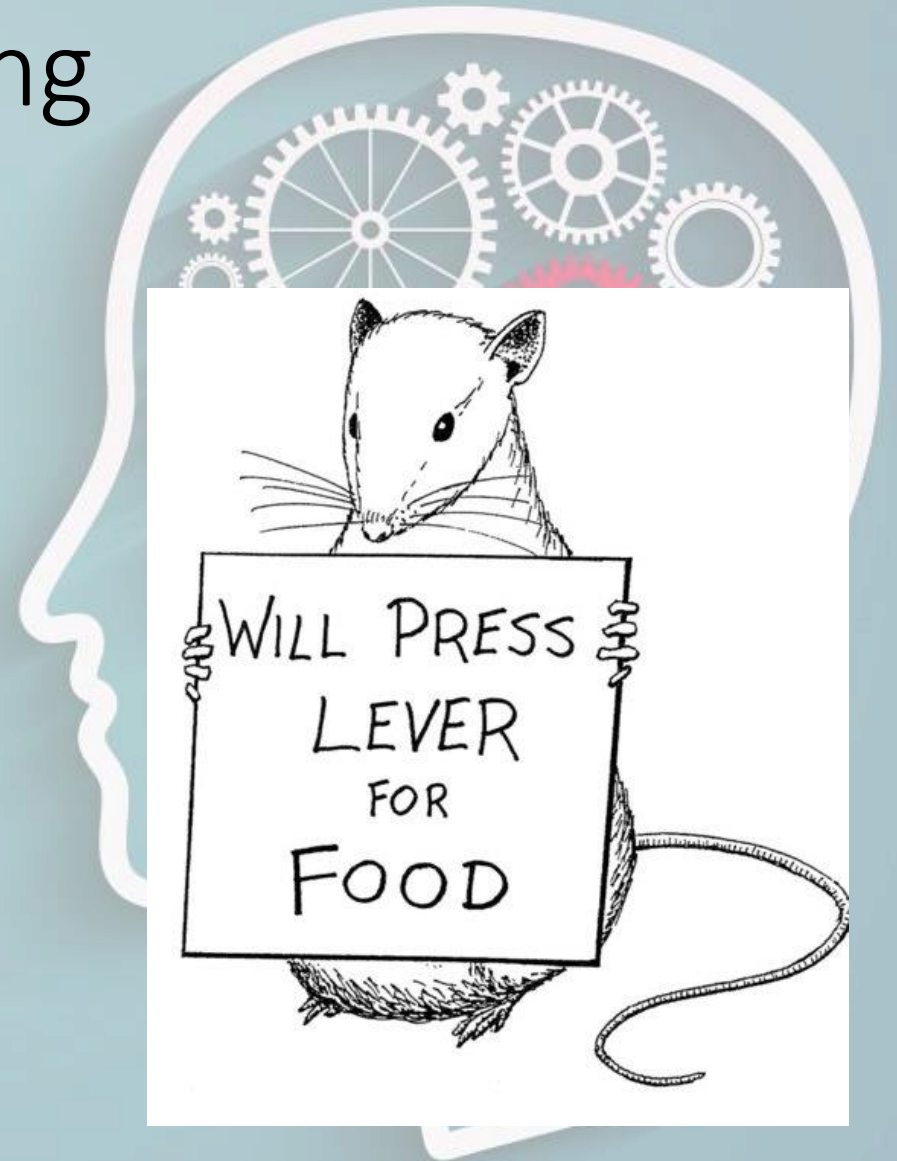# Operant Conditioning

Principles of Learning

Defining Operant Conditioning

- Fundamental Principles developed by B.F. Skinner
- Type of learning in which the frequency of a behavior depends on the consequence that follows the behavior.
  - Relies on Laws of Effect
    - Behaviors with favorable consequences will occur more frequently AND behaviors followed by unfavorable consequences will occur less frequently

WILL PRESS LEVER FOR FOOD

Methods of Operant Conditioning

- Reinforcement - any consequence that increases the future likelihood of a behavior
  - Strengthens behavior
- Punishment – any consequence that decreases the future likelihood of a behavior
  - Weakens behavior

Types of Reinforcement

- Positive reinforcement – occurs when the likelihood of a certain behavior increases as a result of the presentation of something pleasant after the behavior.
  - The subject receives something they want.
  - Will strengthen the behavior.
    - Ex. Giving child time to watch TV as a reward for completing Homework

- Negative reinforcement – occurs when the likelihood of a certain behavior increases as the result of removing something unpleasant after the behavior.
  - Something the subject doesn't like is removed.
  - Will strengthen the behavior.
    - Ex. Child has one less chore to do if they complete their homework early
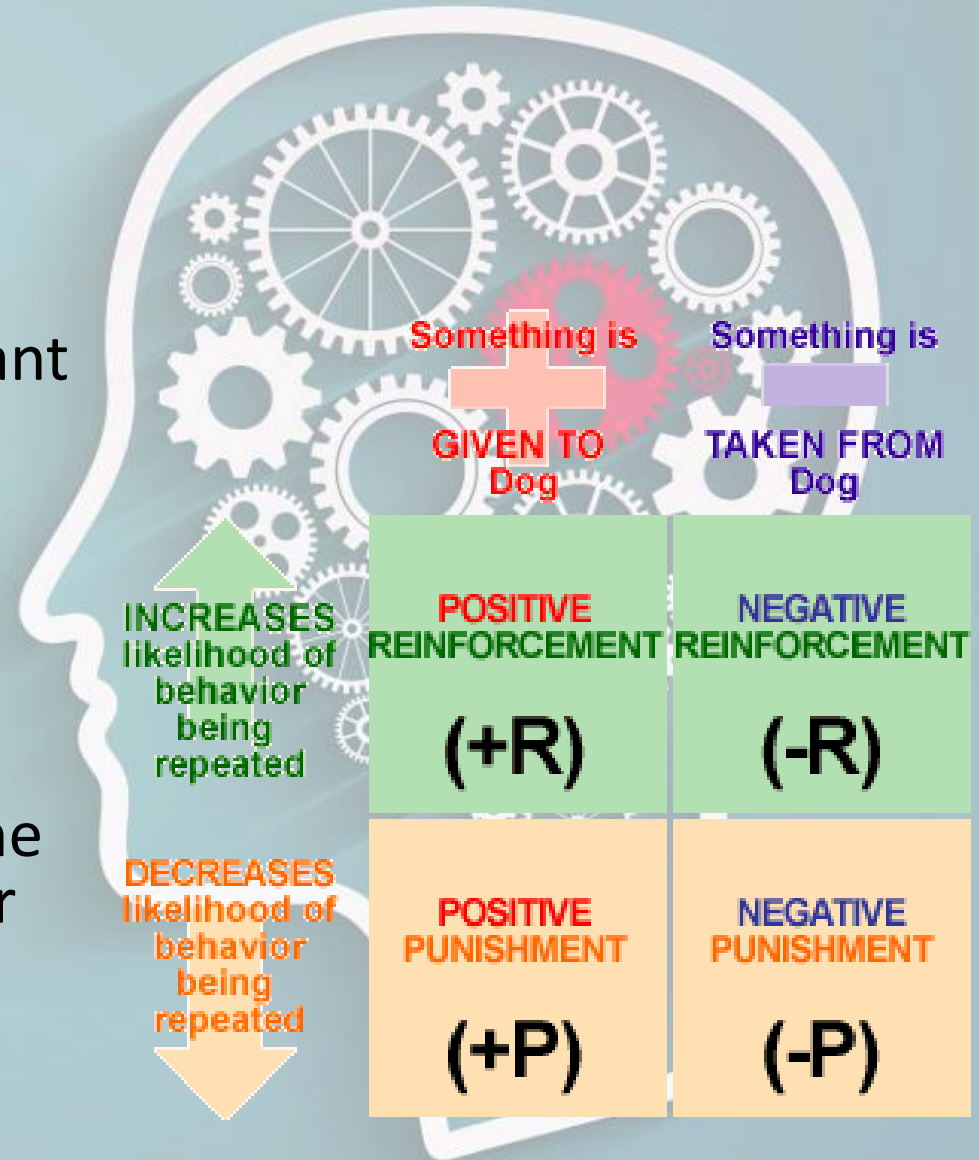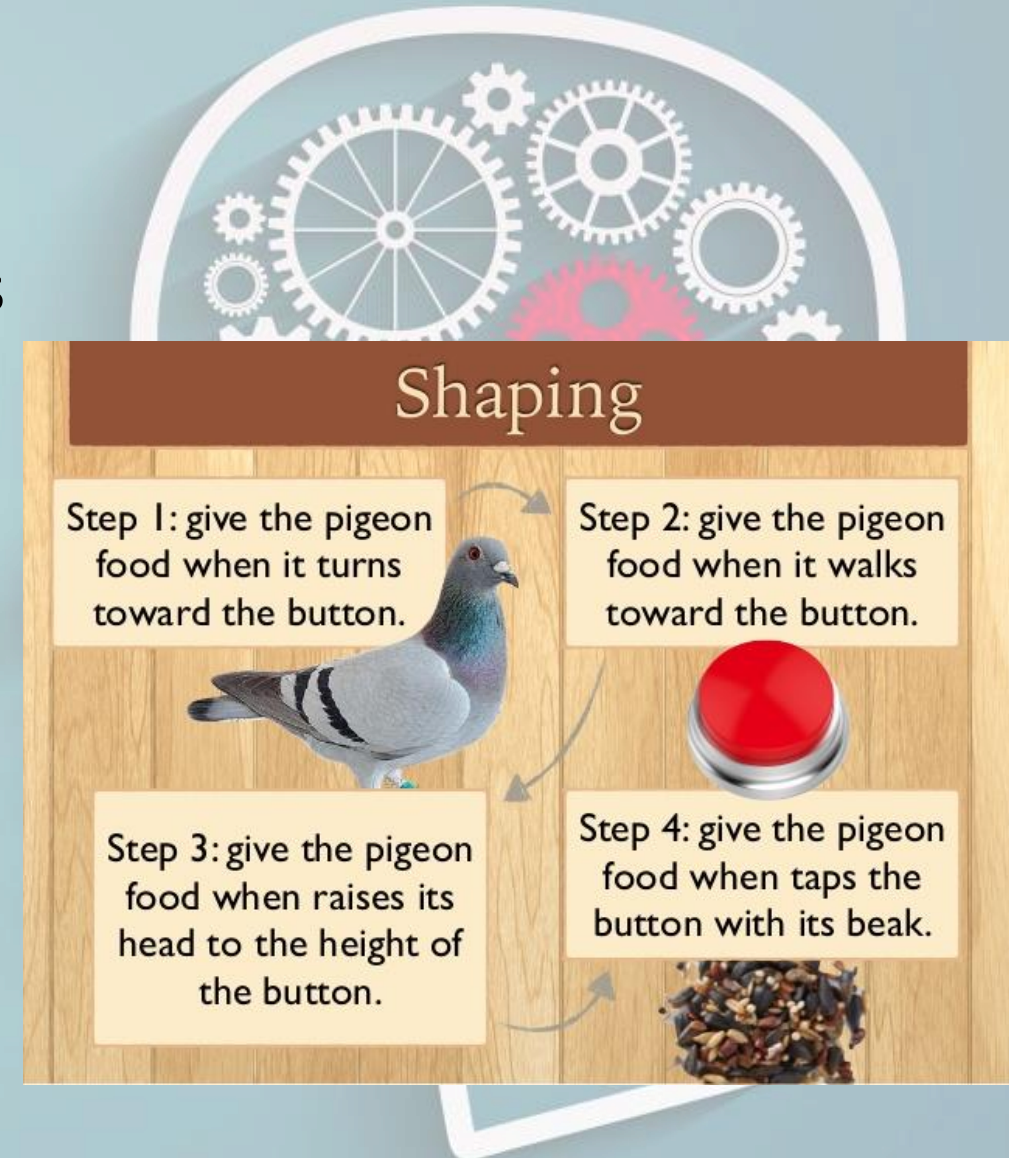
Increasing Effectiveness

- Immediate reinforcement is more effective than delayed reinforcement.
- Using Rewards
  - Primary – Something that is naturally rewarding
    - Ex. Food
  - Secondary – Something we have learned in valuable
    - Ex. Money
- Using Punishments
  - Positive punishment - Behavior is followed by an undesirable event.
    - Ex. Burning hand on stove…
  - Negative punishment - Behavior ends a desirable event or state
    - Ex. Hair pulling ends with loss of privileges

Reinforcement Procedures

- Shaping - Used to establish new behaviors by reinforcing ones that are increasingly similar to the desired one
  - Ex. Similar rewards for similar behaviors
- Discrimination - Ability to distinguish between two similar signals and produce different responses
- Extinction - Loss of behavior when no consequence follows it
  - Ex. Child no longer does homework unless reward is involved

Shaping

Step 1: give the pigeon food when it turns toward the button.

Step 2: give the pigeon food when it walks toward the button.

Step 3: give the pigeon food when raises its head to the height of the button.

Step 4: give the pigeon food when taps the button with its beak.

Schedules of Reinforcement

- Continuous reinforcement - A reward follows every correct response
  - Behaviors easily extinguished.

- Partial reinforcement - A reward follows only correct responses
  - Intermittent rewards lead to trying more/harder
  - Fixed-interval, variable-interval, fixed-ratio, variable-ratio

THEY GIVE YOU A LOT OF TREATS WHILE THEY'RE TRAINING YOU, SO PLAY DUMB FOR AS LONG AS YOU CAN.

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