

BEHAVIOR MODIFICATION DESENSITIZATION, COUNTER CONDITIONING, DIFFERENTIAL REINFORCEMENT, AND FLOODING

Counter-conditioning and Desensitization

Counter-conditioning and desensitization are powerful ways to change behavior. They are usually used in combination. Desensitization provides a means of safely exposing the pet to the stimulus at a level at or below which fear is likely to be exhibited. Counter-conditioning is used to change the pet's attitude or emotional response to a stimulus. Differential reinforcement or response substitutions are techniques that can be used to change a pet's response from one that is undesirable to one that is desirable through the proper use and timing of reinforcement. Although counter-conditioning may also be used to describe the practice of teaching an alternative and appropriate response to the stimulus, for clarity we will use the terms differential reinforcement or response substitution throughout these handouts.

What is counter-conditioning?

Counter-conditioning is changing the pet's emotional response, feelings or attitude toward a stimulus. For example, the dog that lunges at the window when the mailman walks by is displaying an emotional response of fear or anxiety. Counter-conditioning would be accomplished by pairing the sight, sounds and approach of the mailman with one of the dog's favored rewards to change the emotional state to one that is calm and positive.

What is desensitization?

Desensitization is the gradual exposure to situations or stimuli that would bring on the undesirable behavior, but at a level so low that there is no negative response. As the animal experiences the stimulus, but does not respond in the undesirable way, the animal becomes "less reactive" to the stimulus, and the pet can soon tolerate a somewhat more intense stimulus without exhibiting the undesirable response. The key to effective desensitization is to design a stimulus gradient so that the pet can be gradually exposed to progressively more intense levels of the stimulus without the undesirable behavior being elicited.

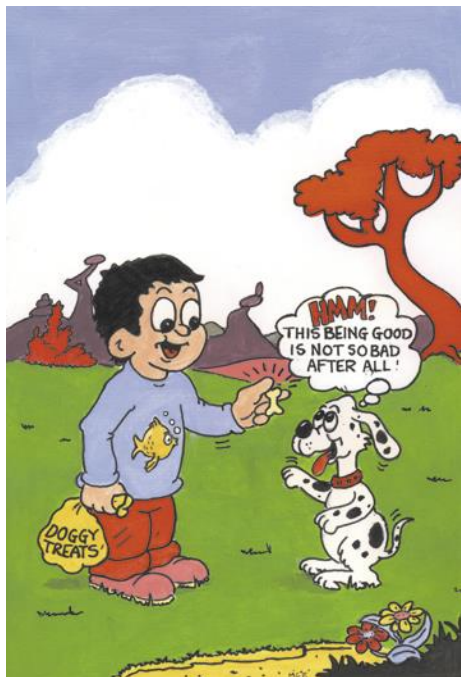
What is differential reinforcement?

Reinforcement of a response that is incompatible with the undesirable response is referred to as



differential reinforcement of an incompatible response (DRI) while reinforcement of any alternative response is known as DRA. There are a number of techniques that can be used to help the owner turn the inappropriate response into one that is desirable. If the dog is trained through reward based techniques to immediately focus on the owners in response to commands (settle, watch), the command might then be used to achieve the appropriate response (sometimes referred to as counter-commanding). Alternatively disruptive devices, head halters, and lures can be used to get the alternative or incompatible response that can then be reinforced. For many dogs, the head halter and leash is often the safest, most effective and most immediate method to obtain the desired response (e.g. sit, focus, heel), which is then reinforced by release (negative reinforcement) and positive reinforcement (the pet's favored reward). Regardless of the technique used, if the pet can be taught to display a new acceptable response instead of the undesirable response when exposed to a stimulus then response substitution has been achieved. Again, rather than attempting to overcome an intense response, the training should be set up to expose the dog with stimuli of reduced intensity to ensure a successful outcome.

The task is not complete until the dog's fearful reaction to the stimulus is replaced by a response to the stimulus that is relaxed and positive (counter-conditioning).



How might these techniques be used in a training situation?

Take the example of the mailman. Begin by getting the dog to sit quietly by the window. Use food as an inducement to the dog to respond, and as a reward for performance. When the dog anticipates a food reward, the "mood" of the dog is usually happy, relaxed and not anxious or aggressive. These are behaviors that are incompatible with the behavior you wish to change, in this case lunging at the window at the mailman. This is counter-conditioning. It may take days or weeks for the dog to learn how to perform this task reliably on command. During that time phase out food rewards so that the dog does the task equally well with or without food.

Next, train the pet to perform the desired behavior in the presence of the mailman. Desensitize the dog, by presenting the stimulus, the mailman, at a low enough level so that the dog will still remain sitting and be relaxed, happy and not anxious or aggressive. Start by having someone the dog knows, WHO IS NOT THE MAILMAN, walk by the window. The dog gets to practice the good behavior when it is easy. Repeat this many times so that the dog does it reliably. Gradually progress to stimuli that more closely resemble the real life situation. Perhaps have the dog sit by the window when the mailman is down the street. If the dog could do this well several times, try when the mailman is across the street. It may be necessary to take the dog outside. Proceed slowly, so that the dog learns how to perform the desired behavior over and over before being challenged with the real thing, the mailman delivering the mail to his door.

What are other ways to design a stimulus gradient for desensitization?

In the example of the mailman the stimulus gradient was to begin the training with a family member and then progress with the mailman at varying distances. Stimuli for desensitization can be arranged from mildest to strongest in a number of ways. For example, begin desensitization from a distance and move progressively closer as the pet is successfully counter-conditioned. Sound stimuli can be presented in varying intensities from quiet to loud. A pet that is fearful or aggressive toward a man with a beard might

be desensitized to young boys, older boys, men with no beards, a family member with a costume beard, familiar men with beards and finally strangers with beards. Distance can also be varied. Dogs that are aggressive or fearful as strangers arrive at the front door, could be desensitized and counter-conditioned to the doorbell being rung by a family member, a family member arriving in a car, a family member walking up the front walkway, a stranger walking along the path in front of the home (while the dog remains in the doorway or on the porch), a familiar person entering the home, and finally a stranger at the front door.

In order for desensitization and counter-conditioning programs to be successful, it is necessary to have good control of the pet, a strongly motivating reward, good control of the stimulus, and a well-constructed desensitization gradient. A leash and head halter is often the best way of ensuring control over the dog. Each session should be carefully planned. Pets that are punished for inappropriate behavior (fear, aggressive displays) during the retraining program will become more anxious in association with the stimulus. Owner fears, anxiety or frustration will only serve to increase the pet's anxiety.

Pets that are rewarded during the retraining program will get worse. Whenever a pet can successfully threaten and the stimulus (person, other animal) retreats, the behavior is further reinforced.

How might differential reinforcement be used?

For counter-conditioning to be successful each exposure must have a relaxing or positive result. This means that ideally exposure to the stimulus must be prevented unless a desirable outcome can be insured. Desensitization so that exposure is always below the threshold for fear allows for proper counter-conditioning. However when the exposure is slightly above the threshold for fear the options are to a) keep the pet in the situation until it habituates and then counter-condition with favored food rewards b) use any available method (that does not cause fear) to interrupt the undesirable response and achieve the desirable response (command, lure, disruptive device, head halter) so that an alternative acceptable behavior can be reinforced. If at the end of the session the pet is calm and relaxed and has received favored rewards in the presence of the stimulus, then counter-conditioning may have also been achieved.

How might flooding and exposure techniques be used?

Another technique for reducing fearful behavior is to continuously expose the pet to the stimulus until it settles down (habituates). This technique will only work if the stimulus is not associated with any adverse consequence, and the pet is exposed for as long as is needed until the pet calms down. Once the pet is exposed, the stimulus must not leave or be removed until the pet calms down. Similarly the pet must not be removed or allowed to retreat until the pet habituates. Once the pet settles, reinforcement can be given to ensure that the ultimate result is a positive association with the stimulus. The pet must not be rewarded until it calms and settles down as this would serve to reward the fearful behavior. Owner intervention or punishment must not be utilized as this would lead to an unpleasant association with the stimulus. Since exposure must continue until the pet settles down, flooding is most successful for fears that are not too intense. Beginning with a somewhat lower or muted stimulus may be best. In practice, keeping the pet in a cage or crate or keeping a dog on a leash and halter during exposure to the stimulus, will prevent escape and prevent injury to the stimulus (person or pet).