

Name: _____

Period: _____

Date: _____

Operant Conditioning

Psychologist B. F. Skinner saw that classical conditioning doesn't account for new behaviors such as riding a bike. He proposed a theory about how such behaviors come about. Skinner believed that behavior is motivated by the consequences we receive for the behavior: the reinforcements and punishments. His idea that learning is the result of consequences is based on the law of effect.

According to the law of effect, behaviors that are followed by consequences that are satisfying to the organism are more likely to be repeated, and behaviors that are followed by unpleasant consequences are less likely to be repeated. Essentially, if an organism does something that brings about a desired result, the organism is more likely to do it again. If an organism does something that does not bring about a desired result, the organism is less likely to do it again.

An example of the law of effect is in employment. One of the reasons (and often the main reason) we show up for work is because we get paid to do so. If we stop getting paid, we will likely stop showing up—even if we love our job. Skinner began conducting scientific experiments on animals (mainly rats and pigeons) to determine how organisms learn through operant conditioning. He placed these animals inside an operant conditioning chamber, which has come to be known as a "Skinner box". A Skinner box contains a lever (for rats) or disk (for pigeons) that the animal can press or peck for a food reward via the dispenser. Speakers and lights can be associated with certain behaviors. A recorder counts the number of responses made by the animal.

In discussing operant conditioning, we use several everyday words—positive, negative, reinforcement, and punishment—in a specialized manner. In operant conditioning, positive and negative do not mean good and bad. Instead, *positive* means you are adding something, and *negative* means you are taking something away. *Reinforcement* means you are increasing a behavior, and *punishment* means you are decreasing a behavior. Reinforcement can be positive or negative, and punishment can also be positive or negative. All reinforcers (positive or negative) *increase* the likelihood of a behavioral response. All punishers (positive or negative) *decrease* the likelihood of a behavioral response. Now let's combine these four terms: positive reinforcement, negative reinforcement, positive punishment, and negative punishment.

REINFORCEMENT

The most effective way to teach a person or animal a new behavior is with positive reinforcement. In positive reinforcement, a desirable stimulus is added to increase a behavior.

For example, you tell your five-year-old son, Jerome, that if he cleans his room, he will get a toy. Jerome quickly cleans his room because he wants a new art set. Let's pause for a moment. Some people might say, "Why should I reward my child for doing what is expected?" But in fact we are constantly and consistently rewarded in our lives. Our paychecks are rewards, as are high grades and acceptance into our preferred school. Being praised for doing a good job and for passing a driver's test is also a reward. Positive reinforcement as a learning tool is extremely effective. It has been found that one of the most effective ways to increase achievement in school districts with below-average reading scores was to pay the children to read. Specifically, second-grade students in Dallas were paid \$2 each time they read a book and passed a short quiz about the book. The result was a significant increase in reading comprehension.

In negative reinforcement, an undesirable stimulus is removed to increase a behavior. For example, car manufacturers use the principles of negative reinforcement in their seatbelt systems, which go "beep, beep, beep" until you fasten your seatbelt. The annoying sound stops when you exhibit the desired behavior, increasing the likelihood that you will buckle up in the future. Negative reinforcement is also used frequently in horse training. Riders apply pressure—by pulling the reins or squeezing their legs—and then remove the pressure when the horse performs the desired behavior, such as turning or speeding up. The pressure is the negative stimulus that the horse wants to remove.

PUNISHMENT

Many people confuse negative reinforcement with punishment in operant conditioning, but they are two very different mechanisms. Remember that reinforcement, even when it is negative, always increases a behavior. In contrast, punishment always decreases a behavior. In positive punishment, you add an undesirable stimulus to decrease a behavior. An example of positive punishment is scolding a student to get the student to stop texting in class. In this case, a stimulus (the reprimand) is added in order to decrease the behavior (texting in class). In negative

punishment, you remove a pleasant stimulus to decrease a behavior. For example, a driver might blast her horn when a light turns green, and continue blasting the horn until the car in front moves.

Punishment, especially when it is immediate, is one way to decrease undesirable behavior. For example, imagine your four-year-old son, Brandon, runs into the busy street to get his ball. You give him a time-out (positive punishment) and tell him never to go into the street again. Chances are he won't repeat this behavior. While strategies like time-outs are common today, in the past children were often subject to physical punishment, such as spanking.

It's important to be aware of some of the drawbacks in using physical punishment on children. First, punishment may teach fear. Brandon may become fearful of the street, but he also may become fearful of the person who delivered the punishment—you, his parent. Similarly, children who are punished by teachers may come to fear the teacher and try to avoid school. Consequently, most schools in the United States have banned corporal punishment. Second, punishment may cause children to become more aggressive and prone to antisocial behavior and delinquency. They see their parents resort to spanking when they become angry and frustrated, so, in turn, they may act out this same behavior when they become angry and frustrated.

While positive punishment can be effective in some cases, Skinner suggested that the use of punishment should be weighed against the possible negative effects. Today's psychologists and parenting experts favor reinforcement over punishment—they recommend that you catch your child doing something good and reward her for it.