

THEORIES OF PERSONALITY II

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Learning Theory

SESSION 8

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SESSION 8: Learning Theory

Introduction to Learning Theory and Behavioral Psychology

Learning can be defined as the process leading to relatively permanent behavioral change or potential behavioral change. In other words, as we learn, we alter the way we perceive our environment, the way we interpret the incoming stimuli, and therefore the way we interact or behave. [John B. Watson](#) (1878-1958) was the first to study how the process of learning affects our behavior, and he formed the school of thought known as *Behaviorism*, now considered a sub-camps of learning theory. The central idea behind behaviorism is that only observable behaviors are worthy of research since other abstraction such as a person's mood or thoughts are too subjective. This belief was dominant in psychological research in the United States for a good 50 years.

Perhaps the most well known Behaviorist is [B. F. Skinner](#) (1904-1990). Skinner followed much of Watson's research and findings, but believed that internal states could influence behavior just as external stimuli. He is considered to be a *Radical Behaviorist* because of this belief, although nowadays it is believed that both internal and external stimuli influence our behavior.

Behavioral Psychology is basically interested in how our behavior results from the stimuli both in the environment and within ourselves. They study, often in minute detail, the behaviors we exhibit while controlling for as many other variables as possible. Often a grueling process, but results have helped us learn a great deal about our behaviors, the effect our environment has on us, how we learn new behaviors, and what motivates us to change or remain the same.

Other sub-camps of learning theory include Social Learning, or the idea that we learn through our interactions with society. In social learning theory, society plays a much larger role in the way we think about ourselves and the world and therefore how we interact or behave in the larger context of society.

Still others see our thoughts as playing an important role in the development of personality. While this concept is negated or denied by some strict behaviorists, many argue that the world is not made up of factual information but rather information that is always open to interpretation. The way we perceive the world is much more important than the way the world really is. Social-Cognitive theories of personality represents a combination of behaviorist, social learning theory, and cognitive theory and could be termed cognitive-behavioral in nature.

Classical and Operant Conditioning

Classical Conditioning. One important type of learning, Classical Conditioning, was actually discovered accidentally by [Ivan Pavlov](#) (1849-1936). Pavlov was a Russian physiologist who discovered this phenomenon while doing research on digestion. His research was aimed at better understanding the digestive patterns in dogs.

During his experiments, he would put meat powder in the mouths of dogs who had tubes inserted into various organs to measure bodily responses. What he discovered was that the dogs began to salivate before the meat powder was presented to them. Then, the dogs began to salivate as soon as the person feeding them would enter the room. He soon began to gain interest in this phenomenon and abandoned his digestion research in favor of his now famous Classical Conditioning study.

Basically, the findings support the idea that we develop responses to certain stimuli that are not naturally occurring. When we touch a hot stove, our reflex pulls our hand back. It does this instinctually, no learning involved. It is merely a survival instinct. But why now, do some people, after getting burned, pull their hands back even when the stove is not turned on? Pavlov discovered that we make associations which cause us to generalize our response to one stimuli onto a neutral stimuli it is paired with. In other words hot burner = ouch, stove = burner, therefore, stove = ouch.

Pavlov began pairing a bell sound with the meat powder and found that even when the meat powder was not presented, the dog would eventually begin to

salivate after hearing the bell. Since the meat powder naturally results in salivation, these two variables are called the **unconditioned stimulus** (UCS) and the **unconditioned response** (UCR), respectively. The bell and salivation are not naturally occurring; the dog was conditioned to respond to the bell. Therefore, the bell is considered the **conditioned stimulus** (CS), and the salivation to the bell, the **conditioned response** (CR).

Many of our behaviors today are shaped by the pairing of stimuli. If you ever noticed certain stimuli, such as the smell of a cologne or perfume, a certain song, a specific day of the year, results in fairly intense emotions. Its not that the smell or the song are the cause of the emotion, but rather what that smell or song has been paired with...perhaps an ex-boyfriend or ex-girlfriend, the death of a loved one, or maybe the day you met you current husband or wife. We make these associations all the time and often don't realize the power that these connections, or pairings have on us. But, in fact, we have been classically conditioned.

Operant Conditioning. Another type of learning, very similar to that discussed above, is called Operant Conditioning. The term "Operant" refers to how an organism operates on the environment, and hence, operant conditioning comes from how we respond to what is presented to us in our environment. It can be thought of as learning due to the natural consequences of our actions.

Lets explain that a little further. The classic study of Operant Conditioning involved a cat who was placed in a box with only one way out; a specific area of the box had to be pressed in order for the door to open. The cat initially tries to get out of the box because freedom is reinforcing. In its attempt to escape, the area of the box is triggered and the door opens. The cat is now free. Once placed in the box again, the cat will naturally try to remember what it did to escape the previous time and will once again find the area to press. The more the cat is placed back in the box, the quicker it will press that area for its freedom. It has learned, through natural consequences, how to gain the reinforcing freedom.

We learn this way everyday in our lives. Imagine the last time you made a

mistake; you most likely remember that mistake and do things differently when the situation comes up again. In that sense, you've learned to act differently based on the natural consequences of your previous actions. The same holds true for positive actions. If something you did results in a positive outcome, you are likely to do that same activity again.

Reinforcement

The term reinforce means to strengthen, and is used in psychology to refer to anything stimulus which strengthens or increases the probability of a specific response. For example, if you want your dog to sit on command, you may give him a treat every time he sits for you. The dog will eventually come to understand that sitting when told to will result in a treat. This treat is reinforcing because he likes it and will result in him sitting when instructed to do so.

This is a simple description of a **reinforcer** (the treat), which increases the response (sitting). We all apply reinforcers everyday, most of the time without even realizing we are doing it. You may tell your child "good job" after he or she cleans their room; perhaps you tell your partner how good he or she looks when they dress up; or maybe you got a raise at work after doing a great job on a project. All of these things increase the probability that the same response will be repeated.

There are four types of reinforcement: positive, negative, punishment, and extinction. We'll discuss each of these and give examples.

Positive Reinforcement. The examples above describe what is referred to as positive reinforcement. Think of it as adding something in order to increase a response. For example, adding a treat will increase the response of sitting; adding praise will increase the chances of your child cleaning his or her room. The most common types of positive reinforcement are praise and rewards, and most of us have experienced this as both the giver and receiver.

Negative Reinforcement. Think of negative reinforcement as taking something away in order to increase a response. Taking away a toy until your son picks up his room, or withholding payment until a job is complete are examples of this.

Basically, you want to remove or withhold something of value in order to increase a certain response or behavior.

Punishment. Punishment refers to adding something aversive in order to decrease a behavior. The most common example of this is disciplining (e.g. spanking) a child for misbehaving. The reason we do this is because the child begins to associate being punished with the negative behavior. The punishment is not liked and therefore to avoid it, he or she will stop behaving in that manner.

Extinction. When you remove something in order to decrease a behavior, this is called extinction. You are taking something away so that a response is decreased.

Research has found positive reinforcement is the most powerful of any of these. Adding a positive to increase a response not only works better, but allows both parties to focus on the positive aspects of the situation. Punishment, when applied immediately following the negative behavior can be effective, but results in extinction when it is not applied consistently. Punishment can also invoke other negative responses such as anger and resentment.

Reinforcement Schedules

Know that we understand the four types of reinforcement, we need to understand how and when these are applied. For example, do we apply the positive reinforcement every time a child does something positive? Do we punish a child every time he does something negative? To answer these questions, you need to understand the schedules of reinforcement.

Applying one of the four types of reinforcement every time the behavior occurs (getting a raise after every successful project or getting spanked after every negative behavior) is called a Continuous Schedule. Its continuous because the application occurs after every project, behavior, etc. This is the best approach when using punishment. Inconsistencies in the punishment of children often results in confusion and resentment. A problem with this schedule is that we are not always present when a behavior occurs or may not be able to apply the punishment.

There are two types of continuous schedules:

Fixed Ratio. A fixed ratio schedule refers to applying the reinforcement after a specific number of behaviors. Spanking a child if you have to ask him three times to clean his room is an example. The problem is that the child (or anyone for that matter) will begin to realize that he can get away with two requests before he has to act. Therefore, the behavior does not tend to change until right before the preset number.

Fixed Interval. Applying the reinforcer after a specific amount of time is referred to as a fixed interval schedule. An example might be getting a raise every year and not in between. A major problem with this schedule is that people tend to improve their performance right before the time period expires so as to "look good" when the review comes around.

When reinforcement is applied on an irregular basis, they are called variable schedules.

Variable Ratio. This refers to applying a reinforcer after a variable number of responses. Variable ratio schedules have been found to work best under many circumstances and knowing an example will explain why. Imagine walking into a casino and heading for the slot machines. After the third coin you put in, you get two back. Two more and you get three back. Another five coins and you receive two more back. How difficult is it to stop playing?

Variable Interval. Reinforcing someone after a variable amount of time is the final schedule. If you have a boss who checks your work periodically, you understand the power of this schedule. Because you don't know when the next 'check-up' might come, you have to be working hard at all times in order to be ready.

In this sense, the variable schedules are more powerful and result in more consistent behaviors. This may not be as true for punishment since consistency in the application is so important, but for all other types of reinforcement they tend to result in stronger responses.

The Role of Expectancy

While the power of behaviorism gained a great deal of attention and productive research, it began to look as though classical and operant conditioning did not go far enough in explaining the behavior of

humans. Researchers began to question the idea that only external reinforcers play a role in the actions an individual performs. They began to look at the internal aspects such as attitudes, beliefs, and thoughts.

This new way of approaching a very successful theory marked a transition away from strict behaviorism and toward a concept known as social learning theory. As this occurred, researchers began to recognize the fact that people sometimes exhibit a behavior without any external reward or reinforcement. The idea, then, was that perhaps internal thoughts could be rewarded just as external behaviors.

Julian Rotter is perhaps the most well known theorist to challenge strict behaviorism from within the same camp. He believed that humans are more complex than lower animals and that pure behaviorism does not go far enough in explaining the complex behaviors of humans.

According to Rotter, people engage in behaviors not merely for the reward but because of what he called *Behavior Potential*. He defined this in terms of both an expectancy to be rewarded and the value of the potential reward. In other words, the potential for a person to act in a certain manner is determined by both how much he expects to be rewarded for that behavior *and* how much the reward is worth to him.

For a behavior to occur, according to Rotter, both of these must exist. If a person believes he can do very well at a specific task and therefore receive the reward but sees the reward as useless, he is much less likely to perform. For example, Playing the lottery has a very low expectancy of reward for most people. However, the value of the reward is so high that people will engage in this behavior.

For new situations, traditional behaviorism states that we engage in a type of trial and error learning. In other words, we try different behavior until we find one that is reinforcing. Rotter believed our behavior in novel situation was not this random. He argued that we will often apply what we know about the expectancy and value of rewards from similar situations. If we know we enjoy baseball, we may be more likely to engage in a neighborhood softball game

even though we've never played the game before.

Reciprocal Determinism

Like Rotter, Albert Bandura also saw problems with the traditional behaviorist's view of personality. He argued that some behaviors that we exhibit are strictly human behaviors and that studying animals can never give us a complete understanding of human nature. The one major difference between human and lower animals, according to Bandura, is our advanced ability to process information.

His theory, known now as Social-Cognitive Theory, states that two aspects of human nature determine behavior: internal and external. He called these reciprocal determinants of behavior because they act together and cannot be separated. Since the outcome of our internal and external determinants can also influence future behavior, Bandura believed that these three aspects make up his model.

Observational Learning

Bandura argued that learning can take place without actually exhibiting a change in behavior. Unlike behaviorists, who believe no learning takes place without a change in behavior, he felt that we could actually observe others, read books, hear stories and learn information that is stored for future use. This phenomenon is known as observational learning. Like the rest of his theory, even though we don't perform the activity we learned, we still maintain both an internal and external belief about the outcome of that activity. If we see the outcome as negative, even though we may be wrong, we are less likely to engage in it.

Research has indicated that there is support for this concept. In his classic experiment, Bandura (1965) looked at the behavior of children after watching a model on TV perform aggressive acts. The children were divided into three groups; model rewarded, model punished, and no consequence, referring to

the outcome of these aggressive acts. As he expected, all of the children were able to perform the aggressive acts even though they had never performed them or been rewarded for them in the past. However, those who witnessed the aggressive model being punished exhibited less aggressive acts themselves in the play time that followed.