

TIME

How Science is Revolutionizing the World of Dog Training



A golden doodle puppy and a trainer at a dog training class at Doggy Business in Portland, Ore., on June 4. Holly Andres for TIME

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I was about a month into raising a new border collie puppy, Alsea, when I came to an embarrassing realization: my dog had yet to meet a person who doesn't look like me.

I'd read several books on raising a dog, and they all agree on at least one thing: proper socialization of a puppy, especially during the critical period from eight to 20 weeks, means introducing her to as many people as I possibly could. Not just people, but diverse people: people with beards and sunglasses; people wearing fedoras and sombreros; people jogging; people in Halloween costumes. And, critically, people of different ethnicities. Fail to do this, and your dog may inexplicably bark at people wearing straw hats or big sunglasses.



This emphasis on socialization is an important element of a new approach to raising the modern dog. It eschews the old, dominating, Cesar Millan-style methods that were based on flawed studies of presumed hierarchies in wolf packs. Those methods made sense when I raised my last dog, Chica, in the early aughts. I read classic dominance-oriented books by the renowned upstate New York trainers The Monks of New Skete, among others, to teach her I was the leader of her pack, even when that meant stern corrections, like shaking her by the scruff of the neck. Chica was a well-behaved dog, but she was easily discouraged when I tried teaching her something new.

I don't mean to suggest I had no better option; there was then a growing movement to teach dog owners all about early socialization and the value of rewards-based training, and plenty of trainers who employed only positive

reinforcement. But in those days, the approach was the subject of debate and derision: treat-trained mongers might do what you want if they know a biscuit is hidden in your palm, but they'd ignore you otherwise. I proudly taught my dog tough love.

This time, with the assistance of a new class of trainers and scientists, I've changed my methods entirely, and I have been shocked to discover booming product lines of puzzles, entertaining toys, workshops and "canine enrichment" resources available to the modern dog "parent," which has helped boost the U.S. pet industry to \$86 billion in annual sales. Choke collars, shock collars, even the word *no* are all-but-verboden. It's a new day in dog training.

The science upon which these new techniques are based is not exactly new: it's rooted in learning theory and operant conditioning, which involves positive (the addition of) or negative (the withdrawal of) reinforcement. It also includes the flipside: positive or negative punishment. A brief primer: Petting a dog on the head for fetching the newspaper is positive reinforcement, because you're taking an action (positive) to encourage (reinforce) a behavior. Scolding a dog to stop an unwanted behavior is positive punishment, because it's an action to *discourage* a behavior. A choke collar whose tension is released when the dog stops pulling on it is negative reinforcement, because the dog's desirable behavior (backing off) results in the removal of an undesirable consequence. Taking away a dog's frisbee because he's barking at it is negative punishment, because you've withdrawn a stimulus to decrease an unwanted behavior.

Much has changed about the way that science is applied today. As canine training has shifted from the old obedience-driven model directed at show dogs to a more relationship-based approach aimed at companion dogs, trainers have discovered that the use of negative reinforcement and positive punishment actually slow a dog's progress, because they damage its confidence and, more importantly, its relationship with a handler. Dogs that receive too much correction—especially the harsh physical correction and mean-spirited "Bad dog!" scoldings—begin to retreat from trying new things.

These new methods are backed by a growing body of science—and a rejection of the old thinking, of wolves (and their descendants, dogs) as dominance-oriented creatures. The origin of so-called “alpha theory” comes from a scientist named Rudolph Schenkel, who conducted a study of wolves in 1947 in which animals from different packs were forced into a small enclosure with no prior interaction. They fought, naturally, which Schenkel wrongly interpreted as a battle for dominance. The reality, Schenkel was later forced to admit, was that the wolves were stressed, not striving for alpha status.

A study from Portugal published last fall in the pre-print digital database BioRxiv (meaning it is not yet peer-reviewed) evaluated dozens of dogs selected from schools that either employed the use of shock collars, leash corrections and other aversive techniques or didn’t—sticking entirely or almost entirely to the use of positive reinforcement (treats) to get the behavior they wanted. Dogs from the positive schools universally performed better at tasks the researchers put in front of them, and the dogs from aversive schools displayed considerably more stress, both in observable ways—licking, yawning, pacing, whining—and in cortisol levels measured in saliva swabs.

These new findings are especially relevant this year. Dog adoption in the COVID-19 era has ballooned, arguably because isolated Americans are newly in search of companionship and because working from home makes at least the idea of raising a puppy feasible. Before the pandemic, it was young city dwellers driving the boom in demand for and supply of dog trainers who employ positive methods, and an explosion in the proliferation of professional trainers across the globe. Often because they’ve delayed or decided against having children, millennials and Generation Z are spending lavish amounts of money on pets: toys, food, puzzles, fancy harnesses, rain jackets, life jackets and training. And those professional trainers, from the Guide Dogs for the Blind organization to renowned handler Denise Fenzi, have formed a legion of experimenters. They universally report that the less negativity they use in training, the more quickly their dogs learn.

Over the past 15 years, handlers with Guide Dogs for the Blind, which trains dogs to be aides for sight-impaired people, have extinguished nearly all negative training techniques and with dramatic results. A new dog can now be ready to guide its owner in half the time it once took, and they can remain with an owner for an extra year or two, because they're so much less stressed out by the job, says Susan Armstrong, the organization's vice president of client, training and veterinary operations. Even bomb-sniffing and military dogs are seeing more positive reinforcement, which is why you might have noticed that working dogs in even the most serious environments (like airports) seem to be enjoying their jobs more than in the past. "I don't think you're imagining that," Armstrong says. "These dogs love working. They love getting rewards for good behavior. It's serious, but it can be fun."

Susan Friedman, a psychology professor at Utah State University, entered the dog-training world after a 20-year career in special education, a field in which she has a doctorate. In the late 1990s, she adopted a parrot, and was shocked to discover that most of the available advice she could find about raising a well-mannered bird involved only harsh corrections: If it bites, abruptly drop the bird on the floor. If it makes too much noise, shroud the cage in complete darkness. If it tries to escape, clip the bird's flight feathers. Friedman applied her own research and experience to her parrot training, and discovered it all comes down to behavior. "No species on the planet behaves for no reason," she says. "What's the function of a parrot biting your hand? Why might a child throw down at the toy aisle? What's the purpose of the behavior, and how does it open the environment to rewards and also to aversive stimuli?"

Friedman's early articles about positive-reinforcement animal training met a skeptical audience back in the early aughts. Now, thanks to what she calls a "groundswell from animal trainers" newly concerned about the ethics of animal raising, Friedman is summoned to consult at zoos and aquariums around the world. She emphasizes understanding how a better analysis of an animal's needs might help trainers punish them less. Last year, she produced a poster called the "hierarchy roadmap" designed to help owners identify underlying causes and conditions of behavior, and address the most likely influencers—illness, for example—before moving on to other assumptions. That's not to

suggest old-school dog trainers might ignore an illness, but they might be too quick to move to punishment before considering causes of unwanted behavior that could be addressed with less-invasive techniques.

The field is changing rapidly, Friedman says. Even in the last year, trainers have discovered new ways to replace an aversive technique with a win: if a dog scratches (instead of politely sitting) at the door to be let out, many trainers would have in recent years advised owners to ignore the scratching so as not to reward the behavior. They would hope for “extinction,” for the dog to eventually stop doing the bad thing that results in no reward. But that’s an inherently negative approach. What if it could be replaced with something positive? Now, most trainers would now recommend redirecting the scratching dog to a better behavior, a *come* or a *sit*, rewarded with a treat. The bad behavior not only goes extinct, but the dog learns a better behavior at the same time.

The debate is not entirely quashed. Mark Hines, a trainer with the pet products company Kong who works with dogs across the country, says that while positive reinforcement certainly helps dogs acquire knowledge at the fastest rate, there’s still a feeling among trainers of military and police dogs that some correction is required to get an animal ready for service. “Leash corrections and pinch collars are science-based, as well,” Hines says. “Positive punishment is a part of science.”

The key, Hines says, is to avoid harsh and unnecessary kinds of positive punishment, so as not to damage the relationship between handler and dog. Dogs too often rebuked will steadily narrow the range of things they try, because they figure naturally that might reduce the chance they get yelled at.

The Cesar Millans of the world are not disappearing. But the all- or mostly positive camp is growing faster. Hundreds of trainers attend “Clicker Expos,” an annual event put on in various cities by one of the most prominent positivity-based dog-training institutions in the world, the Karen Pryor Academy in Waltham, Mass. And Fenzi, another of the world’s most successful

trainers, teaches her positive-reinforcement techniques online to no less than 10,000 students each term.

While there is some lingering argument about how much positivity vs. negativity to introduce into a training regimen, there's next to zero debate about what may be the most important component of raising a new dog: socialization. Most trainers now teach dog owners about the period between eight and 20 weeks in which it is vital to introduce a dog to all kinds of sights and sounds they may encounter in later life. Most "bad" behavior is really the product of poor early socialization. For two months, I took Alsea to weekly "puppy socials" at Portland's Doggy Business, where experienced handlers monitor puppies as they interact and play with one another in a romper room filled with ladders and hula hoops and children's playhouses, strange surfaces that they might otherwise develop fear about encountering. Such classes didn't exist until a few years ago.

I also took Alsea to dog-training classes, at a different company, Wonder Puppy. At the first session, trainer Kira Moyer reminded her human students that the most important thing we need to do for our dogs is advocate, which is also based in a renewed appreciation of science. Instead of correcting your dog for whining, for example, stop for a moment and think about why that's happening? What do they want? Can you give that to them, or give them an opportunity to earn the thing they want, and learn good behavior at the same time?

Enrichment is another booming area of the dog-training world. I didn't feed Alsea out of a regular dog bowl for the first six months she's been with me, because it was so much more mentally stimulating for her to eat from a food puzzle, a device that makes it just a little bit challenging for an animal to acquire breakfast. These can be as simple as a round plastic plate with kibble dispersed between a set of ridges that have to be navigated, or as complex as the suite of puzzles developed by Swedish entrepreneur Nina Ottosson. At the highest level, a dog might have to move a block, flip the lid up, remove a barrier or spin a wheel to earn food. Another common source of what we consider "bad" behavior in dogs is really just an expression of boredom, of a

dog that needs a job and has decided to give himself one: digging through the garbage, barking at the mail carrier. Food puzzles make dinnertime a job. When Ottosson first started, “they called me ‘the crazy dog lady.’ Nobody believed dogs would eat food out of a puzzle,” she says. “Today, nobody calls me that.”

When Alsea was 4 months old (she’s 12 months now), I traveled south of Portland to Oregon’s Willamette Valley to introduce her to Ian Caldicott, a farmer who teaches dogs and handlers how to herd sheep. First we watched one of his students working her own dog. As the border collie made mistakes, the tension in her owner’s voice escalated and her corrections grew increasingly harsh. “Just turn your back and listen,” Caldicott said to me. “You can hear the panic in her voice creeping in.”

Dogs are smart and can read that insecurity. It makes them question their faith in the handler and, in some cases, decide they know better. Raising a good sheepdog is about building trust between the dog and the handler, Caldicott says. That does require some correction—a “Hey!” when the dog goes left instead of right, at times—but what’s most important is confidence, both in the dog and the handler. In the old days, sheepdogs were taught left and right with physical coercion. Now, they’re given just enough guidance to figure out the right track by themselves. “We’re trying to get an animal that thinks for itself. A good herding dog thinks he knows better than you. Your job is to teach him you’re worth listening to,” Caldicott says. “The ones born thinking they’re the king of the universe, all you have to do is not take that away.”

Update, Oct. 27: *This article has been updated to more clearly reflect Susan Friedman’s approach to animal training.*

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