

Learning | Chapter 6

Learning

Modification of behavior or understanding
Is it nature or nurture?

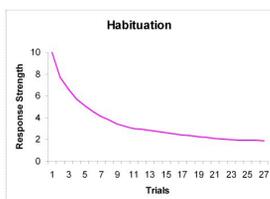


Stimulus Learning

Habituation: when you pay less attention to something over time...response starts out strong and decreases

Sensory adaptation?

Ponies at Assateague- they have habituated to people!



Stimulus Learning

Dishabituation: if the stimulus changes the response comes back

Sensitization: when you increase response to a stimulus

Think like a door slam in a haunted house



Richard Solomon

Opponent Process Theory: your body wants to be at equilibrium- if something scares you, your body tries to calm you down

Eventually the calming effect gets so quick that the scary thing doesn't frighten you anymore...or the roller coaster doesn't excite you...or an addict needs more of a drug to maintain a certain high...

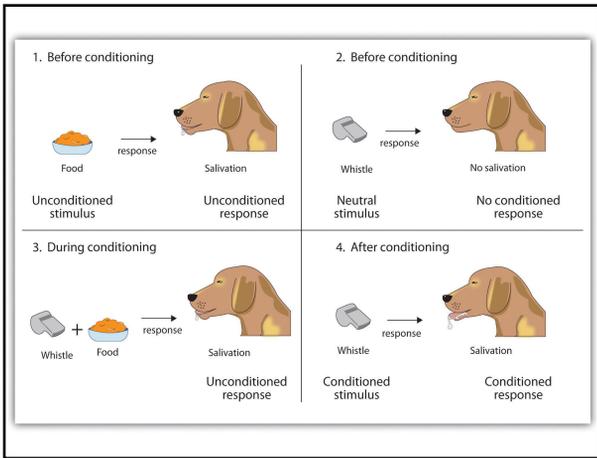
This is HABITUATION!

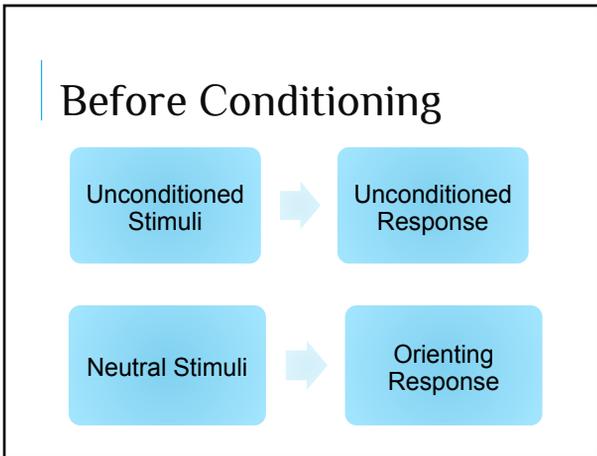
Ivan Pavlov & Classical Conditioning

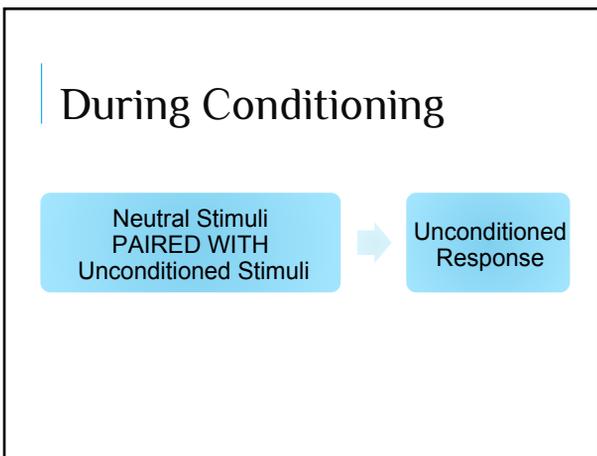


The guy with the drooling dogs!

We learn by observing relationship in the world around us







After Conditioning

Conditioned Stimuli
(was the neutral stimuli)



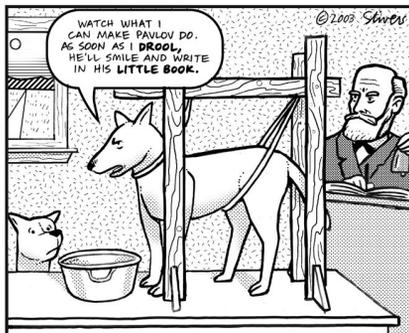
Conditioned Response
(was the UCR)

Think it out...



What was the UCS and UCR before conditioning?
What was the neutral stimuli?
What is NOW the CS and CR?

The Real Conditioning



Extinction

Overtime, if you **only** present the CS without the UCS, the subject will stop the CR...

Without the meat powder (UCS) eventually the dogs will stop salivating (CR) at the sound of the tone (CS)



Recovery

Pair the CS with the UCS only a few times and the CR will return quickly!

Spontaneous recovery occurs on occasion without the CS+UCS link too

Generalization and Discrimination

We group similar stimuli together- schemas! So a CR might be generated by a similar stimuli...

We can also learn to differentiate between different stimuli... so the CR will not occur

*Accommodation
and
Assimilation*



Signals

Classical Conditioning is not just about reflexes!

The *timing* of the pairing is important- CS should precede UCS

Predictability- the CS should predict the UCS

Strong signals work best for UCS

The subject needs to pay *attention*

Rescorla and Garcia

Rescorla: added the concept of cognition to classical conditioning- subjects create mental representations of their environment and their expectations.

Garcia: Taste aversion research- shows that delay can occur between CS and UCS (food poisoning)...

makes evolutionary sense!



Higher Order Conditioning

White coat syndrome...

A CS works as a UCS, creating CS out of associated events.

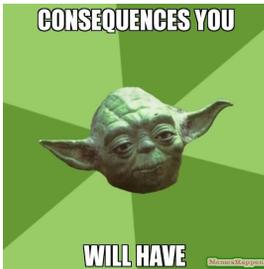


The Office

<https://vimeo.com/35754924>

Operant Conditioning

LEARNING FROM CONSEQUENCES!

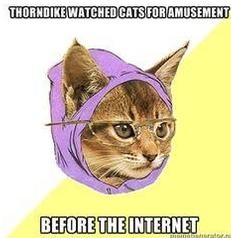


Instrumental Conditioning

Thorndike and the Law of Effect:

Put hungry cats in puzzle boxes, if they got out, they got food

If their behavior was rewarded, they will respond the same way next time!



EXPERIMENTER DEFINES OPPORTUNITIES FOR RESPONSE

BF Skinner

How do organisms learn by *operating* in their environment?

Skinner box- measure responses over time →

Behavior is a result of rewards and punishments!



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HOW LONG DOES IT TAKE FOR THE RESPONSE TO OCCUR?

Operant Conditioning



Reinforcers- INCREASES the chance the operant behavior will occur again- they REINFORCE the behavior!

Punishment- REDUCES the chance the operant behavior will occur again- they PUNISH the behavior!

Reinforcements

Positive Reinforcement: stimuli that add something and increases the behavior (food, money, a smile ☺)



Negative Reinforcement: REMOVING a stimuli and increases the behavior (pain, loud noise, carrots...)

Screaming!		
Before	Behaviour	After
Carrots on Timmy's plate	Scream	Carrots are taken away



Punishment

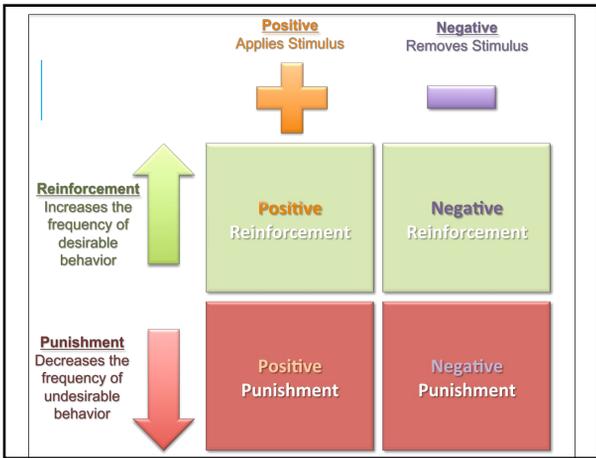
- You burn yourself when you touch a hot stove, so you stop touching the stove (PUNISHMENT reduced the behavior)
- You drive fast and wreck your car, next time you won't drive so fast! (PUNISHMENT, in this case a penalty, reduced the behavior)



Negative reinforcement and punishment are NOT interchangeable terms!



someecards
user card



Sheldon Trains Penny

https://www.youtube.com/watch?v=qv_mjEnnIF4

Escape and Avoidance Conditioning → Neg Reinforcement

Escape: behavior occurs to put an end to aversive stimuli

- You leave the house while your mom is yelling at you about your messy room

Avoidance: behavior occurs before aversive stimuli can happen (mix of operant and classical conditioning)

- You leave the house before your mom has a chance to yell at you about your messy room

(classical conditioning- you know the yelling is coming)

Strengthening Operant Behaviors

Shaping- you reward behavior that is closer and closer to what you want (teaching a dog to roll over- start with sitting, then lying, then rolling over)

Timing- reinforcement or punishment must occur near the behavior

Size- the size of the reinforcer matters

Primary and Secondary Reinforcers

Primary- innately rewarding (food, water) *like primary drives!* ☺

Secondary- stuff you learn to like (money, specific foods) *like secondary drives!* ☺



Schedule of Reinforcement

Continuous- after every behavior

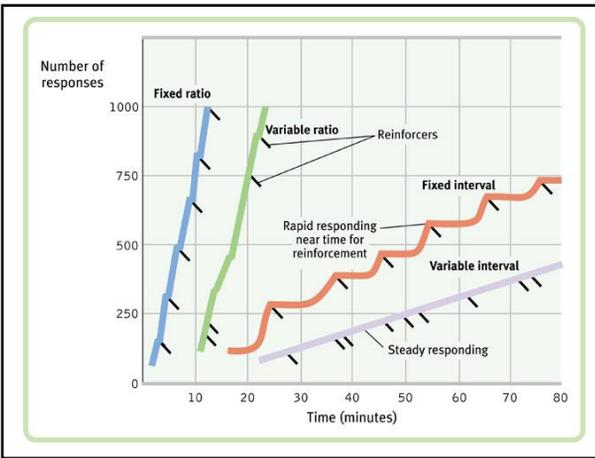
Partial- all of these:

Fixed ratio- after so many (every 4 times)

Variable ratio- after so many, then so many more (every 2 times, then every 5 times...)

Fixed interval- after so long (every 4 min.)

Variable interval- after so many, then so many more (every 2 min, then every 5 min...)



David Premack

Premack Principle: you naturally find certain things more rewarding than other things. Something you prefer can reinforce something you don't like as much...

I will watch some House of Cards after I finish this powerpoint ☺

Sound familiar??
Theories of Motivation!



Learned Helplessness

Sometimes we just give up...



Especially if our behavior doesn't alter the environment- our operants aren't working!

Latent Learning: Tolman

Learning that takes a while to sink in.

Rats in mazes, didn't show learning until food showed up

Today

Tomorrow



Mental Trial and Error: Kohler

Chimps problem solving ability showed that they didn't always use trial and error, seems they thought the solution through before trying it out—they had insight



Observational Learning

SOCIAL PSYCH!

We learn from watching other people too...

Bandura and the Bobo doll