



How do we Learn?

Chapter 6 Learning

CLASS OBJECTIVES:

- What is learning?
- What is Classical Conditioning?

How do you know you've learned something?



Can our beliefs and attitudes be a result of learning??



Learning

- Learning is a _____

- The process by which we acquire new knowledge
- Psychologists agree that most behaviors are learned.

Learning is



How can we measure learning?

Many principles of learning are based on the idea of conditioning...

Conditioning

- Conditioning refers to a procedure where _____

- **Conditioning** is just another word for _____

In the process of conditioning there is always a cause and effect pattern

- A stimulus is an event that has an impact on an organism

- _____

- A response is a _____

- _____

For every stimulus there is a response

- Stimulus → Response
- (Cause) (Effect)

You get an A
on the exam →



We are all *conditioned* in some way

- Conditioned behaviors appear so automatically that they look like _____
 - Conditioned behaviors are similar to reflexes because they are also _____

Classical Conditioning

- Classical conditioning is one of the _____
 - Ivan Pavlov
- Pavlov's research was simple- to teach a dog to salivate in response to a bell.



Conditioning is synonymous with learning

- Pavlov called a stimulus that elicits a response without conditioning an _____

- The unconditioned stimulus _____
produces a reflex



Classical Conditioning

- In classical conditioning, _____,
is paired repeatedly with an UCS
- After a series of paired associations the neutral
stimulus will produce a similar or identical response.

- The neutral stimulus will become the _____



Unconditioned

Unconditioned Stimulus → Unconditioned Response
_____ → **Salivation**

Neutral Stimulus: _____ → Response: _____

Classical Conditioning

- An _____ (UCS) is presented with a neutral stimulus repeatedly.
 - For every stimulus there is a response!
- An unconditioned response (UCR) is an _____ response to an unconditioned stimulus
 - It is an involuntary reflex that occurs without learning.

What will the response be?

Food + Bell → _____
UCS Neutral UCR

After the repeated pairings
_____ occurs

Did you get it? Test your understanding about conditioning!

Identify the US, UR, CS and CR for each of the following examples.

Identify the US, UR, CS, and CR

- Alexander is four years old. One night his parents decided to light a fire in the family room fireplace. A burning ember jumped out of the fireplace and landed on Alexander's leg, creating a nasty burn. He cried because the burn hurt. A week later, when Alexander's parents started to light another fire in the fireplace, Alexander began to cry.

- US - _____
- UR - _____
- CS - _____
- CR - **crying**

Identify the US, UR, CS, and CR

- Bianca's mom followed the same routine before serving dinner - she would put ice in the glasses and then call "come and get it, dinner's ready." Immediately upon hearing those words, Bianca would quickly run down the stairs. After a while, Bianca would come running down the stairs when she heard the ice hitting the glasses.

- US - _____
- UR - _____
- CS - **ice hitting the glasses**
- CR - _____

Identify the US, UR, CS, and CR

- Marco is driving to work during a heavy snowstorm when the brake lights on the car ahead of him come on. He hits his brakes but is unable to avoid hitting the car. He is badly shaken up in the accident. The next time he is driving in the snow he notices that he tenses up every time he sees brake lights come one ahead of him.
 - US - **the accident**
 - UR - _____
 - CS - _____
 - CR - **tensing up**

What do you think would happen if Pavlov rang the bell each day, but never followed it with food?



The dog would learn to not salivate!

- _____ will occur...
- Present the conditioned stimulus repeatedly without the unconditioned stimulus
 - This gradually _____
 - _____
 - _____

Extinction *IS NOT* forgetting!
Extinction is

not unlearning



Spontaneous Recovery

- The temporary _____

- Requires no additional pairings, just the passage of time.

Back to Emily

- With our help Emily stopped thinking about James when she smelled *Polo* cologne... because of our knowledge of extinction.
- HOWEVER...Six months later, while walking through the cologne department at Macy's, Emily smells *Polo* cologne and immediately thinks of James...
 - this is *spontaneous recovery*

Can Emotions be Conditioned?

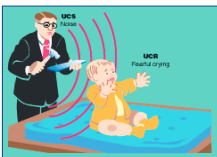




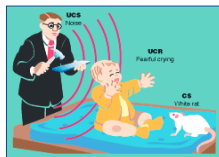
Human Conditioning

- Watson and Rayner (1920) conditioned an 11-month-old infant named Albert -this became known as _____
- Through the process of Classical Conditioning Baby Albert was conditioned to fear...a lot.
 - This experiment is now considered unethical

► Classical Conditioning and Little Albert



Initially, Little Albert did not show a fear of animals, but he did exhibit fear if a loud noise was made behind his back (a hammer striking a steel bar).



Then the researchers presented a white rat (CS) and made the loud noise (UCS).



After five presentations of the CS and UCS, Albert developed a phobia of rats—he began whimpering and withdrawing (the conditioned emotional response) and trying to avoid the rat. After two more presentations of CS and UCS, he immediately began crying on seeing the rat. "He . . . fell over on his left side, raised himself . . . and began to crawl away so rapidly that he was caught with difficulty before reaching the edge of the table" (Watson and Raynor, 1920, p. 5).

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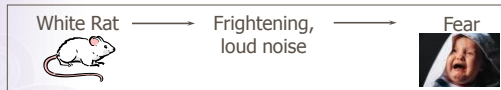
Baby Albert-Conditioned FEAR



- Baby Albert was initially conditioned to fear white rats, but the fears were expanded to include:

fur

Classical Conditioning in Humans



– After many pairings:



Humans experience conditioned emotional responses, which explains many complex behaviors

Likes, dislikes, prejudices and fears

More Classical Conditioning

- Stimulus generalization occurs when the conditioned _____

- Example- fear of blood
- In _____, an organism learns to respond only to a specific stimulus. (The opposite of generalization)
- Example- Different bell tones (Pavlov)

The Garcia Effect

- The Garcia effect is a dramatic example of classical conditioning in everyday life.
- John Garcia (Garcia & Koelling, 1971) gave animals specific foods or drinks. He then induced nausea in the animals. _____

- Many people who have experienced food poisoning can relate to this stimulus discrimination!

What's Next?

- Can we learn any other way?
 - Operant conditioning and Social Learning
