What is Correlational research?

Correlational research is a type of non-experimental research method in which a researcher measures two variables and understands and assesses the statistical relationship between them with no influence from any extraneous variable.

Types of correlational research

Mainly three types of correlational research have been identified:

1. Positive correlation: A positive relationship between two variables is when an increase in one variable leads to a rise in the other variable. A decrease in one variable will see a reduction in the other variable. For example, the amount of money a person has might positively correlate with the number of cars the person owns.

2. Negative correlation: A negative correlation is quite literally the opposite of a positive relationship. If there is an increase in one variable, the second variable will show a decrease and vice versa.

3. No correlation: There is no correlation between the two variables in this third type. A change in one variable may not necessarily see a difference in the other variable. For example, being a millionaire and happiness are not correlated. An increase in money doesn't lead to happiness.

Correlational research Example

The correlation coefficient shows the correlation between two variables (A correlation coefficient is a statistical measure that calculates the strength of the relationship between two variables), a value measured between -1 and +1. When the correlation coefficient is close to +1, there is a positive correlation between the two variables. If the value is relative to -1, there is a negative correlation between the two variables. When the value is close to zero, then there is no relationship between the two variables.

Let us take an example to understand correlational research.

Consider hypothetically; a researcher is studying a correlation between cancer and marriage. In this study, there are two variables: disease and marriage. Let us say marriage has a negative association with cancer. This means that married people are less likely to develop cance

Characteristics of correlational research

Correlational research has three main characteristics. They are:

- **Non-experimental**: Correlational study is non-experimental. It means that researchers need not manipulate variables with a scientific methodology to either agree or disagree with a hypothesis. The researcher only measures and observes the relationship between the variables without altering them or subjecting them to external conditioning.
- **Backward-looking**: Correlational research only looks back at historical data and observes events in the past. Researchers use it to measure and spot historical patterns between two variables. A correlational study may show a positive relationship between two variables, but this can change in the future.
- **Dynamic**: The patterns between two variables from correlational research are never constant and are always changing. Two variables having negative correlation research in the past can have a positive correlation relationship in the future due to various factors.

Classical conditioning definition

Classical conditioning is a type of learning that happens unconsciously.

The best-known example of this is from what some believe to be the father of classical conditioning: Ivan Pavlov. In an experiment on canine digestion, he found that over time dogs were salivating not only when their food was presented to them, but when the people who fed them arrived.

To test his theory that the dogs were salivating because they were associating the people with being fed, he began ringing a bell and then presenting the food so they'd associate the sound with food.

These dogs learned to associate the bell ringing with food, causing their mouths to salivate whenever the bell rang — not just when they encountered the food.

Classical conditioning process

Terms to know

- **Unconditioned stimulus.** This is the thing that triggers an automatic response. Food is the unconditioned stimulus in Pavlov's dog experiment.
- **Unconditioned response.** This is what response naturally occurs when you experience the unconditioned stimulus, such as salivating from the food.
- **Conditioned stimulus.** This is considered a neutral stimulus. When you're presented with it over and over before the unconditioned stimulus

(e.g., food), it will start to evoke the same response. The bell before the food is the conditioned stimulus.

- **Conditioned response.** This is the acquired response to the conditioned stimulus (the bell), which is often the same response as the unconditioned response. So, the dogs salivated for the bell the same way they salivated for the food in front of them.
- **Extinction.** This term is used when you start presenting the conditioned stimulus (the bell) over and over but without the unconditioned stimulus (the food). Over time, the dogs would unlearn their conditioning that the bell means food is coming.
- **Generalization.** This refers to when you can generalize similar things and respond the same way. Dogs began salivating at sounds similar to bells because they were generalizing what they learned.
- **Discrimination.** The opposite of generalization, this is our ability to tell the difference when something is similar but not identical, so it won't produce the same response. A horn sound, for instance, wouldn't make the dogs salivate

Stages of Pavlovian conditioning

Before conditioning

Before conditioning is when the unconditioned stimulus and unconditioned response come into play. This is the natural response that wasn't taught.

For instance, food produces salivating, or a stomach virus produces nausea.

At this point, the conditioned stimulus is still called the neutral stimulus because it currently has no effect.

During conditioning

We begin to associate the neutral stimulus with the unconditioned response.

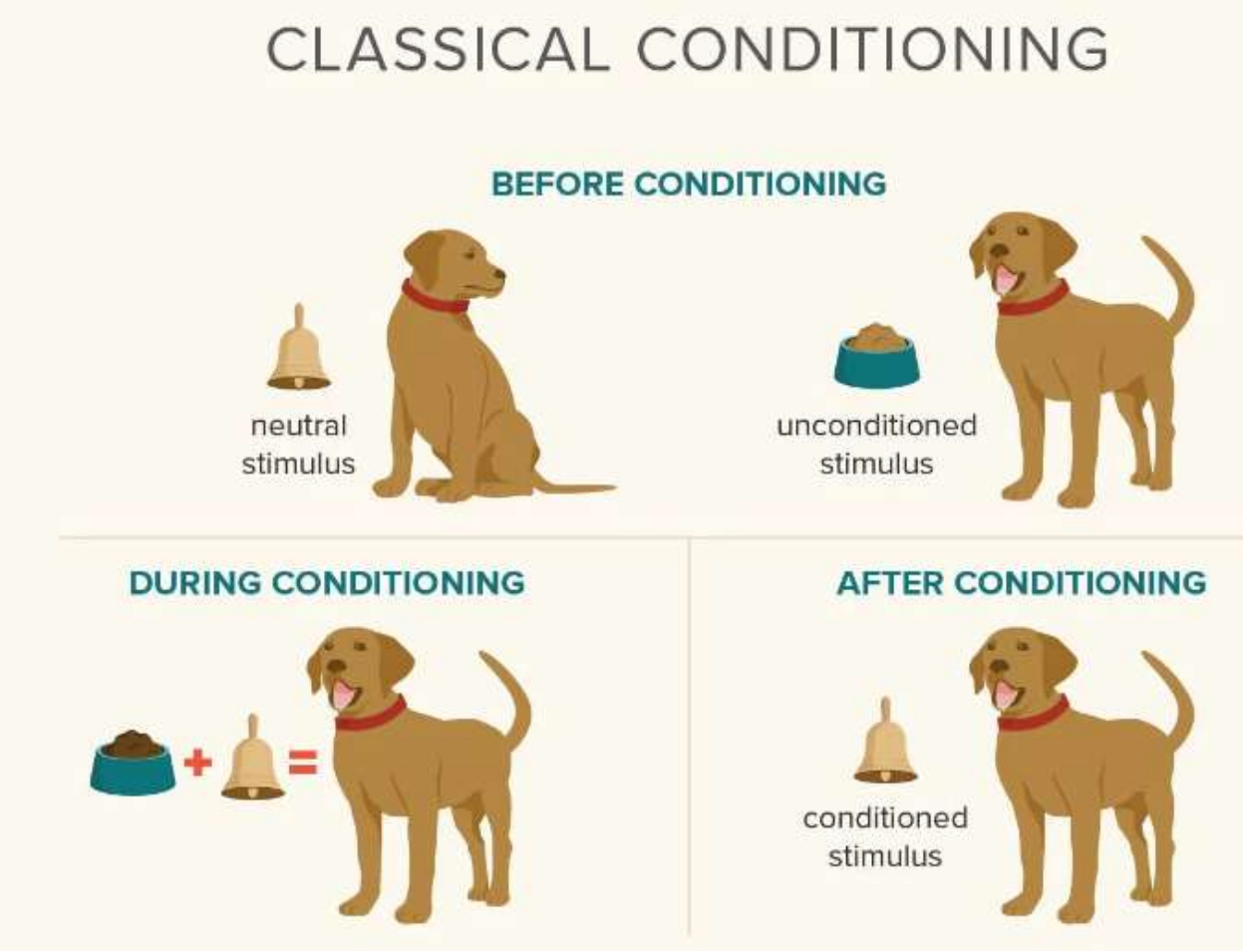
For instance, you may associate a specific type of food with a stomach virus, or the bell ringing before getting food may be associated with receiving food.

After conditioning

Once you've learned to associate the conditioned stimulus with the unconditioned response, it becomes the conditioned response.

So, the specific type of food now produces nausea (even if it wasn't necessarily what caused the stomach virus), and the bell creates salivation.

In this way, you've unconsciously learned to associate the new stimulus (whether situation, object, person, etc.) with the response.



What Is Learning?

Learning can be defined in many ways, but most psychologists would agree that it is a relatively permanent change in behavior that results from experience. During the first half of the 20th century, the school of thought known as behaviorism rose to dominate psychology and sought to explain the learning process. Behaviorism sought to measure only observable behaviors.

Types of Behavioral Learning

Behavioral learning falls into three general categories.

Classical conditioning definition

Classical conditioning is a type of learning that happens unconsciously

Operant Conditioning

Operant conditioning is a learning process in which the probability of a response occurring is increased or decreased due to reinforcement or punishment. First studied by Edward Thorndike and later by B.F. Skinner.

Observational Learning

Observational learning is a process in which learning occurs through observing and imitating others.