

## Increasing a Behavior Through Use of Positive Reinforcement

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| R → S   | Outcome of Conditioning   |  |
|---|---|--|
|   | Behavior Strengthened<br>(more likely to occur again)                               | Behavior Weakened<br>(less likely to occur again)  |
| Added to a Situation After a Response<br>(+)        | Positive Reinforcement;<br>Reward;<br>(Getting something desirable)                 | Type I Punishment;<br>Positive Punishment;<br>Castigation;<br>Presentation Punishment;<br>(Getting something aversive/undesirable) |
| Taken Away From a Situation After a Response<br>(-) | Negative Reinforcement;<br>Relief;<br>(Removal of something aversive / undesirable) | Type II Punishment;<br>Negative Punishment;<br>Removal Punishment;<br>Penalty;<br>Response Cost;<br>(Loss of something desirable)  |

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### Review of Terms

**Reinforcer:** A stimulus that causes reinforcement. A stimulus which increases the probability that a response will occur.

**Reinforcement:** The effect of the stimulus.

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## Review of Terms

**Primary reinforcer:** Something that is naturally reinforcing and satisfies a natural drive, e.g. food, drink, sex.

**Generalized reinforcer:** Stimuli that are not reinforcing in themselves, in that they satisfy no natural drive on their own, but they are so often paired with primary reinforcers that they become reinforcing themselves, e.g. money, praise, prestige.

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## Review of Terms

**Positive reinforcer:** A stimulus that when added to a situation, increases the likelihood that a response will occur.

**Positive reinforcement:** reward

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## Review of Terms

**Negative reinforcer:** A stimulus, that when removed from a situation, increases the likelihood that a response will occur, relief.

**Negative reinforcement:** relief

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*Effective Use of Positive Reinforcement:*

1. Be specific in selecting the behavior to be increased. To be reinforced, it obviously must be a behavior that already occurs at least occasionally.

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*Effective Use of Positive Reinforcement:*

2. Choose the reinforcer. Use reinforcer surveys and reinforcer menus if needed to choose the appropriate reinforcer.

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*Effective Use of Positive Reinforcement:*

Reinforcers can fall into one of the following general categories or types:

- consumable* -- something that you can eat or drink
- activity* -- something special or enjoyable to do
- manipulative* -- something you can play with or use temporarily
- possessional* -- something you can possess, own or keep
- social* -- social attention, praise, hugs, smiles

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**Choosing reinforcers using the Premack principle:**

The opportunity to engage in a behavior that has a high probability of occurring can be used to reinforce a behavior that has a lower probability of occurring.

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**Choosing reinforcers using the Premack principle:**

Example 1: If a rat is deprived of food, there is a high probability that if given the chance, he will eat. Therefore, the opportunity to eat can be used to reinforce a behavior with a lower probability of occurring. If the rat is not hungry, the probability of it eating is lower, and therefore the reinforcing value of the opportunity to eat is diminished.

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**Choosing reinforcers using the Premack principle:**

Example 2: (Author's example). A depressed youth was asked to imagine a positive thought (low probability behavior) as prompted on an index card just before each instance of urination (high probability behavior).

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**Choosing reinforcers using the Premack principle:**

Example 2: After a few days, the youth spontaneously thought the positive thought without the prompt each time he urinated. After two weeks, this was occurring at a high rate, and the depressing thoughts had disappeared.

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**Choosing reinforcers using *Reinforcer Sampling:***

Allow the person to experience small samples of a variety of potential reinforcers noncontingently, i.e. without having to perform a specific behavior first and observe what they like.

Real life examples: bakery giving away free samples

Music store allowing you to listen to tracks from CD before buying it.

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***Effective Use of Positive Reinforcement:***

- 3. Motivating Operations (MOs) -- use deprivation or satiation to temporarily alter the effectiveness of the reinforcer. If you are going to use food as a reinforcer, the individuals should be deprived of food for a time first.

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*Effective Use of Positive Reinforcement:*

Motivating Operations are variables which can be either unconditioned and conditioned.

- UMOs -- predetermined without prior learning (e.g. food deprivation increases the effectiveness of food as a reinforcer)
- CMOs -- things that motivate behavior because of prior learning; they are previously neutral stimuli that acquire value as reinforcers thru previous pairings with other reinforcers).

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*Effective Use of Positive Reinforcement:*

Motivating Operations can also be *Establishing Operations* or *Abolishing Operations*

For example:

*Deprivation* can establish food as a reinforcer.

*Satiation* can abolish food as a reinforcer.

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*Effective Use of Positive Reinforcement:*

4. Immediacy. For maximum effectiveness, a reinforcer should be given immediately after the desired response.

A reinforcer is not likely to have much direct effect on a behavior that precedes it more than 30 seconds with animals. The effects are analogous for humans.

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Reinforcers have both *direct-acting effects* and *indirect-acting effects*.

*Direct-acting effect* is the increased response of a behavior because of the immediate reinforcing consequences (within the 30 seconds).

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Reinforcers have both *direct-acting effects* and *indirect-acting effects*.

The *indirect-acting effect* is the strengthening of a response that is followed by a reinforcer, even though the reinforcer is delayed. This may include self-statements or thoughts about the reinforcer.

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Reinforcers have both *direct-acting effects* and *indirect-acting effects*.

The *indirect-acting effect* Example:  
Even though you know pay day is not until next week, the thought that you are going to get paid is enough to maintain your work behavior from moment to moment. The thoughts about how you will spend your paycheck, etc. are immediately reinforcing, even though the reinforcer of the paycheck itself may be a week away.

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Reinforcers have both *direct-acting effects* and *indirect-acting effects*.

Because of the indirect-acting effects of reinforcement, it is important to provide instructions and explanations concerning the delay of reinforcement.

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*Effective Use of Positive Reinforcement:*

5. Make use of instructions and rules.

- Specific instructions speed up the learning process for individuals who understand them, but they are not necessary for learning (e.g. rats can learn without them).
- Instructions may influence an individual to work for delayed reinforcement.

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*Effective Use of Positive Reinforcement:*

6. Specify contingencies.

*Contingent reinforcer* - a specified behavior must occur before a reinforcer will be presented

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*Effective Use of Positive Reinforcement:*

6. Specify contingencies.

*Noncontingent reinforcer* - a reinforcer is presented as a particular time, regardless of what behavior occurred just prior to it.

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*Effective Use of Positive Reinforcement:*

*Noncontingent reinforcer* Example:

ending the class period with a enjoyable period of free time may make for a pleasant environment, which might improve the learning of students in that environment, but in order for specific behaviors to improve, reinforcers must be contingent on the behaviors.

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*Effective Use of Positive Reinforcement:*

7. Wean the student from the reinforcement program and change to natural reinforcers.

*Natural reinforcers* are unprogrammed reinforcers that occur in the normal course of living in the natural environment.

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*Effective Use of Positive Reinforcement:*

Example: You have used a reinforcement program to increase the frequency of socially desirable behavior in a child. Gradually, you will want to wean the child off of the program and hope that things such as the approval of his peers will maintain his socially desirable behavior.

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*Pitfalls of Positive Reinforcement:*

In summary, be sure you know specifically the reinforcement contingencies, otherwise you may reinforce an undesirable behavior.

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**Summary: Effective Application of Positive Reinforcement:**

1. Specifically select the desired behavior.
2. Select the reinforcer:  
Use surveys and menus if needed. Choose a reinforcer that is readily available, can be immediately presented, can be used over and over without rapid satiation, and do not require a lot of time to consume.

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**Summary: Effective  
Application of Positive  
Reinforcement:**

3. Apply the positive reinforcement, making use of rules.

Apply the reinforcer immediately and describe the desired behavior to the individual while the reinforcer is being given. Increase its effectiveness through combining it with praise, social attention and approval and physical contact if appropriate.

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**Summary: Effective  
Application of Positive  
Reinforcement:**

4. Wean the student from the program once the behavior has been occurring at a desirable rate.

Look for natural and social reinforcers to maintain the behavior.

Periodically reassess to ensure that the behavior is being reinforced occasionally and the frequency is maintained.

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