

## Punishment; its Side effects and Consequences on Behaviour. Is punishment justified in Dog Training?

What is behaviour? Something that we do? The Oxford English Dictionary defines it as “a way of acting or reacting.”

Behaviour does not occur in a vacuum. When we do something, we are controlled by what happens next. Every behaviour has a consequence good, neutral or bad.

In the 1930's, B.F Skinner came up with four principles for learning called “Operant Conditioning”. Skinner chose the name “Operant Conditioning” as the subject (in this case, the dog) can operate on / or change the environment by his behaviour. He can make good or bad things happen and be either reinforced or punished.

Therefore the four principles of Operant Conditioning are as follows:

**Positive Punishment:** this is when the dog's behaviour leads to an unpleasant consequence.

To most people this is known as simply punishment.

**Positive Reinforcement:** this is when the dog's behaviour leads to a nice/pleasant consequence.

For example, the dog sits, the dog gets a treat.

**Negative Punishment:** this is when the dog's behaviour means that something pleasant is withdrawn or a good thing ends.

**Negative Reinforcement:** this is when the dog's behaviour means that something unpleasant is withdrawn or a

bad thing ends. For example, the dog's ear is pinched until he drops the ball he has in his mouth. When he drops it, the pinching stops.

Negative reinforcement and punishment are the same “negative events” which act in different ways. We can make the bad thing go away - negative reinforcement - or we can make the bad thing happen - punishment. Negative reinforcement makes a behaviour more likely, punishment makes a behaviour less likely. In general, reinforcement (positive or negative), which happens directly following an action, will make that action more likely to occur again.

Punishment (positive or negative), which happens directly after an action, will make that action less likely to happen again.

Both people and dogs can learn using these principles, especially when the consequences of the actions are immediately applied! Timing is critical. Up until 20 to 25 years ago, the main way of training dogs was through positive punishment and negative reinforcement. They were considered successful dog training tools, as in enough cases, they seemed to work, but are they really effective? When we punish, what do we want to achieve? Normally the main reason is to control others, dogs

or humans. Usually in dog training, we want to prevent particular behaviours, what we consider to be undesirable conduct, or encourage other particular behaviours that we consider desirable.

To look at the effects of punishment, we can rely on research done on mice and rats as the parts of the brain that deal with fear, memory and stress function in much the same way for all mammals. Laboratory experiments with rats show us that if we train a rat to press a lever to get food and then after we change the conditions so that the rat gets a small electric shock **and** the food when it presses the lever, the lever pressing activity will only cease temporarily. The electric shocks do not necessarily get rid of the lever pressing behaviour permanently. The punishment that originally suppressed the behaviour can in some circumstances no longer serve its original purpose. Why not? Because the two activities for the rat were in direct competition with each other. The positive reinforcement of the food eventually became more powerful than the punishment. You could conclude that this is why in a percentage of cases, using punishment doesn't seem to work for recall or pulling on the lead problems. The positive reinforcement of having freedom and smelling whatever

the dog wants to smell is too strong.

The same experiment does however show us that by using punishment to stop a behaviour, we do then have a window of opportunity, during the temporary suppression that the “shock” brought about, to teach another behaviour that can positively reinforce the dog.

Using punishment in this way however has to be carefully and skilfully planned as nothing guarantees that the new behaviour is going to be more desirable than the one we wanted to stop. For example, we could stop a dog from barking by putting a bark collar on him for a while but if then he started to chew his feet, this new behaviour is just as negative as the first, although the neighbours might be happier the dog certainly won't be!

The same set of experiments also proves that a very strong punishment can stop the behaviour forever, providing the shock is strong enough and happens immediately after the behaviour we want to stop! However, in practice, when training dogs who are all very different individuals, we have to ask ourselves what is “strong enough” and how good is our timing...? For 99.9% people the answer is very poor, we punish way too late after the event!

Punishment, in addition to its intended effect of reducing or stopping an undesired behaviour, will also increase

the likelihood of another or other behaviours. Punishment which happens on a regular basis will also have some significant side effects. The animal/human being punished will try to “avoid” or “escape” the punishment, show conditioned suppression or try counter control. All of these side effects are discussed in more detail below.

Firstly if we punish, the dog will perhaps try to avoid or turn off the punishment. If avoidance was the behaviour we wanted, (this is mostly the case when we use negative reinforcements) then scientific experiments once again show us that avoidance strategies eventually weaken and cease. The rats in the experiments had to be punished every so often to start their avoidance behaviour again. This is what scientists call the avoidance paradox. If we avoid well, the shocks never come so the avoidance behaviour gets weaker and weaker. We must once again receive a shock to get the avoidance behaviour to intensify. You can see this with dogs that are taught to not pull on the lead with a choke chain, they need to be “reminded” every so often. This is because they haven't actually been taught not to pull on the lead but they have been taught to stay within a certain area (by the owner's side) and if they go outside that area, they will be corrected.

Another side effect is escape. I think it is pretty self explanatory in terms of dogs.

Running off when off the lead, jumping the garden fence etc. could all be considered a type of escape. Although I must emphasise that escape from punishment isn't the only possible reason for these behaviours. From my experience with dogs, it seems that escape from punishment is a side effect which doesn't happen particularly often, probably due to the fact that dogs are very dependant on us for their livelihoods and for most of them, their opportunities to escape are rather limited.

If we go back to the rats and mice in the laboratory, we can explain conditioned suppression. After the first experiment where we taught the mouse to press the lever for food, if we now ring a bell and at the end of the bell the mouse received a shock, we soon begin to see that when we ring the bell the mice stop all their activity and cower waiting for the shock which comes at the end of the bell. During the bell, they were not shocked and so could continue to press their lever to get food, but they did not. Why not? The bell announced the inevitability of the punishment (in this case an electric shock) and so all behaviours were suppressed until after the shock. Heather Simpson, in *Your Dog* magazine (May 2005), gives the example of Polly, an Old German shepherd who had been so badly treated she didn't do anything when humans were around, she had switched off to the inevitability of being

punished. Often dog owners do not see this coming; they think that their dogs are properly trained. However a dog that is perfect, never puts a foot wrong and rarely shows any happy/voluntary behaviours, may be in conditioned suppression. Please note, that this shut down state always has a significant cost on the dog's health.

The scientific research with people also shows us that if you cannot escape or avoid, you will learn how to counter control. That is to control your controller. Can dogs do this? I couldn't find any scientific research which confirmed that animals could do this, although humans definitely do, but I think you could argue that conditioned suppression was certainly a form of counter control, along with aggressive or overly submissive behaviours which happen just before the dog is punished.

Many experiments have shown us that redirected aggression is an another potential side effect of punishment. However, it seems we need to study this behaviour more to have all the answers. We do know that, for some people and animals, the fact that they have been punished can trigger an aggressive act towards something else and that this opportunity to attack is a very potent positive reinforcement. This type of redirected aggression in animals seems to happen quickly after the subject has been punished and is usually carried out with

considerable force or violence. Most pet owners who live in multi-pet households have seen evidence of this when one pet is "told off". He or she will take out his frustration on another "weaker" pet in the group. Humans are also excellent at this behaviour, how many of us have been berated by the boss at work and then come home and made our spouses, children's or pet's lives unbearable for a few hours because of the frustrations we suffered earlier in the day? Probably everyone.....unfortunately!

We also have scientific evidence that punishment can cause punishment induced aggression, which we are more likely to call resistance. Here the dog would perhaps accept the punishment the first time but then when in similar circumstances might make a pre-empted strike in an effort to curtail an eventual punishment. During a training session at Sheila Harper's International Dog School, I heard a very sad story about a dog who had been euthanized because he had bitten a visitor while he was sitting in a chair next to some sandwiches. The visitor had just picked up the newspaper and the dog had made an "unprovoked" attack. It came to light afterwards, that the owner had not long before beaten the dog with a newspaper, while sitting in the same chair, eating the same type of sandwiches! So be very careful, depending on the dog's personality, using punishment can actually

increase the risk of the dog becoming aggressive.

Scientists have also proved that the places and people associated with negative reinforcement and positive punishment start to become negative reinforcements in themselves. This was also born out by Schilder and van de Borg (2004) in their study of electric shock collars on police dogs. Their study concluded by looking at the dog's body language that there was some association between the shock and the presence of the dog handlers. The dog's ear and tail positions were lower in the presence of the handler who gave them the shock, even though the dogs weren't in training and were just doing a free walk. Not only did the shocks seem to be detrimental to the dog / handler relationship but also seemed to have a lasting impact on some of the dogs. For example, one dog who had been trained with the shock collar screamed after being given the "heel" command. This poor dog had associated the command with the shock itself.

Negative and positive reinforcement are both capable of teaching a new behaviour. But how do they teach? Murray Sidman in his book "Coercion and its Fallout", argues that using negative reinforcement to teach turns the subject into an "automaton". Because they are not sure if any new behaviours will be punished or not, they stick to the same repertoire of behaviours, faithfully doing what they are asked to, but

never daring to do anything else in case they get punished. Is this really what we are looking for from our four legged friends?

However, if we teach using positive reinforcement the subject learns what he has to do, but also stays relaxed enough to explore, rest, or do other activities that were rewarded in the past. Sidman says “Positive reinforcement leaves us free to indulge our curiosity, to try new options. Negative reinforcement instils a narrow behaviour repertoire, leaving us fearful of novelty, afraid to explore. If our goal is to create a being that will do exactly what we want and nothing else, strong negative reinforcement is the way to go”.

At the moment in the dog training world, due to the popularity of certain TV programmes, there is a “new” way of training dogs that is supposedly very positive. These types of programs are often called Rank Reduction Programmes or Nothing in Life is for Free. Although some of these programmes are much better than others, we need to be careful as taking away an opportunity to engage in a natural behaviour, a positive reinforcement when expected or an everyday basic need, is what the French ethologist Michel Chanton describes as an “invisible punisher”. Often, the dog has to “earn” freedom, food or interaction with its owner. Is this not a “misuse” of positive reinforcement, where we deliberately set a up situation

that make rewards effective? I think so. Murray Sidman argues this point as well, “when positive rewards are made the contingent on the cessation of periods of derivation that others have imposed artificially their effectiveness is a product of negative reinforcement: they become instruments of coercion”. John Fisher even goes as far as to say that when a reward is expected and not given, this constitutes a punishment. “If you remove an expected reward, you are in all aspects other than physical, punishing the dog”.

Why do we punish? Unfortunately if punishment is used and seen to be effective, even temporarily, there is a chance that the use of punishment will be reinforced and therefore will be used again and again. Punishment usually stops a behaviour (albeit temporarily) and therefore, the person who carried out the punishment is reinforced. The immediate cession of the unwanted behaviour influences our belief that the punishment works. The side effects of punishment all come later and therefore we don’t necessarily link them to the punishment. For this reason, dog trainers that use punishment will often do it again and again. The sad thing is that they don’t see the power of using reinforcement, which is the reward they are getting from punishing! But, not only do the punishers get better and better at punishing, those who are on the receiving end of the punishment often start to become good at punishing too.

A study by Hiby et al. (2004) looked at the success of positive dog training compared to punishment based training. His results concluded that there was a place for punishment when used by trained people. But with pet dog owners, positive dog training methods were overall the more successful. If we look at the same study by task (sit, come, etc.), positive training methods were much more successful for training certain tasks and for no task was punishment based training the most effective way. **The study concluded that there were no overall benefits to using verbal or physical punishment instead of positive reinforcement.**

Interestingly, the study also noted a correlation between the frequency of the punishment and the number of troublesome behaviours displayed by the dog. Hiby et al. hypothesised that punishment may actually cause problem behaviours if it was inappropriately used or timed, because the dog went into a state of increased anxiety or conflict. This interesting conclusion should be used with reservation however as the study does not seem to take into account that disobedient dogs often cause people to use harsher training techniques.

When working with dogs, we also have other considerations to take into account if we train using punishment. Does the dog actually know what he is being punished for? You see this all the time with toilet training problems. Owners tell the dog

off for peeing inside the house, but does the dog understand that the peeing is the problem or peeing in the *kitchen* or peeing in *front of his owner*? Some dogs may get it! Others may learn never to pee just in the kitchen or never in their owner's presence, even when out on a walk! This can often lead to certain behaviours being done in secrecy. A second consideration is that by punishing a dog, you are not telling him what you would like him to do. You might be able to stop a behaviour if you catch it early enough. You might even be able to punish without ruining your relationship with your dog by using mousetraps on the sofa or saucepans on the kitchen work top in your absence. (Please don't try these, you risk giving your dog behavioural problems such as noise phobia!) However, you are never going to see an improvement in the dog's overall general behaviour or teach him new acceptable alternative behaviours using this approach. Therefore, surely it is better to teach and reward the behaviours you like or want, rather than punishing an unwanted behaviour.

Aside from all of these consequences and side effects of the three unpleasant reinforcers, there are strong ethical considerations to be taken into account because punishment almost always

causes fear. Fear causes stress and constant stress can cause incredible harm to the dog's physical and mental health. As a dog trainer, I feel have the responsibility to use positive reinforcement in every possible case. Punishment is the easy option. Most dog owners are looking to develop a good relationship with their dog. In a relationship based on friendship and trust, only positive reinforcement provides this kind of relationship. James Serpell (1996) concluded that the strength of the human bond is linked to the dog's behaviour. Personally, I also think that the dog's behaviour is linked to the bond it has with its human.

Is punishment ever justified? My personal belief is that, as dog trainers or behaviourists, we have to consider carefully that maybe by changing the environment we can stop a behaviour, instead of always falling back on coercion. People and dogs react to punishment in different ways and so we can never be sure of a success without side effects. In her book "The Power of positive Dog Training", Pat Millar describes an experience she had with a pit-bull who liked to chase horses and had a phobia of gunshots. She used the noise of a gun firing to stop him running to the horses. The approach seemed to work for this dog due to his personality and as Pat Millar had good

timing. But even she admits she could have gotten to the same result over time using some counter conditioning or more positive training techniques.

Punishment can possibly work if we apply it at the right moment and at the right strength, something which in practice seems impossible to do. "The strength of the aversive can only be judged by the recipient", explains Karen Pryor in "Don't Shoot the Dog". We now know that punishment has many potential side effects, some of which are really awful and that it destroys the relationship between the dog and its owner. Scientific research concludes that a very occasional punishment set in a background and context of positive reinforcement will perhaps do no harm and not have any long term side effects. So yes, we may have to use punishment, when we make mistakes, in an emergency or due to a temporary lack of information, but punishment should never be the treatment of choice.

Taking into consideration all of this, why do we still use punishment so widely? It doesn't seem to be very effective and its side effects can be disastrous? Maybe the positive reinforcement we get from punishing is too strong, as Karen Pryor says "This is humanity's favourite method", unfortunately.....