

Science of Psychology

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



Monday, October 22

Learning

Emotion

Outcomes and Behavior

How does it change behavior?

Reinforce

Punish

Do you give it or remove it?

Negative Positive

Increase probability of behavior by giving	Decrease probability of behavior by giving
Increase probability of behavior by removing	Decrease probability of behavior by removing

Reinforcement vs. Punishment

- Does punishment work?
 - Yes
 - If consistent, perceived as aversive and unavoidable
 - Are speeding tickets punishments?
 - How many points are on your license?
 - No, but the appearance of a police car is!!
- Does reinforcement work?
 - Yes, but most consistent in humans if reinforcers are self-generated
 - If you receive \$100 for an A in school, what happens if you are no longer paid? (Intrinsic motivation)
 - Do you need to reinforce every instance of behavior?

Schedules of Reinforcement

- Partial reinforcement schedule:
 - behavior is reinforced only *some* of the time
 - Fixed reinforcement schedule
 - Variable reinforcement schedule
- Ratio and Interval schedules
 - Ratio
 - based on the NUMBER of behaviors that have occurred
 - Interval
 - based on the AMOUNT OF TIME that has elapsed since the last reinforced behavior
- Some behaviors support VERY HIGH ratios or intervals

Examples of schedules

- Fixed interval
 - Get paid every 2 weeks
 - Is money a primary or secondary reinforcer?
- Variable interval
 - Hearing your favorite song on the radio several times each week
 - Don't know when it will be played, but if you keep listening you will hear it 2 or 3 times a day (or more!)
- Fixed Ratio
 - Get a soda every time you put money in the machine
 - What happens if you don't get a soda?
- Variable Ratio
 - Win money from the slot machine in the casino
 - What is the ratio of reinforcers to number of behaviors?
 - Hint: the house always wins!!!!

Change in behavior → learning?

- Behavior changes in instrumental conditioning
- Is there an underlying change in insight? In comprehension?
- Tolman: demonstrated “latent learning” using an operant conditioning paradigm
 - Rats explored a maze with no reward
 - Later, under conditions of reward: could demonstrate formation of a “cognitive map”
 - Indicated that learning had taken place, not “mere” conditioning

Observational Learning

- Learning without direct experience
- Bandura's bobo dolls
- Adult models

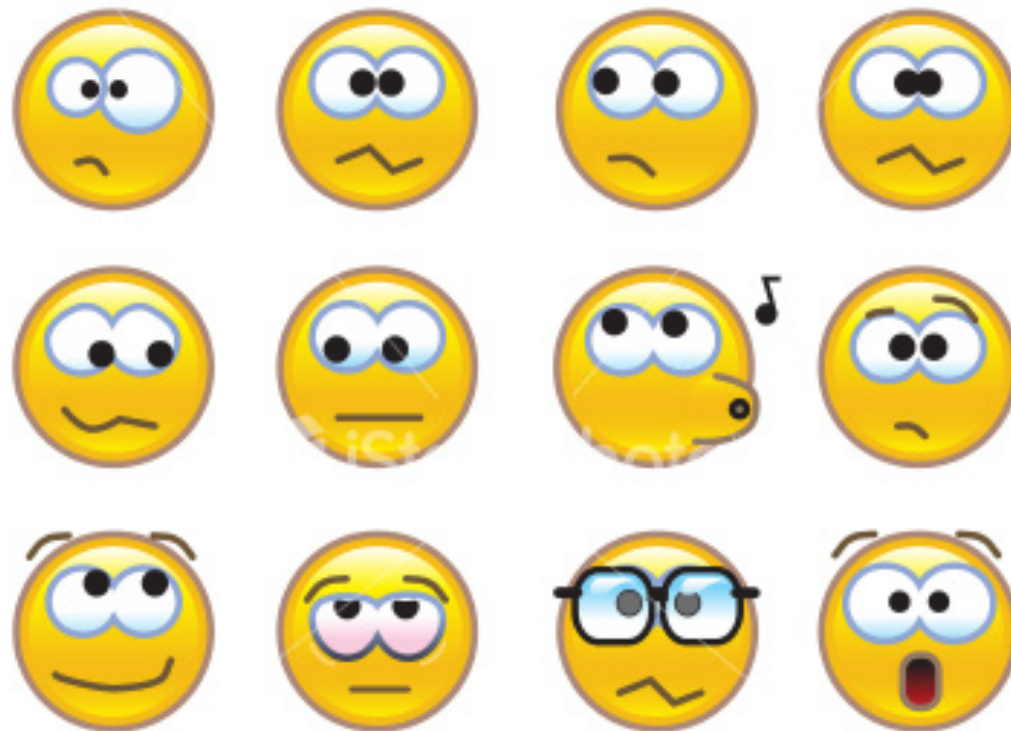


Observational Learning

- Social learning
- Cultural norms
- Viewing media violence
- Mirror neurons



Emotion



Emotion

- Is it what you feel?
 - Is it the expressiveness of behavior?
 - Is it the physiological change from a baseline state (some sort of arousal?)
-
- Yes.
 - Emotions encompass
 - changes in behavior
 - changes in subjective experience
 - changes in physiology



What isn't emotion?

- Moods
 - Emotions that stick around for a while
- Affect
 - Outward expression of emotion
 - May or may not reflect emotional state
- Temperament
 - Personality factors
 - Pessimistic versus optimistic
- Motivation
 - Why do you do something
 - May have emotion as a basis

How to study emotion

- Wait for bad stuff to happen
- Do “little bad stuff”
 - Startle conditioning
- Use animal models
- Major issue:
 - Quantification
 - How scared are you? More than me?

Theories of emotion

- Categorical
 - Basic versus complex emotions
 - Innate versus learned
 - Basic emotions
 - Compound emotions



Anger



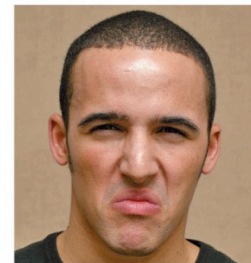
Sadness



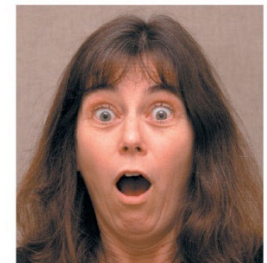
Happiness



Fear



Disgust



Surprise

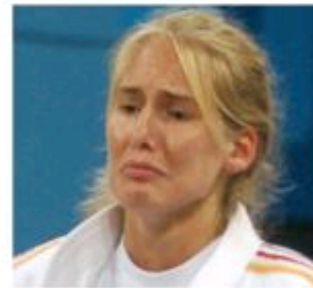
Universality of emotion

Can you tell which winning athlete is blind?



Comparison of Blind and Sighted Athletes
Who Just Lost a Match for a Medal

Blind athlete



Sighted athlete



Sucrose 'Liking'

Positive

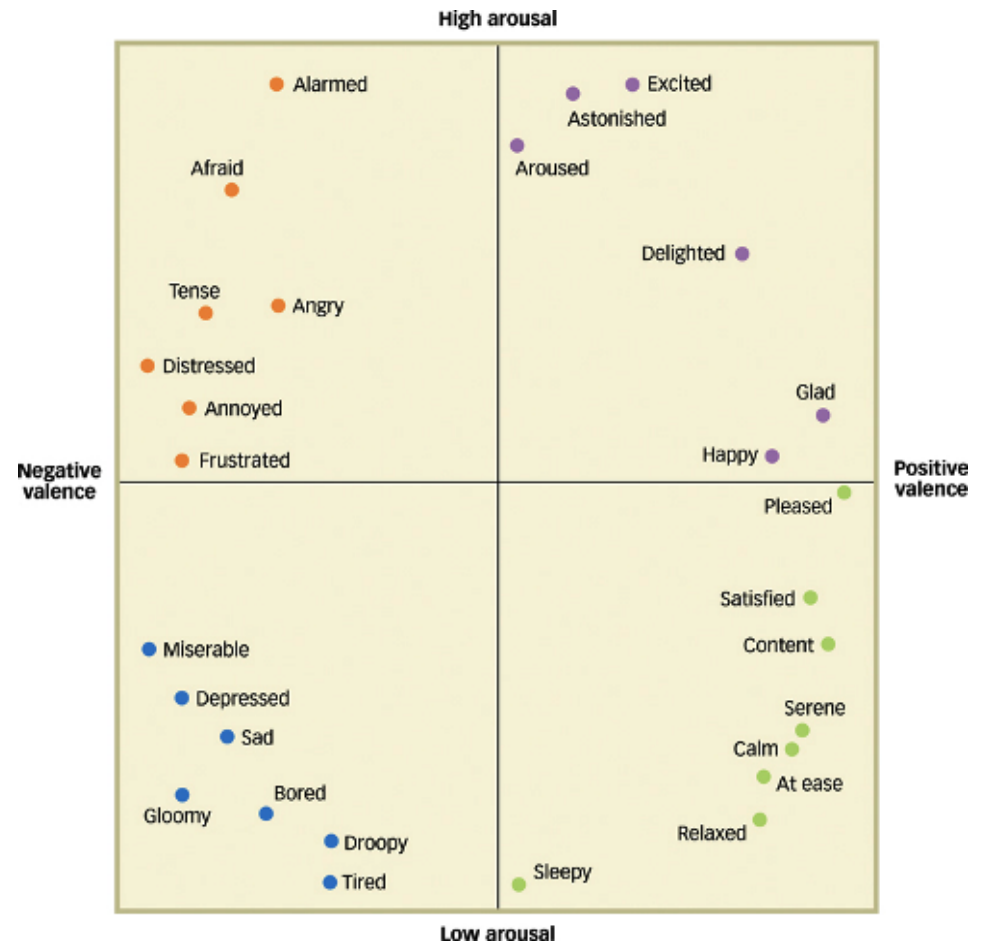


Negative



What Is Emotion?

- Multidimensional scaling
- Dimension of arousal
- Dimension of valence (feeling)

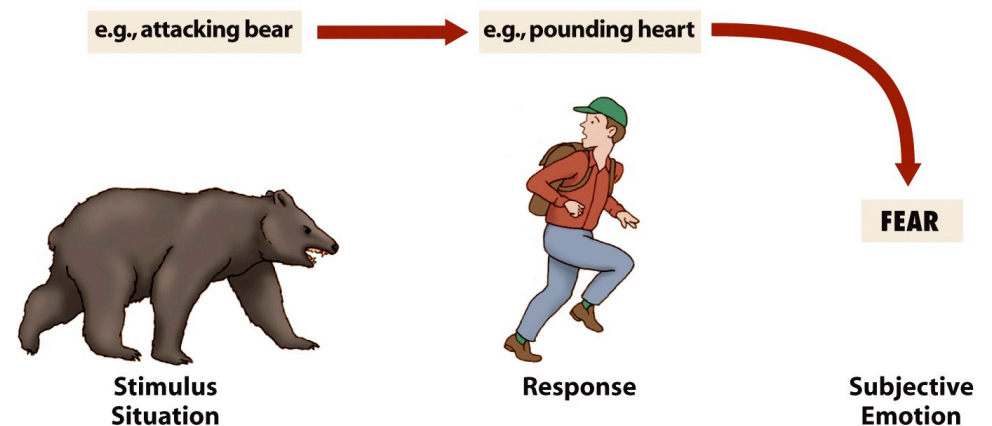


A bit of History

- Theories of emotion: developed for over a century
- Common sense notions: we *feel* an emotion and *then take action*: feel fear, then run!

James-Lange Theory of Emotion

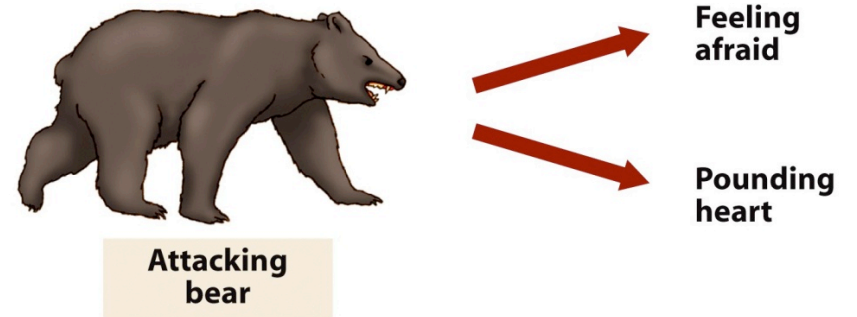
- Posited the reverse:
 - Emotional experiences cause emotional behavior
 - See a bear, run, “feel” our behavior as fear only after we run
 - Support: facial feedback theory
 - The configuration in which we hold our facial muscles influences the emotion we then claim as our experience
 - Smile and you’ll feel happy!



“The emotions aren’t always immediately subject to reason, but they are always immediately subject to action” William James

Cannon-Bard Theory of Emotion

- Critique of James-Lange: our bodily experiences happen too *slowly* to be the source of our emotions
- Cannon-Bard: physiological and experiential responses occur simultaneously
- Both are triggered by changes in brain-state



Learning Study Questions

- What is the definition of punishment? How do we know if something is punishing? Give some typical examples of punishers.
- 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.
- Define and give examples of each of the following: Positive Reinforcement, Negative Reinforcement, Positive Punishment, Negative Punishment
- When you add something to alter an animal's behavior it can either increase or decrease the amount of responding. Why is this?
- When you remove something to alter an animal's behavior it can either increase or decrease the amount of responding. Why is this?
- Does every instance of behavior need to be reinforced?
- Compare and contrast ratio and interval schedules of reinforcement.
- Compare and contrast fixed versus variable schedules of reinforcement.
- Give a unique example (not from the text or from the lecture) of each of the following: fixed interval, fixed ratio, variable interval, variable ratio.
- Tolman provided evidence that learning can take place without any conditioning using an experiment with rats in a maze. Describe what this experiment suggests. Are all actions performed with the expectation of an outcome?
- What is observational learning? Describe Bandura's experiments and how he demonstrated observational learning in children.

Emotion Study Questions

- Explain what is and is not an emotion
- What are some of the difficulties around studying emotion
- Describe the work of Ekman on the categorical theories of emotion
- What evidence supports the universality of emotional expression? Give 3 examples
- Describe the dimensional models of emotion. Draw a diagram showing how a model like this works.
- Compare and contrast the James-Lange and Cannon-Bard theories of emotion.