

Operant Conditioning Terminology

- **Reinforcements** are outcomes that strengthen the probability of a response
- **Positive reinforcement** involves giving a stimulus
- **Negative reinforcement** involves taking away a stimulus

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Operant Conditioning Terminology

- **Punishment** is any outcome that weakens the probability of a response
- Like reinforcement, can be positive or negative
 - **Positive reinforcement** involves giving a stimulus
 - **Negative reinforcement** involves taking away a stimulus
- Disciplinary actions are punishments *only* if they decrease the chance of the behavior happening again

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	PROCEDURE	EFFECT	EXAMPLE
Positive Reinforcement	Presenting a stimulus	Increases target behavior	Gold star on homework makes student feel special
Negative Reinforcement	Removing a stimulus	Increases target behavior	Static on phone that subsides when you move to a different spot
Positive Punishment	Presenting a stimulus	Decreases target behavior	Scolding a dog to stop chewing on shoes
Negative Punishment	Removing a stimulus	Decreases target behavior	Taking away a toy to stop a child from throwing a tantrum

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Label Instances as PR, NR, PP, or NP

- A boy keeps making noise in the back of a classroom despite a teacher’s repeated warnings. The teacher finally sends him to the principal’s office. Then he returns two hours later, he’s much quieter.

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Label Instances as PR, NR, PP, or NP

- A woman with diabetes works hard to control her blood sugar through diet and exercise. As a result, her doctor allows her to discontinue administering her unpleasant daily insulin shot, which increases her attempts to eat healthily and exercise.

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Label Instances as PR, NR, PP, or NP

- A parole board releases a previously aggressive criminal from prison early for being a “good guy”. Following his release, he continues to behave in a law-abiding manner.

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Label Instances as PR, NR, PP, or NP

- A woman yells at her roommate for leaving dirty clothing scattered all around her apartment. Her roommate apologizes and never makes a mess again.

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Does Punishment Work?

- Does punishment work in the long-run?
 - Not as well as reinforcement, say many. Reinforcement alone could shape human behavior better.
- Punishment has several disadvantages
 - Tells what *not* to do, not what to do.
 - Creates anxiety, which may interfere future learning.
 - Encourages subversive behavior
 - Punishment may provide model for aggressive behavior

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Operant Conditioning Terminology

- A **discriminative stimulus** signals the presence of reinforcement
- Acquisition, extinction, spontaneous recovery, stimulus generalization, and stimulus discrimination all apply in OC

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Give examples with CC and OC Procedures

TABLE 4.3 Definition Revisited of Key Concepts in Both Classical and Operant Conditioning

TERM	DEFINITION
Acquisition	Learning phase during which a response is established
Extinction	Gradual reduction and eventual elimination of the response after a stimulus is presented repeatedly
Spontaneous Recovery	Sudden reemergence of an extinguished response after a delay
Stimulus Generalization	Displaying response to stimuli similar to but not identical to the original stimulus
Stimulus Discrimination	Displaying a less pronounced response to stimuli that differ from the original stimulus

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Schedules of Reinforcement

- Refers to the pattern of delivering reinforcers
- Simplest is **continuous reinforcement**
 - Reinforce every instance of behavior
- **Partial reinforcement** occurs when we reinforce responses only some of the time
 - More resistant to extinction

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Schedules of Reinforcement

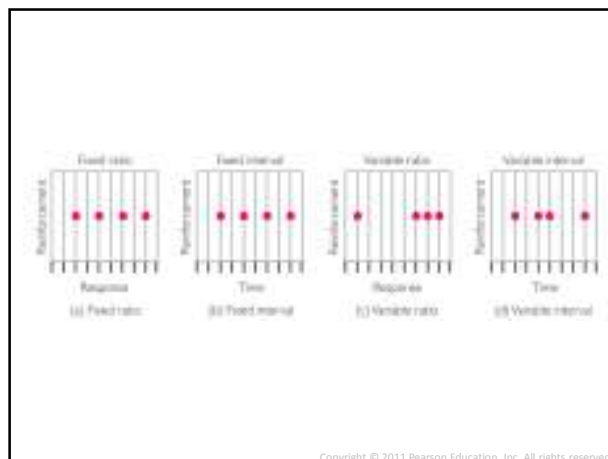
- Vary along two dimensions
- Consistency of administering reinforcement
 - Fixed or variable
- The basis of administering reinforcement
 - Ratio or interval

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Schedules of Reinforcement

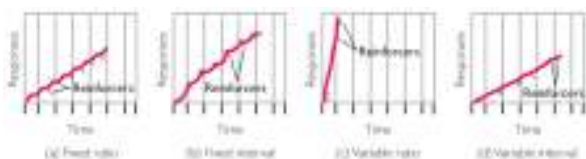
- **Fixed Ratio** - after regular number of responses
- **Variable Ratio** - after specific number of responses, on average
- **Fixed Interval** - after specific amount of time
- **Variable Interval** - after an average time interval

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Each schedule yields distinctive response patterns



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Applications of OC

- Animal training using **shaping by successive approximations**
 - Reinforce behaviors that aren't exactly the target behavior but that are progressively closer versions to it.
- **Chaining**
 - Linking a number of interrelated behaviors to form long series



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Applications of OC

- Using *token economies* in clinical settings to shape desired behaviors
 - **Primary reinforcers:** Things increase the target behavior
 - **Secondary reinforcers:** Neutral objects that become associated with primary reinforcers.

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Superstitious Behavior

- Never opening an umbrella indoors
- Not walking under a ladder
- Crossing street whenever you see a black cat
- Carrying a lucky necklace
- Knocking on wood
- Crossing you fingers
- Avoiding number 13
- What else?

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How superstitious behavior might be acquired

- Skinner (1948)
 - 8 food-deprived pigeons in a Skinner box
 - Reinforced pigeons in every 15 sec. independent of their behavior
 - Birds received reinforcement regardless of what they did
 - Some pigeons acquired strange behavior
 - Turning counterclockwise
 - Turning head backwards
 - There is no actual association between superstitious behavior and reinforcement
- Not all human superstitious behavior is acquired with OC

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Skinner and Radical Behaviorism

- Radical behaviorism states that learning is nothing but conditioning
 - Psychology studies how does environment shapes behavior
- Early behaviorists did not believe that *thinking* played much of a role in learning
- Thought that thinking and emotions *are* behaviors, just covert ones
- Today, psychologists acknowledge role for cognitions

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