

**FREEDOM FROM DECISION**  
The Psychology of B.F. Skinner

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***Learning Objectives***

The overall objective of this module is to illustrate the progression of an idea in science. Many times while learning science, students are exposed to the notion that notable advances in science are due to moments of “eureka” leading to great discoveries. It is important to illustrate to students that great ideas do not always come about by chance moments, but by thinking differently about something and working to find a solution or improvement to the status-quo in science at the time.

When you study science and ideas in a history of science class, you often get information not readily known to the average science student. When you start questioning things in science and look deeper at the facts and situations, it becomes evident that there are numerous connections between people and ideas spanning multiple generations. One person’s ideas lead to another’s questioning them, and possibly forming another path. This cycle of constantly questioning people’s ideas and trying to better them is what science is based upon.

In the Skinner module, students are exposed to the status-quo of psychology at the time then introduced to BF Skinner who took the ideas of the time, and changed them to cover some perceived shortcomings. He drew upon the knowledge and ideas of those that came before him and used it as a base to his ideas. This is achieved by getting students to join in the thought progression of Skinner and utilize opportunities of further thinking to expand their view of science. To show them that ideas are not always progressed in the manner that they are intended.

## **FREEDOM FROM DECISION**

Imagine for a moment that you are the proud owner of a little black and white shih-tzu dog. Every time the little guy barks at the door letting you know he has to go out, you go to the cupboard and bring him a dog treat, rewarding his good behavior when he gets back inside. If you give him a treat after every time, pretty soon your dog will want to be let out, but for no reason. How does your dog learn to take advantage of the situation? Whether you are dealing with a small dog, or human beings, behaviors are learned and unlearned in accordance to certain stimuli and situations. In respect to humans, how do children learn the appropriate behaviors that they will need as they get older? How do people with phobias get over their fears? These are the kinds of questions that behaviorist psychologists have tried to answer.

### ***Emergence of Behaviorism***

In the early 1900s, the dominant school of thought in psychology was that of the structuralists. They sought to study people's internal thoughts and sensations. This was done by asking the people in question to describe their thoughts and sensations in their own words. Eventually, it became evident that this was not always the best way to get accurate and honest feedback. This spawned the idea to look only at the observable behaviors and thus, the behaviorism movement began. Behaviorists point to the following common problem dealing with an internal mental state: You ask a person at a party why the host yelled at the person serving drinks. That person responds that he yelled because he was upset. You then ask how that person knew he was upset. They

indicated knowing the host was upset because he was yelling. This round about way of getting absolutely nowhere is what concerned behaviorists, so much that they tried to avoid mental processes at all costs.

In 1926, a budding writer obtained his B.A. in English literature from Hamilton College and moved to Greenwich Village to pursue his career. While working at a bookstore in New York during this time, he read the works of John Watson and Ivan Pavlov, the leaders in Behaviorism work at the time. These works had a profound influence, convincing a young B.F. Skinner to give up writing and attend Harvard University to study psychology.

When BF Skinner was beginning his work on Behaviorism, Ivan Pavlov dominated the field. Behaviorists focused their study on what can be observed and did not believe in studying the mental thought process. Pavlov was doing work in the area of classical conditioning, the idea that everything starts with a reflex. There are certain unlearned stimuli that you respond to without being taught.

Unconditioned stimulus (UCS) → Unconditioned response (UCR)

Coupled with the idea that there are unconditioned stimuli, Pavlov recognized that there are also neutral stimuli that do not produce a response. When the neutral stimulus is paired with a UCS, the neutral stimulus becomes a conditioned stimulus. Pavlov was

|→ Unconditioned stimulus (UCS) → Unconditioned response (UCR)  
|  
Conditioned stimulus (CS) -----> Conditioned response (CR)

interested in what would happen if given an UCS and an UCR, would a neutral stimulus presented immediately before the UCS eventually lead to the response?

The link between the conditioned stimulus and the unconditioned stimulus is what is being learned. There are two important factors that can effect how efficiently the connection is learned. The timing between the CS and the UCS coupled with the strength of the stimulus are the important factors. As you can imagine, if there is a long time between the presentation of the CS and the UCS, the connection between the two will be weak, affecting the likelihood of learning the connection.

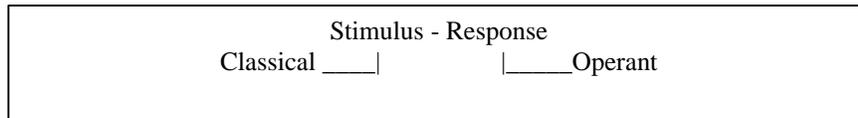
*FURTHER THINKING: In the shitzu example, according to Pavlov, after numerous occasions, when would the dog realize that he is about to get a treat?*

The basis of Pavlov's classical conditioning is that we make decisions based upon the stimulus that we are presented with. If every time you see a clown, you get punched hard in the arm and cringe in fear, pretty soon, you will cringe in fear at the very sight of a clown. Skinner recognized that Pavlov's ideas made sense to a point, but also recognized there may be more to the process of learning. This led to Skinner forming the operant conditioning model.

*FURTHER THINKING: What are the downsides to Pavlov's model? What aspects of learning and behavior might Skinner have thought it did not explain?*

## ***Operant Conditioning***

Unlike the classical conditioning model, operant conditioning deals with the response side of behaviors, or that which happens after the response.



Skinner's model deals with the consequences of a behavior. It is based on the thinking that a behavior will be chosen based upon the perceived consequences. The key factor in the model takes the "Law of Effect" into account. It states that any behavior that brings about a pleasurable consequence is likely to be repeated while those that bring about an unpleasant consequence are not.

*FURTHER THINKING: In what ways have you learned by operant conditioning?*

*FURTHER THINKING: If Skinner's theory is correct, how would he explain the results of Pavlov's work?*

BF Skinner's research with pigeons following WWII demonstrated this theory. Around 1947, after observing pigeons roosting outside his window at the University of Minnesota then using them in research for the government, Skinner used pigeons as the subject in what would become his most notable and influential work.

When Skinner's pigeons were presented with reinforcement, the action that the pigeons were performing at the time increased. A peculiar thing was observed however, even though the reinforcement was given at regular intervals, with no concern for the action that was being performed, the actions continued to increase.

*FURTHER THINKING: What was causing the behavior to increase despite no connection to a particular behavior?*

*FURTHER THINKING: Would this have still been the case if the reinforcement would have been given at a varied interval?*

Skinner believed that the pigeons were exhibiting a form of superstition in their actions. They began to repeat the behavior that led to a favorable reward and thus the behavior became rewarded more often than not. Even though the reward was not behavior based, the increased frequency of the initial behavior led it to be perceived by the pigeon as the cause for the reward it was receiving. Skinner extended his findings of superstition to encompass human behavior. Why do people have what may seem to be silly superstitions? Professional athletes sometimes after a big win, eat the same foods before the next game that they ate when they got the big win. When the next big win occurred, the player had happened to eat the same food beforehand. Was this due to the food? Probably not, but when a superstition is developed, it means that when the next desired outcome occurs, the chances that you superstitious behavior was performed is greater. In the above example, the athlete had a superstition about pre-game foods, and so the chance that the next big win occurs after the superstitious meal is great. Even though the superstition might not be rewarded every time, it is rewarded enough for the behavior not to be easily extinguished.

*FURTHER THINKING: You are on a winning streak at the blackjack table up \$50 going unbeaten in 10 plays. Your friend is having an up and down night at the slots, breaking even so far. Who is more likely to walk away after a large bad beat?*

### **Skinner's Work Following Superstition**

After observing this superstition in pigeons, Skinner thought that if he could control all the aspects of an environment, he could shape a pigeon (or a human being for that matter) to perform any behavior that he wanted. Instead of waiting around to observe the exact behavior that you hope to reinforce, Skinner thought it quicker to reward close approximations. According to Skinner, in order to get a pigeon to stand and walk to the center of the cage and peck at a food lever you must proceed in steps, working your way up to the desired outcome.

The shaping is started simply by rewarding the pigeons for standing anywhere at all in the cage. Once this becomes regular, you only reward the pigeon when it is standing in the center. Then only reinforce when it is standing in the center facing the lever, then only when it stands in the center facing the lever and pecking. This shaping of behavior continues gradually until the desired behavior is shown.

### **Behaviorism Today**

Skinner's idea of shaping, essentially explains the manner in which most of us have grown up. At early ages, simple tasks are rewarded such as crawling and walking. This progresses as only increasingly complex desired behaviors are rewarded. In order to encourage a small child to walk, the parents might reward the child first when he simply

pulls himself upright. Then reward the child when he begins to pull himself up and walk with parental assistance. The parents reward each new approximation to the ultimate goal of the child walking on his own.

The shaping of pigeons by Skinner is the foundation of many psychological treatments that are utilized even today. When people are diagnosed with some form of a phobia, most of the time a therapist will introduce the person to a form of systematic desensitization. This treatment which is based on Skinner's shaping work involves exposing a person to the cause of their fear at a gradual, incremental pace.

If all that Skinner has presented is true, and we learn by perceived outcomes and reinforcements, then a question could be asked of Skinner as to the nature of our control over decision making in our lives. Skinner's response to this sort of inquiry is well-known in the psychology world.

"I did not direct my life. I didn't design it. I never made decisions. Things always came up and made them for me. That's what life is."

-B. F. Skinner

*FURTHER THINKING: Is Skinner ruling out any existence of free-will in our lives? If Skinner is simply indicating that we simply respond to every situation the way that we have learned, how would he explain situations in which learning is latent and no reinforcements are presented?*

Skinner is certain that in his method based entirely on science, he has ruled out the possibility of freedom in decision making based upon his scientific interpretation of

experiments. He even sees his own life as simply being a path controlled by everything but him; that there is no such thing as demonstrated thought, only what which we are *taught* to do. This is where many see a problem with Skinner's model.

*FURTHER THINKING: Are there any valid points to Skinner's argument of freedom? Should freedom be considered a scientific absolute or are there assigned values to behaviors and their outcomes?*

Learning is usually shown only when there is a reward for indicating that it has taken place. Many social behaviors are learned this way. You observe other people and learn appropriate behaviors from them. Some may encounter you and think that you have learned nothing when, in fact, you have just not been given reason to demonstrate that you have.

*FURTHER THINKING: How would you define the way we learn? Do we learn in different ways depending on the situation that we are in? Using Skinner's theory, would it be possible to predict every decision a person will make in the future, given their all their past interactions as a reference point?*

Through the example of BF Skinner and his work with pigeons, we have seen how a scientific idea is formed and grows. Skinner set out to explore what he perceived as a shortcoming in Pavlov's classical conditioning theory, and ended up using his idea to illustrate his thoughts on the lack of freedom in decision making.

*FURTHER THINKING: Is there any truth behind the title “Freedom from Decision?”*

### **Works Consulted**

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