

Science of Psychology

PSY W1001 Section 2
MW 8:40-9:55 Fall 2012



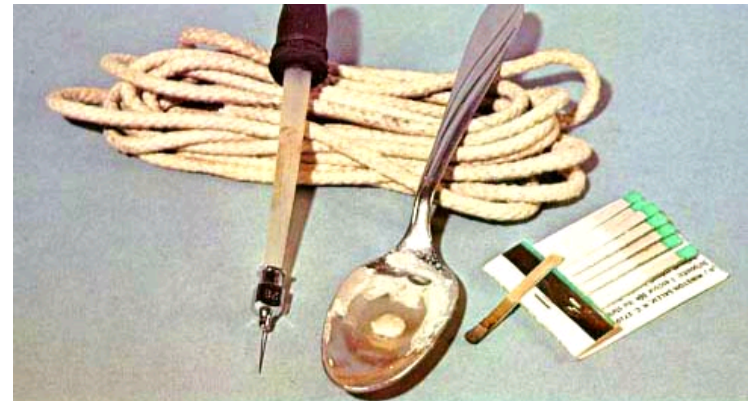
Wednesday, October 17
Learning

Announcements

- Make-up lecture date and time will be announced next week
 - In lecture and posted on Courseworks
- Exams will be returned at the end of lecture
 - Also available after lecture next week
 - Grades posted on Courseworks after the exam has been picked up.
- Questions from last lecture?

Conditioned craving

- O'Brien & Childress
 - Drug paraphernalia, brain activity and craving



Crack addicts respond with craving and increased brain activity to this photo, but not the other

Heroin addicts respond with craving and increased brain activity to this photo, but not the other

Expectation

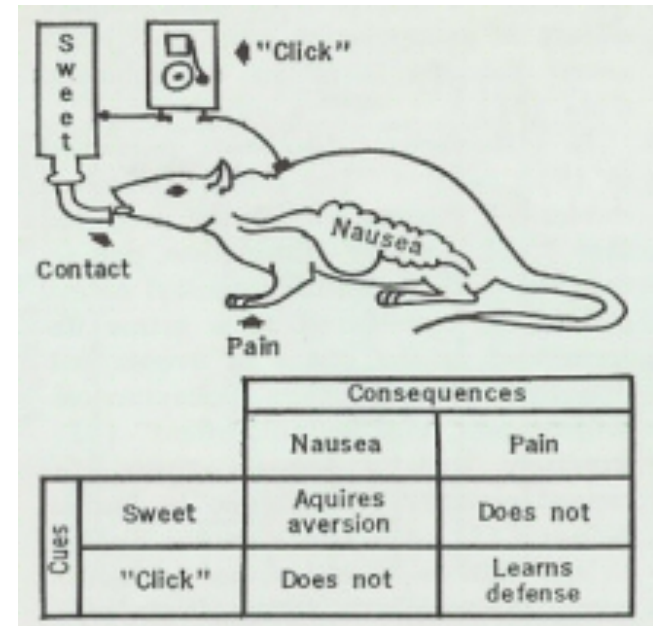
- Think-Drink Experiment
 - Marlatt & Rohsenow, 1980

Administration

		Alcohol	No Alcohol
Expectation	No Alcohol		
	Alcohol		

Biological Preparedness

- Conditioned taste aversion
 - or, How Not to Poison Mice
 - Unusual characteristics of CTA
 - Timing
 - Duration
- Garcia effect
 - Bright, noisy water
 - Tasty water



Extinction

- How do you get “unprepared”?
 - Extinction is not forgetting
 - Think about Spontaneous recovery
 - Extinction failures and psychiatric illness
 - PTSD
 - Extinction failure and addiction
 - Relapse

Quick Check

- You have a favorite place to study during the afternoons. You arrive every day (except Wednesdays) at 2:30 and work diligently until you hear a chapel bell ring at 4:30. When you hear the bell you take a break and eat your snack. In your Wed. 4pm seminar you aren't really hungry until you hear that chapel bell.
- Identify the CS, US, UR and CR in this example of classical conditioning.

Little Albert

- Classical conditioning
 - [Video](#)

Learning and Behaviorism

- Behaviorism: 1930s – 1950s
 - Observable, quantifiable behavior
 - Mental activity is irrelevant and unknowable

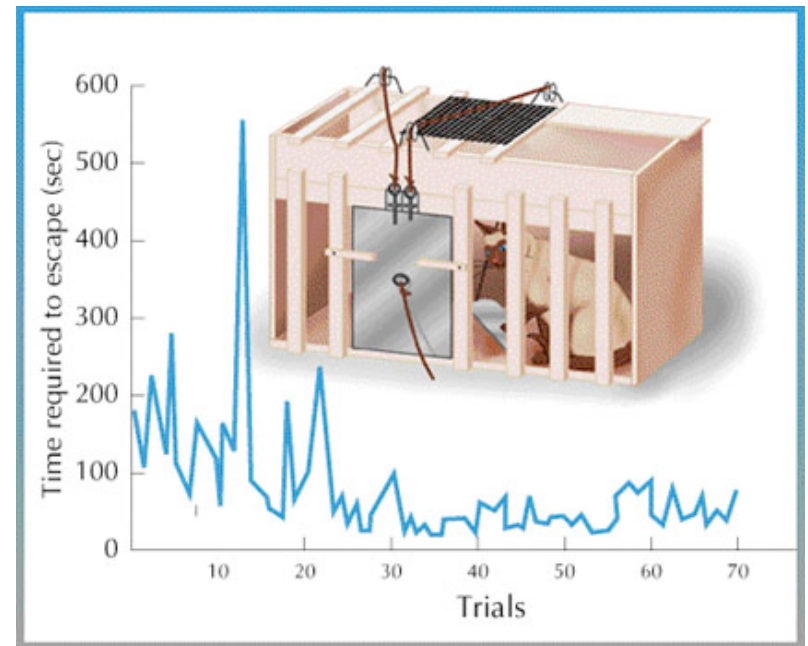
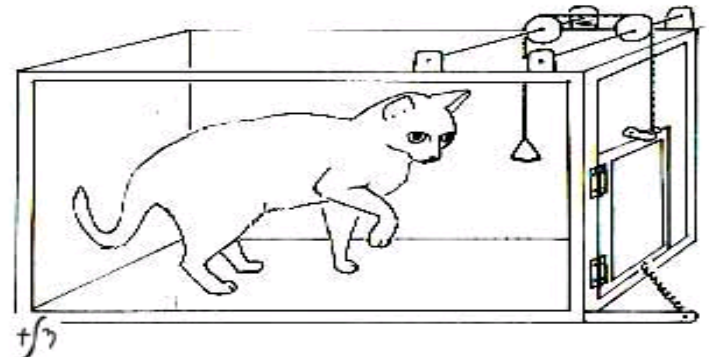
“Give me a dozen healthy infants, well-formed, and my own specified world to bring them up and I’ll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, merchant-chief, and yes, even beggar man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors.” (1930 John B. Watson)

Perspective on Learning

- Classical conditioning
 - Learning that is based on automatic responses
- Not all learning is about preparing for an event
- We also act on our environment with the expectation of some consequence.

Tricks with Cats (Instrumental Conditioning)

- Also called “Operant Learning”
- Thorndike: “Law of Effect”
 - First formal examination of instrumental conditioning
 - Experimental set-up: “The Puzzle Box”
 - “The strength of a response is adjusted according to that response’s consequences”



B.F. Skinner

- Skinner (1940s)
 - distinguished between classical and operant conditioning
 - Examined voluntary responses – “operant” responses
 - How do we operate on our environment?
- Contrasted with animals’ behavior in classical conditioning, in which behavior is “elicited” rather than chosen by the animal
 - Operating on the environment

Cool stuff about Instrumental Conditioning

- Discriminative Stimuli
 - How to know when a behavior result in the desired outcome



What is a reinforcer?

- A reinforcer INCREASES the probability of performing that behavior again
- A punisher DECREASES the probability of performing that behavior again
- Reinforcement in action
 - Shaping



Reinforcers

- Primary reinforcer
 - food, water, escape, rest
- Conditioned reinforcer (secondary reinforcer)
 - predicts or helps create conditions that increase availability of primary reinforcers
- Defined **after** we see what patterns of behavior accompany its presence
- Not all events or responses are reinforcing under all conditions/lots of variability
- Behavioral contrast
 - Which is the more valued reinforcer?
 - Intrinsic motivation

When is a punisher not a punisher?

- When it is a reinforcer!
 - Definitions are based on outcomes on behavioral output, not on what you think it SHOULD do.
 - If you annoy your roommate until s/he starts yelling and turns that funny shade of red is your roommate's yelling a reinforcer or a punisher?
 - Does it increase the likelihood of you annoying your roommate? (you like that funny shade of red!)
 - Does it decrease the likelihood of you annoying your roommate? (you really don't like the yelling)

Exam Return

- Statistics
 - Mean score 84.4%
 - Median score 86.6%
 - Range 15.3 – 108.3

Study Questions

- What was the conditioned craving study by Obrien and Childress trying to show? Describe the experiment, and be able to identify the important components for classical conditioning that were used.
- Explain why classical conditioning is considered to be an important factor in drug addiction, and especially relapse. Be sure to include information from the previous lecture and the experiment demonstrating conditioned tolerance by Seigal and colleagues.
- Is conditioned taste aversion a typical form of classical conditioning? Why or why not?
- What is the Garcia effect? Why was this an important finding about learning (how did it change learning theory)?
- What evidence suggests that extinction is not the same as forgetting? (Include information presented in the previous lecture to answer this question thoroughly.)
- Describe the experiment that led Thorndike to define the Law of Effect. Be sure to identify the independent and dependent variables.
- What is the difference between classical conditioning and operant conditioning?
- Give a “real world” example of a discriminative stimulus (not one presented in lecture).
- How does an animal (or human) learn what behavioral will result in the desired outcome? Describe the process of shaping.
- How do humans shape the behavior of other humans?
- What is the definition of reinforcement? How do we know if something is reinforcing? Give some typical examples of reinforcers.

More Study Questions

- Use the results of the Garcia's conditioned taste aversion learning and the examples reported by Breland and Breland (supplemental reading) to explain some of the limitations of classical conditioning and instrumental conditioning theories.
- What is the difference between a primary and a conditioned reinforcer? Give some examples.
- A parent punishes a child by yelling each time the child misbehaves. Using the principles of operant conditioning, explain why the child continues to misbehave. You should also be able to identify the components of operant conditioning from a description of observed.