

DIRECTIONS:

- (1) Read the following lesson on classical (and) operant conditioning. Highlight, underline or circle important details/definitions/examples/etc.
- (2) On a separate piece of paper, create a Venn diagram that compares and contrasts classical and operant conditioning. Be sure to include details from your reading.

How Are Behaviors Learned?

Have you ever wondered how our behaviors are learned? Meet Ivan Pavlov and B.F. Skinner, two behavioral psychologists who pioneered the theories of classical and operant conditioning, respectively. Let's examine how the theories they studied help us understand the way the way we learn.

Classical Conditioning

First, let's visit Mr. Pavlov. He studied what is called **classical conditioning**. Sometimes you will also hear this referred to as respondent conditioning. In classical conditioning, learning refers to involuntary responses that result from experiences that occur before a response.

Classical conditioning occurs when you learn to associate two different stimuli. No behavior is involved. The first stimulus that you will encounter is the unconditioned stimulus. An unconditioned stimulus produces a response without any previous learning. This response is called an unconditioned response.

For an example of a stimulus that evokes an unconditioned response, let's imagine a kiss. Kissing creates involuntary arousal responses and causes you to experience an elevated heart rate, for example. This is a natural response, it is not learned, and it happens automatically. The unconditioned stimulus in this example is the kiss and an elevated heart rate is the unconditioned response.

In classical conditioning you now add a neutral stimulus to the experience. It is called a neutral stimulus because it is not associated with the unconditioned response. Thinking of our example of a kiss, imagine that your favorite song is playing when you kiss. The song will be the neutral stimulus. When the song is paired with kissing, your heart rate still increases because of the kiss. However, after repeated pairing of your favorite song with the act of kissing your brain will start to think, 'I hear my favorite song so kissing will happen soon!' Because of this you will experience an increased heart rate when you hear your favorite song. Your brain is now associating your favorite song with kissing. Rather than continuing as a neutral stimulus, the song has now become a conditioned stimulus because it produces a response with or without the occurrence of kissing. The increased heart rate is an unconditioned response following kissing but now also becomes a conditioned response when it follows your favorite song. It is a conditioned response following the song because the song would not produce the elevated heart rate if it were not associated with the act of kissing.

Operant Conditioning

Next, let's visit Mr. Skinner. He studied what is called **operant conditioning**. Sometimes you will also hear this referred to as instrumental conditioning. In operant conditioning, learning refers to changes in behavior as a result of experiences that occur after a response.

Operant conditioning involves changing voluntary behaviors. A behavior response is followed by either **reinforcement** or **punishment**. Reinforcement following a behavior will cause the behavior to increase, but if behavior is followed by punishment the behavior will decrease.

Let's go back to the example of the kiss. What would happen if the person put their arms around you and kissed you back enthusiastically? This would be an example of reinforcement and would probably increase the likelihood that you would seek another kiss from the person.

There are *two types of reinforcement*. **Positive reinforcement** refers to the addition of something positive. Examples would be offering praise or a treat when a desired behavior is displayed. **Negative reinforcement** occurs when something undesirable is removed when a behavior is displayed. Examples of this are taking aspirin to get rid of a headache or doing the dishes to avoid a fight with your roommate.

Because of its name, negative reinforcement is often confused with punishment. The key difference is that negative reinforcement involves the removal of a negative consequence to increase the likelihood of a response. Reinforcement always increases the occurrence of a response, while punishment always decreases the occurrence of a response.

Now, let's think about the example of the kiss again. What would happen if, when you attempted to kiss someone, the person became angry and pushed you away? This would be an example of punishment and would probably decrease the likelihood that you would seek a kiss from the person again.

There are also *two types of punishment* that occur in operant conditioning. **Positive punishment** is the addition of something undesirable. Examples would be a child receiving a spanking or receiving extra chores for misbehaving. The other type of punishment is negative punishment. **Negative punishment** is the removal of something pleasing. Examples would be a child being placed in timeout or losing video game privileges for misbehavior.

Phenomena Associated with Conditioning

Now that you understand classical and operant conditioning, let's examine a few terms that are used to describe phenomena associated with behavioral conditioning.

Extinction is a term that refers to the disappearance of a conditioned response. The response weakens and eventually disappears due to removal of the reinforcement or punishment in operant conditioning or the removal of the paired stimulus in classical conditioning. An example of extinction would be a child no longer throwing a fit to get their way after their parents stop giving them what they want when they throw a fit.

Another term is **extinction burst**. An extinction burst refers to an initial increase in a conditioned response when reinforcement is stopped. In other words, the behavior response will increase before you see the process of extinction begin to weaken the conditioned response. Think of the first thing you do when you push a button on the remote and it doesn't work. Your immediate reaction is to push the button again and again to try to make it work. This is an example of an extinction burst.

Spontaneous recovery refers to the unexpected recurrence of a conditioned response after it has shown extinction. Spontaneous recovery is usually a short lived and weakened version of the conditioned response. Imagine you used to smoke a cigarette whenever you felt anxious. Spontaneous recovery would occur if you have not smoked for years but suddenly crave a cigarette during a stressful situation.

Stimulus generalization is a term that refers to showing a conditioned response to a stimulus that differs from, but is similar to, the conditioned stimulus. In other words the conditioned response is transferred to a new stimulus when this phenomenon occurs. Imagine you had an experience that made you scared of mice. If you also feel scared around a hamster, you are experiencing stimulus generalization.