Chapter 7

Learning
Overview

- What is Learning?
- Explain the three major types of learning studied by psychologists?
  1. Classical Conditioning
  2. Operant Conditioning
  3. Social Cognitive Learning
What is learning?

- Learning is a relatively permanent change in an organism's behavior (or potential behavior) that is the result of experience or practice.

- Not all behavior is learned. Some behavior is due to fatigue, illness, injury, maturation, reflexes, or instincts.

- Psychologists study 3 types of learning:
  1. Classical Conditioning
  2. Operant Conditioning
  3. Social Cognitive Learning
Why Do Psychologists Study Learning?

1. Most behavior is learned.

2. Humans especially are capable of changing their behavior through learning.

3. Learning helps us to adapt to a changing world, to survive and evolve.
Classical Conditioning

• Classical conditioning is also called Respondent Conditioning and Pavilon Conditioning.

• Respondent because it is learning that occurs when something neutral is paired with an automatic, reflexive response.

• It’s called Pavlovian Conditioning because it was discovered by Ivan Pavlov in the 1800’s.
Terms of Classical Conditioning

- **UCR** - unlearned, automatic response to an unconditioned stimulus. (salivation to food).

- **UCS** - an unconditioned stimulus is a stimulus that naturally and automatically triggers a response without conditioning (the food).

- **CS** - the conditioned stimulus is an originally neutral stimulus that after association with an unconditioned stimulus comes to trigger a conditioned response (tone after conditioning).

- **CR** - conditioned response is the learned response to a conditioned stimulus (salivation to the tone).

- Follow this link to learn more. [https://www.youtube.com/watch?v=cP5lCleK-PM](https://www.youtube.com/watch?v=cP5lCleK-PM)
Classical Conditioning in Humans

• John B. Watson in 1920 used classical conditioning to condition a phobia in a little baby named Albert.

• This famous and highly unethical study is known as the “Little Albert Study”.

• Later researchers extended his work and demonstrated that conditioned fears could be unconditioned with a technique called counter conditioning.

• The technique of systemic desensitization is used today to treat phobias. We will learn more about this treatment in chapter 15.
Classical Conditioning in the Real World

- You can probably think of many examples of times you, your friends, or even your pet has been classically conditioned.

- Watch this one minute clip and then see if you can identify the:
  - CR (conditioned response)
  - CS (conditioned stimulus)
  - UCR (unconditioned response)
  - US (unconditioned stimulus)

Hint - Pay attention to your behavior and how you feel near the end of the video right before the balloon pops?
https://www.youtube.com/watch?v=cTNZveYRI1Q
- **CR** - anxiety and cringing you feel as balloon gets bigger and bigger

- **CS** - the balloon getting bigger and bigger

- **UCR** - anxiety and startle you feel when you hear a loud noise (such as a balloon popping). This is a reflexive behavior. We don’t learn to be startled by loud noises; we are born with this behavior.

- **US** - loud noise
Operant Conditioning

- Operant conditioning is also called instrumental learning.

- It’s called operant learning because behavior operates on the environment to produce a consequence. Thus the behavior is instrumental.

- In this type of learning spontaneous or voluntary behaviors (not reflexes) of an organism are either increased or decreased depending on whether or not the behavior is reinforced or punished.
History of Operant Learning

- Edward Thorndike in the late 1800’s was interested in the relationship between actions/behaviors and consequences of those actions.

- He designed a puzzle box and put a hungry cat in the box.

- The cat tried to get out of the box and after accidentally stepping on a lever and opening the lid, jumps out to find food.

- After doing this repeatedly the cat learns to just step on the lever and get out of the box quickly.

- Thorndike called this the Law-of-Effect.
B.F. Skinner

• Skinner used Thorndike’s work to develop Operant Conditioning.

• Skinner spent his lifetime studying and elaborating on the theory of operant learning and made major contributions to the fields of psychology, mental health treatment, education, and child rearing.

• Although he did not disagree with the findings of Pavlov and Watson, he believed that in addition to classical conditioning, there was another type of learning which he called operant learning.
Consequences

• Skinner argued that behavior was controlled by its consequences.

• Behavior followed by a pleasant consequence would increase the likelihood of that behavior occurring again. The behavior was reinforced.

• Behavior followed by a negative consequences would decrease the likelihood that it would occur again. The behavior was punished.

• Skinner outlined 4 types of consequences
4 Types of Consequences

- Reinforcement - 2 types. When an event follows a behavior and results in an increase of the behavior then reinforcement has occurred.

  1. **Positive Reinforcement** is when the frequency of a behavior increases because it is followed by the presentation of some pleasant event.

  2. **Negative Reinforcement** is when the frequency of a behavior increases because it is followed by the removal or avoidance of an aversive event.
Types of Consequences continued

- There are 2 types of punishment. Punishment occurs when an event follows a behavior and results in the decrease or suppression of the behavior.

1. Positive punishment is when the frequency of a behavior decreases because it is followed by the presentation of some aversive event.

2. Negative punishment is the frequency of the behavior decreases because it is followed by the removal of some pleasant event.
### Distinction between Consequences

<table>
<thead>
<tr>
<th></th>
<th>Reinforcement Increases Behavior</th>
<th>Punishment Decreases Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
<td><strong>PR</strong> If I give you a point every time you participate in class and as a result you participate more</td>
<td><strong>PP</strong> If I bang my hand down on the desk and yell every time you talk in class and as a result you stop talking</td>
</tr>
<tr>
<td>Add something (positive does not mean good; it means addition)</td>
<td><strong>PR</strong> If I give you a point every time you participate in class and as a result you participate more</td>
<td><strong>PP</strong> If I bang my hand down on the desk and yell every time you talk in class and as a result you stop talking</td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td><strong>NR</strong> If I grate my fingernails on the chalkboard every time I ask a question and as a result you answer more to make the grating stop</td>
<td><strong>NR</strong> If I tell you to leave the room every time you talk in class and as a result you quit talking</td>
</tr>
<tr>
<td>Remove or Avoid</td>
<td><strong>NR</strong> If I grate my fingernails on the chalkboard every time I ask a question and as a result you answer more to make the grating stop</td>
<td><strong>NR</strong> If I tell you to leave the room every time you talk in class and as a result you quit talking</td>
</tr>
<tr>
<td>(subtraction)</td>
<td><strong>NR</strong> If I grate my fingernails on the chalkboard every time I ask a question and as a result you answer more to make the grating stop</td>
<td><strong>NR</strong> If I tell you to leave the room every time you talk in class and as a result you quit talking</td>
</tr>
</tbody>
</table>

**Positive**
- Add something (positive does not mean good; it means addition)

**Negative**
- Remove or Avoid (subtraction)
Reinforcement is Better than Punishment

• Reinforcement results in the learning of a new behavior
• Punishment, particularly corporal punishment such as spanking, merely teaches the suppression of a behavior. A child might stop touching something temporarily when hit, but they have not learned appropriate behavior, such as looking without touching.
• Physical punishment is associated with serious disadvantageous.
Disadvantages of Physical Punishment

• As we will discuss in subsequent slides, children learn by imitating adults. Therefore if a child is hit, the child might imitate that behavior and hit other children.

• If a parent uses spanking when they are angry, it can cross the line into abuse.

• Children may learn to suppress the behavior for which they have been spanked, but typically they only suppress the behavior when the parent is around. They have not learned appropriate behavior.

• Children may develop a classical conditioned response and may learn to associate the parent with fear and pain.

• Much research finds a relationship between spanking and mental hearth issues.
Social and Cognitive Learning

• Observational Learning is learning that occurs when we observe and imitate others.

• It is also called vicarious learning or social learning.

• Observational Learning was studied by Albert Bandura who argued that classical and operant conditioning merely explained performance and were not always the most efficient way to learn.
• Bandura explained that we learn many things that we don’t perform because we learn the behavior by watching others and cognitively processing the observation.

• Sometimes we learn something and don’t perform the behavior until a later time. This is called latent learning.

• Also if we had to learn everything through association or consequence it would be inefficient and even dangerous.

• For example, if you had to learn how to cross the street by stepping out in front of a car, you might be classically conditioned to avoid cars, or positively punished, but you might also be dead!
Principles of Observational Learning

1. Attention: You have to pay attention to the model.

2. Memory: You have to remember what the model did.

3. Imitation: You have to be capable of the behavior.

4. Motivation: You have to want to do the behavior and expect a positive outcome.

5. We are more likely to imitate a model’s behavior if the model is similar to us, and we see them reinforced.
The Bobo Doll Studies

• Bandura uses his theory of observational learning to study the effects of media violence on children.

• Watch this video to learn more. https://www.youtube.com/watch?v=128Ts5r9NRE
Sum

- After reading the chapter and viewing the slide show and video’s you should have a good understanding of the 3 major types of learning studied by psychologists.

- Please complete this week’s application assignment, and the chapter 7 test.