



How do we Learn?

Chapter 6 Learning

CLASS OBJECTIVES:

- What is learning?
- What is Classical Conditioning?

Learning

- *Learning* is a relatively permanent change in an organism due to experience.

- _____

- Psychologists agree that most behaviors are learned.



Learning is an _____ process so we must study the results.

Many principles of learning are based on the idea of _____

Conditioning

■ *Conditioning* refers to a procedure where _____ to stimuli are learned.

- Conditioning is just another word for _____!

In the process of conditioning there is always a _____

- A *stimulus* is an event that has an impact on an organism
 - _____
- A *response* is a _____
 - (EFFECT)

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 simplest forms of learning.

- _____

- Pavlov's research was simple- to *teach* a dog to _____



Conditioning is synonymous with learning

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

- _____



Classical Conditioning

- In classical conditioning, a _____, is paired repeatedly with an UCS

- After a series of paired associations the neutral stimulus will produce a similar or identical response.

- Usually a light or bell is used



- _____

Unconditioned

Unconditioned Stimulus → Unconditioned Response

Neutral Stimulus → Response:

Classical Conditioning

- An unconditioned stimulus (UCS) is presented with a neutral stimulus repeatedly.
 - For every stimulus there is a response!
- An unconditioned response (UCR) is an *unlearned* response to an unconditioned stimulus

- _____

What will the response be?

Food + Bell → _____
UCS Neutral UCR

Classical Conditioning

- A conditioned stimulus (CS) will **always** produce a _____ (CR).
- For example- the salivation is a learned response to the sound of the bell.



Let's Review

During training:

Neutral Stimulus: Unconditioned Unconditioned
BELL + Stimulus: → Response:

_____ _____

After training:

Conditioned Stimulus: Conditioned Response:

BELL → _____

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 - _____

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 - _____
- 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 breaks 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 on ahead of him.

- US - _____
- UR - _____
- CS - _____
- CR - _____

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 _____ of an extinguished response after a delay
 - Requires no additional pairings, just the passage of time.

Can Emotions be Conditioned?

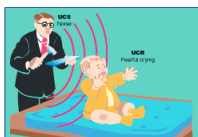




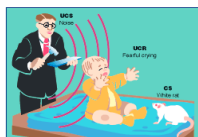
Human Conditioning

- Watson and Rayner (1920) conditioned an 11-month-old infant named Albert -this became known as the _____
- Through the process of Classical Conditioning Baby Albert was conditioned _____
 - 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 Rayner, 1920, p. 9).

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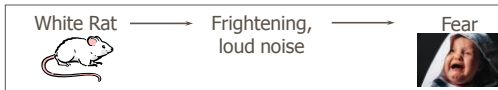
Baby Albert-Conditioned FEAR



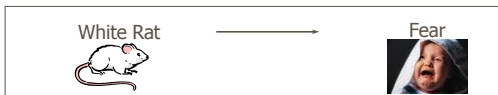
■ Baby Albert was initially conditioned to fear _____, but the fears were expanded to include:

- rabbits, dogs, fire, monkeys, Santa clause masks, white hair, men with beards, cotton balls, 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 response _____

- In stimulus discrimination, an organism learns to _____
(The opposite of generalization)

Have you ever had food poisoning?

How do you feel about that food now?

The Garcia Effect

- The _____ 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. The animals quickly _____

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

What's Next?

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