

Reinforcement Schedules Overview (10 min)

Continuous reinforcement

1. Every target response is reinforced.
2. Continuous reinforcement is the quickest way to train new behavior.
3. Example: When a dog is being taught to sit, every time the dog performs the sitting behavior, the dog's behavior is reinforced with a treat.
4. A behavior that is continuously reinforced is easily extinguished if the behavior is no longer reinforced—extinction occurs.

Intermittent (or partial) reinforcement

1. Only some target responses are reinforced.
 - a. Fixed-ratio (FR)
 - i. There must be a fixed (unchanging) number of target responses before reinforcement is given.
 - ii. This schedule produces a high rate of responding following brief pauses by the organism after obtaining reinforcement.
 - iii. Example: A “Buy 10, get 1 free” offer maintains buying behavior on an FR schedule.
 - iv. Example: In a video game, every 100 coins you gather result in an extra life.
 - b. Variable-ratio (VR)
 - i. The number of target responses required for reinforcement varies around some average, and the organism never knows exactly how many responses are required for the next reinforcement.
 - ii. This is the gambler's schedule.
 - iii. Example: A gambler never knows how many lottery tickets must be bought before he/she wins.
 - iv. Example: A boxer is never sure how many punches are required to knock out an opponent.
 - v. This schedule produces a consistent, high rate of response very resistant to extinction.
 - c. Fixed-interval (FI)
 - i. The first target response after a fixed interval of time has passed is reinforced.
 - ii. Responses on an FI schedule increase toward the end of the interval. This pattern of responding is called “scallop” because of the notable scalloped shape of the line on a cumulative record.
 - iii. Example: When making toast, you must wait a fixed amount of time before you are reinforced for reaching your hand to remove the bread from the toaster.
 - iv. Example: Some hospitals allow patients to self-administer pain medication, but only after a fixed amount of time has elapsed since the last treatment.

d. Variable-interval (VI)

- i. The VI schedule is similar to the FI schedule, except that the length of the interval of time changes after each reinforcement, and the organism has no way of knowing how long the next interval will be.
- ii. Responses on a VI schedule tend to be steady and at a moderate rate.
- iii. Example: After taking a test, students have to wait a variable amount of time before the behavior of checking their grade is reinforced.
- iv. Example: You have to wait a variable amount of time before checking your cell phone to be reinforced with a new text message.