Operant Conditioning
Concepts Related to Reinforcement
Psychology 390
Psychology of Learning
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Discrimination

• Similar to Classical Conditioning.
• Responses which are reinforced in one situation and not in another will reoccur only in the situation where they were reinforced.

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Examples

• In a bar, loud talking may be reinforced, but loud talking in the classroom is not.

• Kid is reinforced for yelling in the store, but when it is at home, other things may occur.

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Generalization

• New stimuli similar to the original stimulus are reinforced.

• Occurs when the organism is reinforced for other responses similar to the original stimulus.

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Primary Reinforcers

Are reinforcers that are innately reinforcing.
• Food
• Water
• Sex

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Secondary Reinforcers

• Are reinforcers that acquire their ability to reinforce through experience (e.g., money).

• Become reinforcing when they can be exchanged for primary reinforcers. (e.g., money for food)
Variables that Influence Secondary Reinforcers

1. Amount of primary reinforcer that is given.
   - More primary reinforcement that is given, the stronger the secondary reinforcer becomes.

2. Number of pairings between the primary and secondary reinforcer.
   - More pairings, the stronger the secondary reinforcer becomes.

Variables that Influence the Rate of Conditioning

1. Quality of the Reinforcer
   - The better the quality of the reinforcer, the higher the rate of responding and the faster the conditioning.
   - Alpo is better than something out of a bag.
   - CCC’s are better than Oatmeal.

3. Time Between the Presentation of the Primary and Secondary Reinforcer
   - The more time between the primary and secondary reinforcers, the poorer the secondary reinforcer.

Quantity of Reinforcers Given

- The more reinforcement you give, the faster the organism will respond.

  Problem. Too much food, the organism gets satiated.

Time Delay Between the Response and Reinforcer

Reinforcers are more effective the sooner they are presented after the response.
- The longer the delay, the lower the response rate.

Rate of Reinforcement
- Number of Reinforcers / Time period
- The smaller the period of time between reinforcements, the more responding that will occur.
Deprivation

- The longer the time period since the previous reinforcer was last consumed, the higher the response rate.

- The animal responds faster the more deprived it is.

- Can occur with the rate of reinforcers or be independent of it.

Percent of Reinforcers that are Contingent on a Behavior

- You do not need to have a person respond to give reinforcers.
  - 0% contingent – all are free
  - The organism gets the reinforcer whether or not a response is made.
  - Welfare State

- 100% contingent
  - All reinforcers must be obtained by responding.
  - Must work for a living.

Context in Which the Reinforcement Occurs

- The more reinforcers that are available, the less effective any particular one will be.

- Food, money, love, etc. are all available.

Discriminative Stimuli and Related Notions

Are stimuli that signal that a behavior will be reinforced
Is called an $S^D$
In contrast
There are stimuli that signal non-reinforcement
Is called an $S$ delta $\Delta = S$ $

Differential Reinforcement

- Refers to reinforcing a response in the presence of one stimulus and not reinforcing the same response in the presence of another stimulus.

Generalization

- Two Types
  - Stimulus Generalization
  - Response Generalization
Stimulus Generalization

- Transfer of a response to a situation other than those where training takes place.
- Several stimuli can cause the same response.

Response Generalization

The reinforcement of one response increases the probability of other responses which are closely linked to the original response.

Studying for Learning also increases studying for Cognition.

Chaining

- Here the organism must emit a chain of behaviors before they get reinforced.
- Often uses reverse shaping to get started.