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Flooding and Learned Helplessness in horse training- what it is and how to recognize it.
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In the last decade the equestrian community’s understanding of learning theory and training terminology has improved enormously. When I first started out as a professional trainer over a decade ago, I found that few people had heard of ‘flooding’ as a training technique, let alone understood what it was, despite the fact that at the time it was widely utilized by a wide variety of trainers.
Nowadays, however, most people are aware of the term, and, more importantly, aware that it should be a last resort rather than a favored approach. However, I often find that, although people are aware of the theory, in practice they are not always so good at recognizing flooding when it is actually happening. In this post I will discuss what flooding actually is, what psychologists think about it, and how to recognize it.

Species specific defense reactions (SSDR) are innate escape avoidance responses made to aversive stimuli—in horses, these include freeze, flight, fight or faint. Horses are innately neophobic, which means that they naturally find novel objects/situations frightening. Given freedom of choice and space, most horses will flee, even if only for a short distance.

Panksepp has suggested that the freeze response occurs at a slightly lower level of fear, however in a confined space/when movement is constricted by ropes or reins, horses may not demonstrate flight or even an attempt to flee. Why might this be?

Exposing a horse to a novel stimulus, whether in hand or under saddle, in most cases (subject to history) will lead to stimulation of the sympathetic branch of the autonomic nervous system, the flight response: increase in heart rate, respiration rate, release of adrenaline, noradrenaline and corticosteroids in preparation for physical exertion and potential injury.

Given freedom of choice and adequate space the horse will flee to a safe distance and then recover to a parasympathetic state (‘rest and digest’) - think of a horse in a very large pasture, something startles them, they will spook and run, stop, turn, have a look, and once they are sure the threat is gone, they will return to grazing.

In some cases, once fear is gone, horses may exhibit curiosity in response to novelty. Panksepp would describe this as activation of the SEEKING circuitry, and the behavior is characterized by interested approach. Please note that this occurs through choice and NOT under compulsion.

With repeated exposure to the novel stimulus, in this way, with sufficient respite between each exposure and no negative consequences, i.e. no pain or injury, the horse will ‘habituate’ and there will be a gradual diminishment of the flight response until it is not triggered at all. However, in some instances, the horse may instead become sensitized, and the SSDR may become stronger rather than weaker.
What happens if we attempt to make the horse ‘face his fear’? This often happens in the horse world, whether intentional or not, because of our tendency to block their ability to perform the flight response.

For example, when out hacking, the horse freezes when they see a road sign. The normal response is to apply aversives in the form of pressure from the legs. This may in fact also be accompanied by increased pressure on the bit as the rider shortens the reins, anticipating a spook or a bolt.

If the horse continues to freeze, the aversives may be escalated, perhaps by increasing pressure from the legs, or with the addition of a smack from a whip or shouting from the rider (which the horse has learned to associate with another aversive stimulus such as the sting of the whip).

The horse is, in effect, caught between a rock and a hard place. If they turn away or back up, or even just stay where they are, they are experiencing increasingly aversive stimuli. But if they go forwards, they have to approach the frightening object, also an aversive stimulus. What does the horse do?

Inevitably, it comes down to which is more aversive - the object (the road sign in this instance) or the driving aids?

When riders are successful in ‘making’ horses approach in these situations, it is because the rider has managed to be the source of the more salient (more meaningful) aversive stimuli. With repetition, the horse learns that, when ridden, there is no point in executing the normal SSDR, escape avoidance doesn’t work.

This is what is known as learned helplessness. In future, even if the opportunity to escape is available, the horse will be unlikely to attempt to do so. It doesn’t mean that the horse is no longer frightened of the object simply that they are more frightened of the rider and what the rider might do if they fail to pass.

Any scenario for dealing with a fear evoking stimulus in which the individual is exposed to it without the opportunity to escape is known as flooding.

Another example of flooding, frequently used in natural horsemanship training, and often incorrectly labeled as habituation or desensitization, occurs when a horse is exposed to a novel stimulus while on line, or enclosed in an insufficient space such as a pen. The exposure to the stimulus triggers the flight response, but the horse is unable to run far enough away to settle and relax, due to the constraint of either the line or the pen. In addition, when on line, the horse runs into the pressure of the rope, and so experiences another.

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Aversive stimulus. This scenario is no different to that of the horse out on the hack. It may produce a horse that stands still and will appear to accept the novel stimulus (e.g. tarp, cracking whip, flag, stick and string or even a chainsaw) being moved around them and even touching them. However, careful examination of the body language will reveal a horse that is ‘tucked up’ (holding their breath) and carrying a lot of tension through the muscles, particularly obvious around the muzzle and eyes.

Emotions should always matter more than behavior. Anyone can teach a horse to do something, but it takes skill and thoughtfulness to produce a horse that is genuinely relaxed and ‘happy’ with the process.

Flooding should be a tool of last resort, only to be brought out when there is no other option. It should not be used routinely for dealing with fears and phobias.

The best (and most ethical) way to do this is through a process known as systematic desensitization and counter conditioning. More on that another time!

Here is a video that illustrates the final stages of a systematic desensitization and counter conditioning process. Many thanks to my clients Janet and Sally for allowing me to show this footage.

https://www.youtube.com/watch?v=qAlwc_uywMs&feature=youtu.be

http://www.helenspencehorsesense.co.uk/