

# operant conditioning

## Punishment and Schedules of Reinforcement



B.F. Skinner

- REVIEW:** **Positive reinforcement** - positive stimulus that increases behavior  
**Negative reinforcement** - negative stimulus that increases behavior  
**Positive Punishment** - administer a "bad stimulus" to decrease behavior  
**Negative Punishment** - Withdraw a rewarding stimulus to decrease behavior'

In the following examples, identify whether it is positive or negative reinforcement OR positive or negative punishment

| <b>Example</b>   | <b>+<br/>Reinforce</b> | <b>-<br/>Reinforce</b> | <b>+<br/>Punishment</b> | <b>-<br/>Punishment</b> |
|--|------------------------|------------------------|-------------------------|-------------------------|
| 1. Playing video games after doing yard work all day     |                        |                        |                         |                         |
| 2. Receiving a ticket for speeding in your car           |                        |                        |                         |                         |
| 3. Getting your iPhone taken away for bad grades         |                        |                        |                         |                         |
| 4. Getting a spanking                                    |                        |                        |                         |                         |
| 5. Taking aspirin to get rid of a headache               |                        |                        |                         |                         |
| 6. Receiving half credit for turning in a paper late     |                        |                        |                         |                         |
| 7. The dog gets a treat for playing dead                 |                        |                        |                         |                         |
| 8. Not allowed to drive the car for coming home late     |                        |                        |                         |                         |
| 9. No TV for a week                                      |                        |                        |                         |                         |
| 10. Time out for talking back to your parents            |                        |                        |                         |                         |
| 11. Cleaning your room to stop your mother's nagging.    |                        |                        |                         |                         |
| 12. Money for washing dishes                             |                        |                        |                         |                         |
| 13. Fanning oneself to escape from the heat              |                        |                        |                         |                         |
| 14. Getting your mouth washed out with soap for swearing |                        |                        |                         |                         |
| 15. Losing your driver's license after getting a DUI.    |                        |                        |                         |                         |

## Schedules of Reinforcement

In the real world, reinforcement doesn't happen every time we perform an action. Sometimes we are reinforced at a *fixed* number of times, like being reinforced every time or every five times we perform an action. This schedule is called a *fixed ratio schedule*. Sometimes we are reinforced a variable number of times, like being reinforced the first time, then the third time, and then the seventh time - an unpredictable number of times. This is called a *variable ratio schedule*.

In summary, it looks like this:

**Fixed-Ratio** is when we are reinforced a fixed number of times

**Variable-Ratio** is when we are reinforced a random number of times

# Schedules of Reinforcement Continued

Sometimes we are reinforced over a fixed amount of time, like every five minutes. This is called a *fixed interval schedule*. Other times, we are reinforced after some period of time, but the amount of time after that varies. This is called variable-Interval.

In summary, it looks like this:

**Fixed-Interval** is when we are reinforced over a fixed amount of time.

**Variable-Interval** is when we are reinforced over variable periods of time

**Directions:** In the following examples, write either fixed or variable in the first column and write either ratio or interval in the second column.

| <i>Example</i>   | <i>Fixed or Variable</i> | <i>Ratio or Interval</i> |
|--|--------------------------|--------------------------|
| 1. Waiting for a taxi cab on Main Street   |                          |                          |
| 2. Getting a snack after reading every 30 pages  |                          |                          |
| 3. Checking the oven to see if cookies are done, when cooking time is known                                      |                          |                          |
| 4. A hotel maid takes a 15-minute break after cleaning 10 rooms  |                          |                          |
| 5. Checking the clock as the end of class nears  |                          |                          |
| 6. Buying lottery tickets  |                          |                          |
| 7. Professional basketball player signs contract whereby his salary increases are renegotiated every three years |                          |                          |
| 8. Supervisor who praises her workers on irregular intervals   |                          |                          |
| 9. Random drug testing; worker refrains from taking drugs  |                          |                          |
| 10. Slot machines at a gambling casino   |                          |                          |
| 11. Checking oven to see if cookies are done, when cooking time is known   |                          |                          |
| 12. Checking cell phone for any new notifications when phone is on silent  |                          |                          |
| 13. Being paid by the job (like mowing lawns) rather than being paid by the hour                                 |                          |                          |
| 14. Doing 20 pushups to stay in shape  |                          |                          |
| 15. Checking oven to see if your chocolate chip cookies are done, even when cooking time is known                |                          |                          |

## Identify the schedule of reinforcement in use.

CR = Continuous Reinforcement

VR = Variable Ratio

VI = Variable Interval

FR = Fixed Ratio

FI = Fixed Interval

- \_\_\_ 1. Maria is paid on a commission basis for selling Macs at the Apple Store. She gets a bonus for every third sale.
- \_\_\_ 2. Jose's parents let him earn some extra money doing yard work about once a week.
- \_\_\_ 3. Michael is fishing. Think of each time that he casts her line as the response that may be rewarded.
- \_\_\_ 4. Hugo, who is in the forth grade, gets a gold star from his teacher for every book he reads.
- \_\_\_ 5. Eloy, a professional football player, signed an agreement that his salary increases will be renegotiated every third year.

**\*\*Bonus Question** When will Eloy work the hardest?