Theories of learning

Recap
- Research methods have different pros and cons
- Measuring variables
  - Reliable measures
  - Valid measures

Goals
- Cover basics of three major models of learning
  - Classical conditioning
  - Operant conditioning
  - Social learning
Learning

- Learning is a (relatively) permanent change in behavior as the result of experience.
  - Behavioral
    - Classical conditioning
    - Operant conditioning
  - Cognitive
    - Social learning

Classical conditioning

- Ivan Pavlov's dogs

- *Unconditioned stimulus* (US) produces an *unconditioned response* (UR)
  - UR is a reflex or instinctual response naturally produced by US
  - Example – sudden loud noise leads to feelings of anxiety

- Pairing a neutral stimulus with the US turns the neutral stimulus into a *conditioned stimulus* (CS).

- The CS produces the same response as the US, which we now call a conditioned response (CR).

- All about *stimulus-response* (S-R) pairings
Classical conditioning

Presentation of food → Salivation response
US → UR

BEFORE CONDITIONING

Classical conditioning

Sound of bell → Salivation response
CS → UR

DURING CONDITIONING

Classical conditioning

Sound of bell → Salivation response
CS → CR

AFTER CONDITIONING
Classical conditioning

- **Examples**
  - Taste aversion
  - "Little Albert"

- **Other concepts**
  - Latency – time between CS and US
  - Extinction – “unlearning” of behavior
  - Generalization
  - Second-order conditioning

Operant conditioning

- Involves *behavioral contingencies for voluntary behavior*
  - E. L. Thorndike – Law of Effect
  - B. F. Skinner – operant conditioning, “Skinner Box”
Operant conditioning

- Four basic types of contingencies
  - Positive reinforcement
  - Negative reinforcement
  - Punishment by application
  - Punishment by withdrawal

Schedules of reinforcement

- Continuous
- Intermittent
  - Fixed interval
  - Variable interval
  - Fixed ratio
  - Variable ratio

Learning rates for different schedules

![Schedules of Reinforcement Graph](image)
Operant conditioning

- Other concepts
  - Extinction
  - Shaping – reward progression to ultimate desired behavior

- Schedules of reinforcement vary in terms of
  - Speed of behavior acquisition
  - Speed of extinction

OB Mod (Organizational Behavior Modification)
- apply operant conditioning to workplace

- "On the Folly of Rewarding A While Hoping for B" (Kerr, 1975)
  - Organizations' reward systems are often very badly designed
  - Three basic reasons
    - Fascination with objective criterion
    - Overemphasis on highly visible behaviors
    - Hypocrisy

Reinforce learned behaviors
OB Mod
- OB Mod (Organizational Behavior Modification)
  - apply operant conditioning to workplace

Social learning theory
- Challenge to behavioral learning theories
  - Learning occurs by modeling the behavior of others
  - Albert Bandura’s “bobo doll” experiments

Social learning theory
- Four prerequisites for social learning
  - Attention
  - Retention
  - Reproduction
  - Opportunity
Theories of learning