

Positive vs. Negative Management

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B.F. Skinner refined our understanding of how consequences affect behavior. He described these relationships, technically, as positive and negative reinforcement. These two concepts confuse a lot of students in introductory psychology courses. They mistakenly think that positive means 'good' and negative means 'bad'. But this is not what Skinner meant. Positive meant the application of a reinforcer while negative meant the removal of one. Positive reinforcement is similar to the idea of an incentive. Negative reinforcement is more like intimidation or a threat. Both approaches can motivate and sustain performance.

These principles were originally developed in animal research. I once was hired to teach prison guards how to manage prisoners better. In some ways this was a doomed assignment since there are few positive reinforcers available in the traditional prison system. Nevertheless, I needed the money so I taught the course. The guards quickly became bored with my lectures so I decided an animal demonstration would liven things up.

I brought two 'operant chambers' to the classroom with two white rats. The 'operant chamber' is used for many behavioral research programs. It is a Plexiglas box about one foot high, wide and deep. I would demonstrate the concepts of positive and negative reinforcement with these boxes and rats. In the positive reinforcement box, there was a lever on the wall that was electrically connected to a food dispenser. If the rat pressed the lever, food was automatically dispensed. I could have simply waited until the rat accidentally pressed the lever, but this would have taken a long time.

Instead, I used a technique termed 'shaping' to speed up the process. In shaping, the experimenter delivers food to the rat for 'successive approximations' to the desired lever pressing behavior. If the rat faces the lever, he is reinforced, then, if he approaches, then if he touches the lever, and so on. A good 'shaper' can teach a rat to press the lever in 15 minutes or so. I wasn't so good and it took over thirty minutes to get the rat to press the lever. After that, of course, the rat pressed the lever on his own with no further intervention from me.

Now I was ready to demonstrate negative reinforcement in the second box with the other rat. This box had an electric shock grid in the bottom and no food dispenser. I could apply shock to the rat's paws. When I turned the shock on, the rat jumped and happened to jump on the lever that turned the shock off. He quickly learned to keep pressing the lever to keep the shock from coming back on. The rat was pressing the lever in a matter of minutes.

I then asked the guards for their comments on these two procedures. One guard spoke up immediately. "The negative reinforcement worked much faster and you didn't have to feed the rat," he said. Everyone else nodded in agreement. The consensus was that negative reinforcement was faster and cheaper. I was depressed. My demonstration had backfired. I decided to give the guards a ten-minute break while I collected my thoughts.

One of the guards went over to the chambers and picked up the rat in the positive reinforcement chamber to play with it. When another guard saw this, he tried to pick up the rat in the negative reinforcement chamber. The rat struggled and then bit the guard who screamed in pain and had a lot of

trouble extricating the rat from his finger. After everything settled back down, I asked the guards, "Now, what do think of positive versus negative reinforcement?" I said triumphantly.

One guard replied, "Well, negative reinforcement works, but you just don't want to be around the rat."

I continued, "When you go to get these two rats from their home cages in the morning, how do you expect the positively reinforced rat will greet you?"

Almost in unison, the guards said, "He'll be anxious to see you because he gets fed in the chamber."

"Right," I replied. "In fact, they act much like your pet dog or cat, who is waiting for you when you bring their food to them. And how will you be greeted by the negatively reinforced rat?" I said.

Again, almost in unison, the guards responded, "The rat will be afraid of you and won't want to go."

"Right, again," I said. "They move to the back of the cage and grab onto the wire bottom of the cage. You have to wear protective gloves and pull them out of the cage. When you finally get them to the chamber, they often 'spread-eagle' to keep from being placed in the cage. When you finally get them in the cage, they immediately go over and begin pressing the lever to keep from getting shocked."

"Does the negatively reinforced rat remind you of employees in any way? Many employees don't want to come to work, come late, take long breaks, and leave early. Almost all animal trainers now use positive reinforcement to teach animals. Can you imagine Sea World trainers trying to use negative reinforcement with Shamu, the killer whale? Unfortunately, most employees are still managed through negative reinforcement. Our managers are not as enlightened as animal trainers.