

Aversives Work: To Shoot or Not to Shoot the Dog!
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What is Aversive?

Aversive – Anything the animal is willing to escape or avoid

What is aversive is open to interpretation by the individual who experiences it. If the animal is willing to avoid or stop a behavior when faced with a given stimulus, that stimulus is likely aversive. What is aversive is not necessarily painful, but it is considered unpleasant by the individual who experiences it. What is aversive may cause physical and/or psychological harm, yet not be to a level that causes an animal to avoid or stop a behavior. What is aversive may not always be reinforcing or punishing.

One explanation is that there may be competing motivations and the desire to perform a given behavior is stronger than the motivation to stop a given behavior. The intensity of the aversive is not strong enough to deter or induce behavior change.

Learning Theory

Behavior can be reinforced or punished. Behaviors that are followed by a pleasant consequence will increase in frequency. This is referred to as reinforcement. Reinforcement maintains or increases the frequency of a behavior. Behaviors that are followed by an unpleasant consequence will decrease in frequency. This is referred to as punishment. Punishment decreases the frequency of a behavior.

Stimuli may be pleasant or unpleasant and presented or removed as a consequence of a behavior. When a stimulus is presented or removed as a consequence of the behavior, regardless of whether the behavior is reinforced or punished, this is referred to as positive or negative, respectively. Positive is adding a stimulus as a consequence of the behavior. Negative is removing a stimulus as a consequence of the behavior.

Ethics of Learning Theory

Positive reinforcement is the preferred method of learning. Positive reinforcement and negative punishment (sparingly) can be appropriate ways to help address the majority of pet behavior problems.

An example of positive reinforcement is offering something pleasant such as praise or food following a desired behavior. Most pet owners too often fail to reinforce desired behavior. If the behavior is maintained or increases in frequency after adding something pleasant, the behavior has been positively reinforced. An example of negative punishment is withdrawing attention for attention seeking behaviors in dogs. If the behavior decreases in frequency after removing something pleasant, the behavior has been negatively punished.

Controlling pleasant consequences, by offering something pleasant for desired behavior and removing something pleasant for undesired behavior, are less likely to damage human animal relationships than other operant conditioning techniques.

Positive punishment and negative reinforcement can be used effectively to teach new behaviors, but their use is problematic and likely associated with undesirable emotions (fear, anxiety, and/or conflict).

The use of aversives is rarely necessary and not recommended when dealing with most behavior problems of pets.

An example of positive punishment is inflicting pain when a dog performs an undesirable behavior. If the behavior decreases in frequency after adding something unpleasant, the behavior has been positively punished. An example of negative reinforcement is the termination of shock when a dog performs a desired behavior. If the behavior increases in frequency after removing something unpleasant, the behavior has been negatively reinforced.

While behaviors that have pleasant consequences will increase in frequency and behaviors that have unpleasant consequences will decrease in frequency, there is a missing scenario from the Law of Effect. The missing scenario is extinction. Extinction can be a stressful learning process, especially if the behavior has a long learning history of reinforcement. A behavior that has no consequence will decrease in frequency and cease to occur. This is known as extinction. Many behaviors that are not self-rewarding can be ignored and allowed to go into extinction. Although environmental management is imperative to avoid the use of extinction and negative punishment as much as possible.

Classical associations are always being made on a conscious and subconscious level. At times the association is not always made in direct correlation with the desired operant response. This is problematic when any aversive methodology is used in training.

Types of Punishment

Examples of positive punishment include the induction of physical pain or discomfort (hitting, leash corrections, shock), applying an aversive (water, citronella, or startling with a shaker can, verbal reprimand), social punishment (time out away from social affiliates), and physical restraint (forced down, roll over, shake down, or scruffing). Examples of negative punishment include removing attention contingent on behavior that is attention seeking or giving the pet a time out. Yet, a time out or time away from social companions can be punishing for dogs and increase anxiety associated with physical separation. Conditioned punishment includes verbal reprimands such as the word 'no' or scolding when they precede a physical correction. The tone of an invisible fence collar is a conditioned punisher because it predicts the impending shock should the dog approach flags set up at the boundary. The tone or vibration on a shock collar is a conditioned punisher and/or negative reinforcer.

Problems with Aversives

The use of aversives in training can inhibit learning and reduce creativity. Punishment may inhibit all behavior, not just the problem behavior, and often induces fear, anxiety, and/or conflict. Animals may go into learned helplessness or give up when they are unable to avoid the punishment. Punishment can inhibit or subdue behavioral responses and be perceived as calming. Punishment is often applied inconsistently, used instead of teaching an appropriate response, and used without rewarding the appropriate response. If aversives are used consistently and predictably, such that the learner knows how to avoid the aversive, they are less likely to induce stress. If aversives are used in training, they should only be used after a desired behavior is taught with positive reinforcement and used to stop (positively punish) undesired behavior or encourage (negatively reinforce) desired behavior. A certain level of proficiency must be achieved, and a pleasant classically conditioned response must be established, for the behavior to not look 'ugly' (induce conflict behaviors in the dog). If aversives are used in training, alternate appropriate responses should always be positively reinforced.

Aversives are not recommended for puppies and kittens, behavior problem pets, teaching new behaviors, or for appeasing motivation. There are effective ways to train animals without use of positive punishment and/or negative reinforcement. The use of aversives does not allow the trainer to focus on teaching the appropriate response, but rather the focus is on correcting the inappropriate responses. Even if an effective punisher is used, the pet may perform the behavior in the owner's absence.

Aversive based training tools, such as, prong, choke, or shock collars are unnecessary and inhumane for teaching a dog new behavior. Aversive based training tools, such as, prong, choke, or shock collars are unnecessary and inhumane for addressing problem pet behaviors. They have a greater potential to cause emotional and/or physical harm than non-aversive methodology. Yet, aversive based training tools can be effective for teaching new behavior whether used as positive punishers or negative reinforcers. Many dogs have been "successfully" trained using the "Koehler Method of Dog Training" since the mid-1940s. Most dogs will respond to the placement of a prong collar with a decrease in leash pulling. Dogs can be taught operant responses with electronic shock collars and behaviors can be maintained with the threat of shock.

The risks associated with aversives are greater when used on emotionally unstable dogs as they are less resilient. The risk associated with aversives are greater when used on dogs with behavior problems. Conversely, the use of aversives may be more effective in emotionally unstable dogs as they may be more sensitive to correction. When used for addressing aggression, aversives may suppress warning signs associated with aggression thereby making it more unpredictable. Aversives are unlikely to change the motivation of anger or frustration and they are likely to induce fear, anxiety and/or conflict.

Verbal reprimands, such as the word 'NO', quickly become a conditioned punisher by association. It does not tell the pet the appropriate behavior. Rather, it conditions a negative emotional state that can contribute to fear and anxiety. Verbal reprimands may actually condition unwanted behaviors and contribute to overattachment to the owner or codependence on the owner/handler.

Criteria for Effective Punishment

In order to have effective punishment, one must consider the pets' motivation, contingency, timing, intensity, and lastly the context.

1) Motivation

- a. Motivation for a given behavior may not be reduced by punishment; rather punishment may induce conflict, behavioral inhibition, or increased arousal associated with the context. In certain contexts, the motivation for escape or avoidance may be enhanced without affecting the underlying motivation for the behavior. The motivation to perform a behavior may not be eliminated by punishment. The motivation for the behavior may still be present, but negative associations or behavioral baggage are also classically conditioned with the context. If punishment instills fear, punishment is unlikely to improve fear related aggression. In the case of predatory aggression, the desire to chase may still be present even with an inhibited behavioral response.

2) Contingency

- a. Punishment must occur *every time* the undesirable behavior occurs. The punishment is contingent on the behavior. A variable reinforcement history will make a behavior more resistant to extinction and/or punishment. If the behavior has had pleasant consequences in the past, it may be worth the risk of punishment in a given situation, when motivated. Ideally, the behavior-in-itself, becomes punishing and undesirable for the animal to perform within the given context. It may be undesirable for the punished

behavior to become generalized to a multitude of contexts. For example, a dog punished for picking up undesirable objects with his mouth will be more difficult to train to pick up desirable objects, even with positive reinforcement.

3) Timing

- a. Punishment must occur *within ½ a second of the start* of the behavior. A delay in punishment makes it less effective, provides for an opportunity for reinforcement with the undesirable behavior already being performed, or presents an opportunity for mis-association. For example, the chase sequence of predatory behavior may be innately reinforcing for dogs, even without ever capturing prey. A delay in applying aversives may allow for reinforcement. If the behavior continues it is either intrinsically or extrinsically reinforced.

4) Intensity

- a. Punishment must be delivered at the *proper intensity to stop the behavior* without inducing severe stress. Motivation for the behavior may be greater than the aversive consequence. If the behavior does not decrease in frequency, the definition of punishment has not been met. If the intensity is too great, it risks decreasing desired behavior along with undesired behavioral responses. The intensity should be enough to interrupt the behavior, yet not induce severe pain or high anxiety. If the intensity is lacking, one risks inducing tolerance to the aversive.

5) Context

- a. Some may place context in the category of environmental contingencies. Punishment should *not be associated with the owner* as it can instill distrust along with fear, anxiety, and conflict directed toward the owner. When punishment is associated with the owner, it is damaging to the human animal relationship and may lead to fear of humans or human directed aggression. For example, a wooden chair leg may be sprayed with a bitter tasting substance to deter chewing while alternate appropriate items are made available for chewing. This provides the animal with an appropriate chew choice and the aversive is not associated with the owner.
- b. Some trainers would argue that they want punishment to be associated with the handler, so the animal refrains from performing the behavior in their presence and ‘knows who is boss.’ Perhaps, the context can be managed in the handler’s absence. Yet the problem presents for opportunities of mis-association. For example, a dog who is shocked whilst urine marking on a tree may not associate the shock with urine marking, but the person’s presence while urine marking. Larger mis-associations may occur, such as a fear of all trees, a small child who was innocently standing near the tree, or perhaps even the substrate on which the dog was standing.

It is difficult to meet the criteria for effective punishment, and if punishment is going to be effective, it will work in 1-2 attempts. Gadgets and gizmos are available that meet the criteria for effective punishment. Punishment may be considered as a last resort when all other alternatives have been exhausted. There are ways of training dogs and dealing with the majority of behavior problems without ever using punishment. Veterinarians should be cognizant of the methodology used for training when referring patients for obedience classes or behavior modification.

Alternative Methods to Aversives

One early list of bad and good methods for addressing problem behavior or training was written by Karen Pryor. She wrote of 8 methods of getting rid of a behavior in her book about dog training, *Don’t Shoot the Dog!*

- 1) Shoot the dog
- 2) Punishment
- 3) Negative reinforcement
- 4) Extinction
- 5) Train an incompatible behavior
- 6) Put the behavior on cue
- 7) Shape the absence of the behavior; reinforce every other desirable behavior
- 8) Change the motivation

One alternative to aversives in training, is considering Susan Friedman's Hierarchy of Behavior-Change Procedures: Most positive, least intrusive effective intervention model. Consider the following steps or exits when designing a training plan.

- 1) First, consider the animal's mental health and physical wellness.
- 2) Antecedent arrangements. Set the environment to control the learning process.
- 3) R+. Utilize positive reinforcement in training as the primary method
- 4) DRI. When problems arise, utilize differential reinforcement of alternate or incompatible behaviors. This is synonymous with response substitution.
- 5) Yield! If considering extinction, negative reinforcement, and negative punishment.
- 6) Stop! Rethink the training plan before considering positive punishment

When consider the four quadrants of learning theory and training, the author recommends the following ethical considerations in stepwise fashion.

- 1) Positive reinforcement. Teach behaviors incompatible with undesirable behavior. Reward appropriate responses, proactively.
- 2) Negative punishment. Avoid reinforcing undesirable behaviors with attention. Set up the environment and reinforced desired behaviors to avoid needing to use this technique very often.
- 3) Negative reinforcement. Rarely ever necessary, yet the use of a leash may be consistent with negative reinforcement when not used as a cue.
- 4) Positive punishment. Avoid in a training plan. Use is not without undesirable sequelae.

Alternative Behavior Modification Methods to Aversives

- Antecedent arrangements. Avoidance of the practice of undesirable behavior. Prevent the behavior from being reinforced. Control the learning environment while minimizing stress. Know the ABCs of the behavior.
- Motivation. An alternate way of reaching the goal behavior is to funnel the motivation in the right direction. Provide alternate appropriate outlets for species specific behaviors.
- Pharmacotherapy. Treat medical and/or emotional disorders that may contribute to the behavior. Medications may treat internal antecedents, underlying motivations, and chemical imbalances.
- Classical conditioning/counter-conditioning the emotional response. Classical counter-conditioning is used to change the pets underlying emotional state. It is effective when the motivation is one of fear, anxiety, or anger.
- Positive reinforcement based operant conditioning.
 - Clicker or marker training, utilizing a positive event marker, as an alternative to correction-based training.

- Proper positive acclimation to a non-correction centric leash and collar for use as a cue. Headcollars and front clip harnesses are highly effective in allowing for the control of unmanageable dogs.
- Systematic desensitization to stimuli which induce undesirable behavioral responses. Systematic desensitization is used to reduce fear or arousal by gradual gradient controlled exposure to the eliciting stimulus. It is highly effective in specific circumstances.
- Ignoring undesirable behavior. Ignore rather than reinforce, when possible.
- Response substitution applied to unwanted behavior. Response substitution is used when a behavior cannot be ignored. Initially an alternate appropriate behavior is taught outside of the problem situation. The pet is then redirected in the problem context and rewarded for performing an alternate appropriate behavior. Response substitution has been called DRI (differential reinforcement of an incompatible behavior) or DRA (differential reinforcement of an alternate behavior). Best if applied proactively rather than in response to the undesired behavior.
- Negative punishment is used when the motivation for the behavior is attention seeking. The withdrawal of attention is the removal of the reward or the opportunity for reinforcement. Negative punishment is not cueing the dog to go away from the handler or moving the dog to a timeout locked away in isolation of the handler. This can result in frustration and should not be used routinely. As with positive punishment, if it will be effective it should only be used a few times to have the desired change in behavior. If considering negative punishment, re-evaluate medical and physical health, antecedent arrangement, and positive reinforcement strategies.