# Classical vs. Operant Conditioning

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Classical and operant conditioning are two important factors when it comes to learning. Without them, our behavior would not be changed by our consequences, and we would lack the ability to associate two stimuli and be able to respond the same to both of them, even when one of those stimuli did not initially produce a response. According to author Douglas Bernstein, learning is defined as a change in knowledge & behavior as a result of our experiences. The more we know about classical and operant conditioning, the more we know about learning.

Russian psychologist Ivan Petrovich Pavlov discovered classical conditioning almost accidentally in the midst of his research on the digestive system of dogs (Bernstein 143). Pavlov began to notice that on occasion, the dogs would salivate even in the absence of food. For example, the sight of the assistant who fed the dogs triggered this response. Pavlov wanted to look further into this strange phenomenon, so he conducted an experiment. In this experiment, he first confirmed that food alone made the dog salivate. In this case, the food is known as the *unconditioned stimulus*, and salivating is the *unconditioned response*. He also confirmed that the dog would not salivate when it heard a musical tone, or the *neutral stimulus*. Next, Pavlov paired the tone with placing the food in the dog's mouth, which caused the dog to associate the tone with the food. Finally, he played the tone without the presence of food, and the dog salivated. The food became what is known as the *conditioned stimulus*, which made the dog salivate without the presence of food (*conditioned response*). the  The dog was then considered *classically conditioned*. Classical conditioning is defined as the pairing of two stimuli so that the response will be the same when the subject is exposed to the stimuli independent of each other.

An example of classical conditioning would be a dog who gets excited when she hears the drawer where her leash is kept being opened because she knows that she will get to go on a

walk. In this example, the leash is the unconditioned stimulus, and excitement upon seeing the leash is the unconditioned response. The opening of the drawer serves as the neutral stimulus, until the dog associates the drawer opening with seeing the leash and going for a walk. The drawer then becomes the conditioned stimulus, and the excitement upon hearing the drawer open is the conditioned response.

Operant conditioning originated from American psychologist Edward Thorndike's law of effect. According to Thorndike's law, "if a response made to a particular stimulus is followed by a satisfying effect, that response is more likely to occur the next time the stimulus occurs. In contrast, responses that produce discomfort are less likely to be performed again" (Bernstein 151). Approximately thirty years later, B.F. Skinner dug deeper into this idea and eventually coined the term "operant conditioning" which can be defined as the process by which behavior changes as a result of its consequences. A stimulus that increases the likelihood of an operant behavior is called a *reinforcer*, and there are two types. *Positive reinforcement* involves the addition of desired stimuli, and *negative reinforcement* involves the removal of undesirable stimuli. On the other hand, *punishment* is something that will decrease the frequency of an operant behavior. *Positive punishment* involves the addition of an unpleasant stimulus, while *negative punishment* involves taking away a desirable stimulus.

A simple example of operant conditioning is the alarm in your car that goes off when you do not have your seatbelt on. In this case, not putting your seatbelt on before you start driving is the behavior. The alarm is the presentation of an unpleasant stimulus, or the positive punishment. As a result, the frequency of the behavior decreases.

In conclusion, classical and operant conditioning are different, yet they share some of the same characteristics. Classical conditioning is defined as the pairing of two stimuli so that the response will be the same when the subject is exposed to the stimuli independent of each other, while operant conditioning is defined as the process by which behavior changes as a result of its consequences. Together, they form a foundation on which we make discoveries about learning; learning about ourselves, and how we interact with the world around us.

References

Bernstein, D. A. (2014). *Psychology: Foundations and Frontiers*. Boston, MA: Cengage Learning.