Aversive Conditioning

Learned Helplessness

Punishment

Dogs were exposed to inescapable shocks delivered to the paw via an electrode. When given a chance to learn to escape from or avoid shock in the shuttlebox, they failed to do so. However, if the dogs could escape from the shocks in the first phase (by pushing a panel with their heads), they learned to shuttle normally. The effect of inescapable preshock has been labeled learned helplessness.

Seligman’s “Learned Helplessness” Explanation

During exposure to inescapable preshocks, dogs learn that there is nothing they can do about the shocks – that they are helpless. This cognitive expectation transfers to the shuttlebox. So they just sit there and take the shock.
Initial Tests of the Learned Helplessness Explanation

- Innoculation against helplessness
  - If dogs are given escapable pre-shock, then subsequent exposure to inescapable preshock should not produce helplessness. Confirmed.

- Therapy for helplessness
  - If dogs are dragged across the barrier in the shuttlebox, they should learn that their expectation is disconfirmed and stop being helpless. Confirmed (but it takes many trials).

Learned Helplessness and Depression

- Seligman proposed that developing an expectation that “bad things can’t be controlled” may be one source of human depression.

  - This implies that
    - Prior success with control over unwanted outcomes should help prevent depression.
    - Learning to control such outcomes should alleviate depression.

Follow-Up Studies Using Laboratory Rats

- Several researchers followed up the dog studies by attempting to demonstrate “learned helplessness” in rats.

  - However, the rats never became completely helpless unless a more elaborate response requirement was imposed (e.g., FR-2, FR-3 shuttling).

  - It is questionable whether these studies involved the same cognitive process implied by the label “learned helplessness.” A number of other factors, all tending to produce interference, were found to be involved.
Punishment: Skinner’s “Paw-Slap” Experiment

- Rats pressed a lever for food reward on an intermittent schedule.
- Sometimes when pressed, the lever would “kick back,” slapping the rat on the paw.
- Lever-pressing was suppressed, but after slapping stopped, total presses caught up with number produced when slap was never given.
- Skinner concluded that punishment’s suppressive effect is only temporary.

Punishment’s Effects Not Temporary

- Skinner concluded that punishment has only a temporary suppressive effect on responding.
- However later work using a stronger aversive stimulus (shock) showed that punishment will continue to suppress behavior as long as the punishment continues, if the aversive stimulus is strong enough.

Contingent Versus Noncontingent Effects of Aversive Stimulation

- An aversive stimulus can be presented either contingent on a response (punishment) or without any response requirement (noncontingently).
- Both arrangements will suppress appetitive behavior.
- But punishment will suppress it more strongly.
Negative Punishment

Two Forms in Use:
- Response Cost -- Loss of tokens, money, other reinforcers as a consequence of the behavior
- Time-Out -- A period of time during which the individual is removed from the opportunity to earn reinforcers.

These are seen as more humane than positive punishment

Other Techniques for Behavior Deceleration

- Overcorrection
- Extinction
- Response Blocking
- Reinforcement of Alternative Behavior
- Stimulus Satiation

Overcorrection

Undesired behavior has these consequences:
- Restitution
  - Person is made to make up for wrongdoing.
- Positive Practice
  - Person is given practice in performing the desirable behavior
Extinction and Response Blocking

- **Extinction**
  - If the source of reinforcement for the unwanted behavior can be removed, the behavior may extinguish.
  - Often the reinforcement is attention; this can be removed.

- **Response Blocking**
  - This involved preventing the response from occurring.
  - Person may be saved from nasty consequences of the behavior, and blocked behavior may no longer be initiated because reinforcer is not obtained.

Reinforcement of Alternative Behavior and Stimulus Satiation

- **Reinforcement of Alternative Behavior**
  - While unwanted behavior is being extinguished, desired alternative behavior is reinforced.

- **Stimulus Satiation**
  - Sometimes used when the reinforcer cannot be withheld.
  - Person is given so much of the reinforcer that it loses its effectiveness.