

RAPID REVERSAL OF FEAR AND AGGRESSION IN DOGS AND CATS

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BEHAVIOR

Definitions

- *Flooding (a form of habituation)*: The stimulus is presented full force until the animal stops reacting to it. The animal learns to ignore the stimulus because the stimulus has no aversive or pleasurable consequence. (In general we should avoid using this method.)
- *Desensitization (a form of habituation)*: The stimulus is presented at a level low enough that the animal does not respond to it. Gradually the strength of the stimulus is increased, until the animal learns to ignore the full-force stimulus.
- *Classical counterconditioning*: An association is classically conditioned that is opposite to a previously classically conditioned association.
- *Operant counterconditioning*: An alternate behavior is trained that is incompatible with the problem behavior. (Note: Usually, for operant counterconditioning to work, the animal must associate the alternate behavior with pleasurable consequences.)

Background Information

Prevalence

Behavior problems are common. Some 86% to 90% of all dogs exhibit one or more behavior problems, and 30% of shelter relinquishments and euthanasias are due to behavior problems. Up to 80% of pets returned to the shelter are returned due to behavior problems. Most of these problems that put pets at risk for relinquishment and euthanasia are preventable. Most problems have been developing over months to years in animals that have been to their veterinarian multiple times.

Aggression toward people is one of the most common reasons for presentation to a veterinary behaviorist. This problem is of particular interest, because many of us see early indicators of aggression in our clients' pets but may not recognize them. When we don't recognize the signs, and then fail to adjust our handling procedures, *we tend to make the problems worse*. Consequently, we send the animal home behaviorally worse than it was when it arrived. We may not see the consequences until the next class or visit or further down the road, when the animal finally becomes aggressive in our facility. We probably will not see the consequences at all if the increase in aggression affects the animal's behavior only in the home or outside environment. Fortunately, there are simple methods of preventing problems altogether, and these methods can be implemented by owners at home, by shelter workers, and by trainers and veterinary staff. Problem prevention is an important service we can offer to clients.

Four Methods of Modification

The four main methods of modification are listed above and include two types of habituation (flooding and desensitization) and two types of counterconditioning (classical and operant).

Habituation

In nature, animals are constantly bombarded with stimuli. A myriad of sounds, smells, sights, and tactile sensations stimulate their nervous systems, and if they attended to each one, they would quickly develop sensory overload. So how do they know which stimuli should incite a startle and which to ignore? One way is through the process of habituation. Habituation is when an animal initially responds to some stimulus, such as the sound of a train or the sight of a car roaring by, but over time, with repeated exposure to the stimulus in the absence of any aversive or pleasurable experience, the response diminishes. In other words, habituation means that the animal "gets used to it."

We are all familiar with habituation because it happens to us all the time. If you live in a peaceful neighborhood and then move into a neighborhood with train tracks nearby, the sound of the trains keeps you up all night initially. Over time, though, you notice the train less and less, until often you no longer realize when the train goes by. Animals such as dogs commonly develop habituation to loud sounds as well.

Habituation is one of the most common forms of learning, and one of its functions is to teach animals what not to fear. In nature, the default setting for animals is to be fearful of all objects and animals that they have not specifically identified as being safe. This is why wild animals do not just come walking out of the woods to congregate with humans around the campfire like characters in a cartoon. This fear serves as an important survival

technique. Animals that are not naturally afraid of unfamiliar animals and new objects, that is, animals and objects to which they have not yet become habituated, are the animals most likely to end up on some predator's dinner plate. A prime example is my first rat, Sneakers. When he was young, I handled him frequently and habituated him to many different animals. As a result, when my friend brought her cat to stay for several weeks, Sneakers scampered right up to her and then proceeded to follow her around the house. If Sneakers had been living in the wild and walked up to a feral feline, he would have made a filling meal.

Habituation explains why the local squirrel seems to be teasing your dog by standing in a tree just out of reach, and why deer can graze near a road with many passing cars. Initially, the squirrel is afraid of your dog, and the deer is afraid of cars, but because both the tree and the roadsides contain resources such as food, they watch warily and stick around. When nothing bad happens to them, they learn that the barking dog on the ground and the moving cars passing by are not dangerous.

Habituation Is Context Specific: Often, when our pets habituate to certain stimuli, such as loud noises and new objects, we are surprised that they still react to the same stimuli in slightly different surroundings or contexts. That is, they do not generalize. The reason they do not generalize right away is that it is important for their habituation to be specific at first. If the squirrel learned that he was safe from the dog when he was in the tree, and then also held his position when the dog rushed over barking when he was on the ground, habituation would not have helped him; rather, it would have led to his demise. Similarly, if the deer that learns that moving cars on the road are safe also remains stationary the first time a car pulls to the side of the road, he could possibly end up mounted on a wall. Habituation can generalize, but usually only after the animal has habituated to the specific stimuli under many different contextual variations.

Two Types of Habituation: Flooding and Desensitization: With *flooding*, the animal is exposed to the full-force stimulus. Ideally, the animal will gradually get used to the sound or other stimulus. However, one problem with flooding is that if the animal is extremely fearful of the stimulus, flooding can actually *sensitize* him, thus making him more fearful of the same level of stimulus. In *desensitization*, the animal is exposed to the stimulus from a distance or to a weakened stimulus. As the animal gets used to the low-level stimulus, the trainer gradually increases the strength of the stimulus. Ideally, the level would increase slowly enough that the animal never actually reacted fearfully to the stimulus, or it could become sensitized. You cannot use desensitization to modify behavior unless you can control the stimulus.

Counterconditioning

The goal of counterconditioning is to change the emotional/physiological response to a stimulus or to train an alternate incompatible behavior. It goes a step further than habituation when applied appropriately, because, when addressing fear, it emphasizes an actual positive response as its goal, whereas desensitization strives to achieve only a neutral response to the stimuli (Yin 2009).

Classical counterconditioning: Usually, when the term *counterconditioning* is used, it refers specifically to classical counterconditioning. With classical counterconditioning, we condition a new association. If a cat is fearful of crates, for example, we teach her that good things happen when she is near the crate (i.e., she gets food when she goes near or into the crate). If a dog is fearful of loud noises, we teach him to associate tasty dog treats with the loud sounds. We usually combine counterconditioning with desensitization.

Operant counterconditioning: Operant counterconditioning is when you train an alternate, incompatible behavior. For instance, if a dog lunges and barks every time he sees other dogs across the street, you can train the aggressive dog to watch you and go through other obedience exercises when he sees dogs. Thus, the new routine changes from "see other dogs and bark like a maniac" to "see other dogs and pay attention to owner" because it is time to do some fun heeling exercises, and he will get treats for good behavior.

As with classical counterconditioning, in operant counterconditioning you start at a distance where the stimulus is weak and work closer and closer to the stimulus. For operant counterconditioning to work in this specific type of case, it is more than just teaching an animal to move his body parts where you want them to be—you have to get the animal to focus on you instead of on the object of his aggression. In addition, usually in cases when the animal is aggressive toward another animal or object, you want to make sure that you are using positive reinforcement. Every time you use operant conditioning, classical conditioning is also occurring. Therefore, the animal is learning not

only an alternate behavior but is also learning an association. If you use an aversive, the animal may learn to associate the other dog or person with aversives, which could make him more aggressive.

Fixing Fear and Other Forms of Aggression

In general, problems should be prevented; however, when early signs of aggression are seen, animals should be counterconditioned using classical or operant counterconditioning. In general, food should be paired with the training visit and with all procedures. Owners can be told to bring their pets in hungry so they are more motivated by food. Then all pets should be either offered treats during class, or owners should feed their pets small kibble-sized treats. By pairing food with the procedures, the pet learns to associate good things with the procedures.

Owners can easily learn to countercondition their pets to allow muzzles, gentle leaders, foot handling, pilling, and handling that mimics vaccinations or shots. (for a videos on this topic, see www.drSophiaYin.com/videos/TrainingaDogtoEnjoyToenailTrims.mp4).

- To countercondition to procedures, food should be paired with the procedures such that the animal is handled only when it is eating the food, and the procedures should end right when the animal is finished eating the food. This timing makes the association between the food and the handling clear.
- Start with low-intensity handling. When the animal is comfortable with the low-intensity handling (ignores the handling), then gradually handle the animal more rigorously. When performed correctly, this process can take just minutes.
- When giving the treats, the handler should avoid following the dog or cat around with the food as if begging the animal to take the food. He should also avoid waving the food in front of the animal or letting the animal grab the food, or moving around in an uncontrolled manner. That is, the food should be presented in a way that requires the animal to hold its position when receiving the food rather than having to strain to reach the food.

Desensitization and Operant Counterconditioning

To train alternate desirable behaviors, operant counterconditioning can be performed instead of classical counterconditioning, or can be used as a second step after classical counterconditioning has been used.

Both cats and dogs can quickly learn to perform an automatic sit for everything they want (see handouts on Sit/Please and Learn to Earn Protocol at www.DrSophiaYin.com). Then these behaviors can be used to distract the animal from performing inappropriate behaviors. Because these behaviors are taught with positive reinforcement, the animal should have fun performing them. Thus these behaviors can also be used when the client takes the pet to the hospital to distract the animal from the potentially fear-inducing environment or procedure and to teach the animal that good things happen in that environment.

Referring an Animal to a Behavior Specialist

An animal should be referred to a behavior specialist in the following cases:

- A dog has growled, snapped at, or bitten anyone in any setting.
- Owners are concerned about controlling a dog because, for instance, the dog is too rambunctious, too big, or is chewing things or growling at them.
- A cat has attacked or hissed at the owner as if to attack, or the owner needs to handle it in the manner that elicits attacking or hissing, or the cat is aggressive at the veterinary hospital.
- Your counterconditioning plan is not working.

Animals can be referred sooner if you do not have time to address the issues. Owners can also be referred to www.DrSophiaYin.com to read articles and see some videos on modification techniques.

References and Suggested Reading

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