert and positions their body close to the ground, whereby all four legs are bent, and their belly is touching (or raised slightly off of) the ground.

Cue: a word, noise, or action that serves as a signal to an animal to perform a skill.

Desensitization: gradually exposing an animal to a stimulus in such a way that the animal does not elicit a response. This process diminishes emotional responsiveness to a triggering or aversive stimulus through repeated exposure to the stimulus.

Desensitization and Counterconditioning (DSCC): the process of utilizing Desensitization and Counterconditioning in conjunction in order to change undesired negative responses to positive responses more effectively. It involves presenting an aversive stimulus at a low level that the animal does not respond to, and gradually increasing the strength of the stimulus until the animal learns to ignore the full-force stimulus.

Different Reinforceable Alternative (DRA) Behavior or Differential Reinforceable Incompatible (DRI) Behavior: a behavior that is incompatible with the problem behavior.

Dig: when an animal breaks up or moves substrate around with its paws.

Displacement: an out of context behavior displayed when an animal is experiencing conflict between two motivations. Often related to stress and anxiety. In cats you might see, chewing or sucking behavior. In dogs, sniffing, licking, scratching, yawning.

Distance Increasing Behaviors: displayed behaviors aimed to increase space between the animal and a perceived threat. These behaviors convey that they perceived threat should back off or the interaction needs to end. Pilo-erection, hissing, barking, growling, swatting, charging and light warning bites that do not break the skin are meant to scare away or stop a particular interaction.

Distance Decreasing (Reducing) Behaviors: displayed behaviors aimed to decrease the distance between the animal and another subject to encourage social contact. These behaviors convey deference and peaceful intentions that invite other animals (of the same or different species) or humans to come closer, without fearing attack. Examples of Distance Decreasing Behaviors are ears forward, open mouth with long lips, hip nudge, bunting, purring, play bow, paw-lift, submissive grin, relaxed tail moving in a circular motion.

Distress: is a protective response that keeps animals away from danger or allows their escape to safety. It is an animal's fight or flight instinct.

Dominance: In animal behavior, dominance is defined as a relationship between individuals that is established through force, aggression and submission in order to establish priority access to all desired resources (food, the opposite sex, preferred resting spots, etc). A relationship is not established until one animal consistently defers to another. Dominance is often incorrectly used to describe the personality of an animal (i.e. the dog is dominant)

Ears Back: when an animal's ears are folded against sides and/or back of the head, having a flattened appearance.

Ears Erect: when an animal's ears are forward and upright and/or the back's of the ears are rotated forward.

Ears Flat: when an animal's ears are flattened to their head so that they tend to lie flush with the top of the head

Ears Forward: when an animal's ears are held at the front of the head

Eliminating: when an animal lifts their hind-leg or squats to urinate/defecate.

Empirical Description: a description of behavior in terms of the animal's body postures or movements.

Emotional Conflict: when an animal has competing emotions or motivations (in other words, when they are motivated to perform two opposing behaviors).

Eustress: the "good stress" that helps an animal perform a needed task.

Excessive Salivation: when an animal salivates heavily; it may be accompanied by frequent licking of the face and rapid swallowing.

Explore: when an animal moves around attentively while sniffing the ground and/or objects.

Extinction: the gradual weakening of a previously learned behavior once that behavior is no longer reinforced.

Extinction Burst: the initial increase in a particular behavior that may occur when a behavior that has been reinforced in the past is no longer reinforced.

Facing Away: when an animal's head is oriented such that the observer is not able to see more than the side profile of the face.

Facing Forward: when an animal's head is oriented such that the observer is able to see more than the side profile of the face.

Fear: an emotional reaction of apprehension and fright due to the actual presence or proximity of the very thing the animal is afraid of.

Feigning Sleep: when an animal appears to be sleeping but is not.

Feral Cat: an unsocial domestic cat that lives outdoors and avoids human contact: it does not allow itself to be handled or touched, and usually remains wary and hidden from humans. A wild version of our domestic pet cat.

Fight: when an animal engages in physical combat with another animal; can include growling, barking or hissing, scratching, baring teeth, and biting.

Flee: when an animal runs away quickly from (an object, person, animal).

Flehmen Response: when an animal makes a grimace facial expression, where the mouth is open, the upper lip is elevated, and the tongue may protrude out of the mouth. Generally, follows the sniffing of an object, scent, bodily excretion, or another animal or person.

Flight Distance: The distance you can get to an animal before it flees and how far it runs. If the animal cannot flee or feels trapped, he may respond with aggressive behavior.

Flinch: when an animal approaches and/or sniffs (person, object, animal), but abruptly stops and retreats or flees from it.

Flooding: the process of continuously exposing an animal to a stimulus that invokes a fearful response, until the animal stops responding to the stimulus.

Follow: when an animal travels closely behind (a person, object, animal).

Forage: when an animal searches for food or other edible substances.

Fractious Cat: refers to a domestic cat that is highly aroused and fearful making it unsafe to handle or touch the cat normally for a period of time. In this highly aroused state cats may display offensive or defensive aggressive behaviors such as biting, scratching, swatting, hissing, fleeing, etc. The higher the cat's arousal levels the longer they may remain in this state. It is best practice to handle a cat in this state as little as possible, leave them undisturbed and cover their kennels with a towel or other visual barrier to allow them to calm.

Freeze: when an animal suddenly becomes immobile with body tension. Commonly observed in cats.

Front of Kennel: when an animal is located between the front of the cage, and up to and including the midpoint of the kennel.

Frustration: refers to a situation in which an animal is motivated to perform a behavior but is not able to do so (in other words, there is no available outlet or means for them to perform a normal behavior).

Functional Description: a description of behavior in terms of the functions or consequences of it (e.g., submissive posture, escape behavior).

Fur-Plucking: when an animal excessively grooms a specific area of its body. This can include any tail and paw-sucking actions. May result in the removal and visible loss of fur, as well as skin irritation. Commonly observed in cats.

Gazing: when an animal gives eye contact with the eyes of the observer.

Groom: when an animal cleans itself by licking, scratching, biting, or chewing the fur on its body. May also include licking of a front paw and wiping it over one's head.

Growling: a throaty, rumbling vocalization; usually low in pitch.

Habituation: the diminishing of an emotional or behavioral response to a frequently repeated stimulus, in the absence of positive or negative consequences.

Head Rub: when a cat rubs its head against (a person, object, animal). This can be described as another area of the body such as cheek rub, chin rub, ear rub, forehead rub, lip rub, nose rub.

Hiding: when an animal occupies a location away from a specific stimulus. Usually under or behind an object like a blanket or crate.

Hind Feet Scraping: when an animal scrapes their hind feet on the ground in a backward direction, shuffling one foot after the other. Typically occurs during urination, but can also occur alone to displace, soil or another substrate material.

Howling: a prolonged high-amplitude vocalization of varying pitch, lips drawn together while exhaling.

Impulse Control: the ability to control emotions, behavior, and desires in the face of external stimuli and to resist reacting to obtain the immediate reward.

Impulsivity: refers to the inappropriate, out of context responses to specific situations related to, or access to, control.

Instinctive Drift: the tendency of an animal to revert to instinctive behaviors that are related to the reinforcer and that interfere with a trained behavior.

Innate Behavior/Response: an instinctual and genetically ingrained behavior in an animal and that is

performed in response to a stimulus without prior experience or conditioning.

Investigate: when an animal shows attention towards a specific stimulus by sniffing and/or pawing at it.

Jump on (Person, Dog, etc.): when both front paws make contact with someone or something; does not include lunging.

Jump on Cage: when both front paws make contact with the cage door that does not include lunging.

Jumping: when an animal leaps from one point to another, either vertically or horizontally.

Kneading: when a cat pushed forepaws into the ground or (person, object, animal) in a rhythmic kneading motion. Claws may be extended, retracted, or alternating.

Leaning on Door: when an animal displays prolonged (>1 sec) contact with the cage door by pushing the side of the body against the cage door.

Leaning on Wall: when an animal displays prolonged (>1sec) contact with the cage wall by pushing the side of the body against the cage wall.

Learning: an internal process through an animal's experience with the environment that results in a relatively permanent change in behavior.

Lick Lip/Nose: when an animal touches their mouth, lips or nose with their tongue.

Lick: when an animal's tongue protrudes from mouth and strokes (person, object, animal).

Licking Kennel: when an animal repeatedly chews, licks, and/or bites at the wire of the cage door.

Licking Self: when an animal makes oral contact with any part of their body.

Lordosis: when a female cat raises hindquarters while lowering forequarters to the ground, presenting genitals. The tail is often averted to one side.

Lunging: when an animal makes a quick diagonal forward motion directed towards a stimulus; may be accompanied by barking, growling or piloerection

Luring: involves using food, toys, praise, or a secondary reinforcer to manipulate an animal's movement, having them follow with their nose into the desired behavior.

Lying Down: when an animal's body is on the ground in a horizontal position, including on its side, back, belly, or curled in a circular formation.

Marking: involves giving a signal to an animal that overtime will be associated with whatever behavior that was just performed.

Marker Word: a verbal bridging stimulus. For instance, one can train a dog that “yes” is followed immediately with the delivery of a food reward. After many trials, “yes” can be used to mark a correct behavior because it signals to the animal that a food reward will be delivered shortly thereafter.

Motor Pattern: a series of behaviors that naturally occur in a sequence that constitute one function.

Moving Away: the distance between the animal and the observer is increased.

Moving Forward: the distance between the animal and the observer is decreased.

Negative: operant conditioning terminology that means to remove something or subtract something.

Neutral Stimulus: a stimulus that has no meaning to the animal prior to pairing it with an unconditioned stimulus.

Nuzzle: when an animal moves its entire head and nose side to side against one area of the head or body of another (person, object, animal).

Operant Conditioning: learning that occurs by trial and error. The process by which the frequency of behavior is increased or decreased due to, respectively, positive or negative consequences.

Operant Behavior: refers to behavior that "operates" on the environment or is controllable by the animal.

Overstimulation Behavior (Overstim.): in cats this is referred to as swatting, biting or other distancing behavior a social cat may display typically as a response to too much petting. Oftentimes these cats solicit attention and then strike out after a short period of petting.

Pacing: repetitive locomotion in a fixed pattern, such as back and forth along the same route. Can include walking, trotting, and running. The movement seems to have no apparent goal or function.

Panting: when an animal’s tongue is exposed with audible and/or observable breathing.

Pawing at Door: when one front paw makes contact with the cage door.

Phobia: intense anxiety or aversion that is unreasonably evoked by something.

Piloerection: when the hairs on the nape of the neck, shoulder, back, or tail is raised, so that the fur is standing erect.

Play Bowing: a lowered anterior and heightened posterior part (standing on hind-legs) seen in dogs.

Play: when an animal interacts with something in a “non-serious” manner. Solitary play might include; chasing, pawing, pouncing, wrestling with and throwing an object into the air. Social play might include

chasing, wrestling, biting, pouncing and pawing.

Premack Principle: high-probability responses can serve to reinforce low-probability responses, and a strong reinforcer is anything the animal would rather do.

Poisoned Cue: the animal associates a cue with a negative or unpleasant experience (e.g., a choke chain is used to teach a sit so the dog associates “sit” with an unpleasant experience).

Positive: operant conditioning terminology that means to add something.

Pounce: when an animal leaps onto (object, person, or animal).

Pro-Social Behaviors: are defined as voluntary actions that benefit others. Dogs often show pro-social behaviors towards conspecifics, but recent studies have shown that dogs do not display pro-social behavior towards humans. Colloquially, pro-social is used to describe affiliative behaviors in animals directed towards people or other animals (of the same or a different species).

Punishment: a learning process that weakens or decreases the probability of a behavior occurring.

Negative Punishment: removing an appetitive stimulus, such that the animal associates the behavior with the removal of the desired stimulus, decreasing the likelihood the behavior will occur again.

Positive Punishment: adding an aversive stimulus, such that the animal associates the behavior with the aversive stimulus, decreasing the likelihood the behavior will occur again.

Raise Paw: when an animal lifts its forepaw as if to paw, strike at, but does not follow through with the action. Commonly seen in dogs as an indication of stress.

Rate of Reinforcement (ROR): the number of rewards given per unit of time.

Reactive: characterized by responding to normal stimuli with a higher-than-normal level of intensity. It's accompanied by a physiologic response and changes in the emotional state that interfere with a quick return to homeostasis and normal behavior. In dogs, it refers to displays of hypervigilance, hyperexcitability, vocalization (barking, whining, howling), lunging, mouthing, pacing, panting, difficulty responding to well-known cues, difficulty calming down or any combination of the above. Common motivations could be fear or frustration.

Regurgitating: when a matter is expelled from the mouth with jaws open; it may be preceded by repeated abdominal heaving.

Reinforcement: a learning process that strengthens or increases the probability of a behavior occurring.

Negative Reinforcement: removing an aversive stimulus when an animal performs a behavior,

such that they associate the behavior with the removal of the aversive stimulus, increasing the likelihood the behavior will occur again.

Positive Reinforcement: giving an appetitive stimulus to an animal immediately after they perform a behavior, such that they associate the behavior with the reward, increasing the likelihood the behavior will occur again.

Reinforcement Schedules:

Continuous: reinforcement occurs every time the behavior occurs.

Fixed Interval: reinforcement occurs after a specified amount of time (e.g. 1, 5, or 10 seconds after the behavior).

Fixed Ratio: reinforcement occurs after a specified amount of correct responses (e.g. every 2nd, 3rd, or 4th response).

Intermittent/Partial: reinforcement of the behavior is given only some of the time.

Variable Interval: reinforcement occurs after varying amounts of time, and is unpredictable (e.g. reinforcing at times between 2 to 10 seconds after the behavior in an unpredictable manner).

Variable Ratio: reinforcement occurs after varying amounts of correct responses, and is unpredictable (e.g. reinforcing after 2 to 10 correct responses in an unpredictable manner).

Retreat: when an animal backs away from (an object, person, animal) while watching it.

Reward: a desired stimulus given to an animal to alter their behavior.

Roll on Back: when an animal rolls onto its back, with its belly exposed and all paws in the air. This could happen in a playful context or as an agonistic response (usually is accompanied by hissing, growling, ears back, lip lifting).

Running: forward locomotion in a rapid gait, which is faster than walking or trotting.

Salient: noticeable, prominent, distinctive, to stand out conspicuously from the rest of the environment.

Scratching: when an animal's paw makes repeated contact with the body/face; the head may be angled in the direction of moving limb.

Self-Mutilation: when an animal performs any self-injurious behavior (including self-biting and fur-plucking), which may result in a visible loss of hair and skin irritation or abrasion.

Sensitize: to lower the animal's response threshold to a given stimulus or increase his response to a

given stimulus.

Sensitive Period for Socialization: the time of development during which a young animal is primed to form bonds and attachments and learn to accept objects, environments and other animals as safe. The period varies by species. For dogs, it is between 3 and 12 weeks of age.

Shaking Off: when an animal motions their body and/or head back and forth repeatedly and rapidly.

Shaping: the process of eliciting and reinforcing small steps of a desired behavior, in order to move towards the animal offering the full behavior. These small steps are often described as "successive approximations."

Sitting: when an animal is supported by two extended front legs and two flexed back legs.

Snarl: Similar to the agonistic pucker. It is a distance increasing behavior that is defined by the dog lifting lips and exposing his incisors and canine teeth. This is often combined with vocalizations like growling and sometimes barking.

Sniffing: when an animal's muzzle/nose is oriented in a clearly observable direction and motion of nostrils is observed.

Social/Friendly: an animal that has been handled or had positive experiences with humans, typically before nine weeks of age in cats, or 12 weeks in dogs, and is comfortable with and oftentimes solicits normal touch and handling from humans.

Socialization: refers to the process of exposing an animal to positive experiences with different sights, sounds, smells, handling and social interactions with animals and humans. Socialization should begin during a kitten's sensitive period between 3 and 9 weeks. For puppies between 3 and 12-14 weeks.

Standing: when an animal is supported upright with all four legs.

Stretching: when an animal extends their body and one or more front and/or hind-legs while remaining stationary.

Submissive Behavior: In ethology or animal behavior, submission generally refers to deference or appeasement in dogs. There are two main types of of submissive behavior:

Active submission (appeasement): where the dog actively tries to pacify another animal or person while displaying distance decreasing behaviors, for example, muzzle-nudging, crouching, tail might be tucked and the tip is wagging, averted eyes, they may move towards you with a low body.

Passive submission (deference): when the dog displays distancing increasing behaviors, for example, lies down passively with the belly exposed or exposing the inguinal region and lets another dog sniff. Submissive urination is also a form of passive submission.

Successive Approximations: the sequential steps, each a little closer to the goal behavior, in a shaping plan.

Swat: when a cat extends a paw purposefully striking or hitting (person, object, animal) with a quick motion.

Tameness: a process that occurs within an individual's lifetime. In science circles, tameness describes an animal's willingness to approach humans and is measured by the animal's flight distance. Tame animals have zero flight distance, which means you can walk right up to the animal and he won't flee.

Tilting Head: when an animal's entire head is quickly oriented laterally and held stationary for at least 1 second.

Trembling: when a dog is visibly shaking while standing still or cowering.

Tucking Tail: when an animal's tail held still and tightly between hind legs, maybe curled under genital area or ventral side.

Unconditioned Response: the involuntary or automatic response to a stimulus. It requires no prior training.

Unconditioned Stimulus: a stimulus that innately causes a response. No prior training is needed.

Undersocialized: an animal that has had little positive experiences and exposure to different sights, sounds, smells, handling and social interaction with animals and humans. They may be more likely to display some distancing behaviors but may also allow brief or minimal touch or handling.

Unsocial: an animal who does not actively seek out social interactions with humans. Oftentimes they have not been handled or have not had positive experiences with humans during their sensitive period between 3 and 9 weeks for cats and between 3 and 12-14 weeks in dogs. This term may sometimes be used interchangeably with feral.

Wagging Tail: when a dog's tail moves perpendicular to their body.

Whining: a cyclic vocalization.

Yawning: when an animal opens its mouth widely and inhales.

RESOURCE LIST

1. Abrantes, R. (1997). Dog Language - An Encyclopedia Of Canine Behavior. Wakan Tanka Publishers.
2. Chance, P. (2008). Learning and Behavior, 6th edition. Wadsworth Cengage Learning.
3. Handleman, B. (2008). Canine Behavior - A Photo Illustrated Handbook. Woof and WordPress.
4. Overall, K. (2013). Manual of Clinical and Behavioral Medicine for Dogs and Cats. Elsevier.
5. Sternberg, S. (2009). Out and About With Your Dog - Dog To Dog Interactions On The Street, On The Trails, and In The Dog Park. Great Dog Productions
6. Sternberg, S. (2013). Dog-Dog Engagements Between Unfamiliar Dogs - Why It's So Risky DVD. Tawzer Dog LLC.
7. Yin, S. (2017). Low Stress Handling of Dogs and Cats Certification Workbook. CattleDog Publishing.