Operant Conditioning

A type of learning in which behavior is influenced by the consequences (reinforcements or punishments) that follow it (page 210).

- **Reinforcements:** a response is strengthened by outcomes that follow it. The outcome that increases the frequency or likelihood of a response is called a reinforcer. Behaviors that are reinforced are more likely to be repeated.

- **Punishments:** a response is weakened by outcomes that follow it. The outcome that decrease the frequency or likelihood of a response is called a punishment. Behaviors that are punished are more likely to be reduced.

Reinforcements and punishments are defined by the effect they produce. Money is not a reinforcement if it doesn’t increase behavior. Spankings are not punishments if they don’t modify behavior (in some cases they are reinforcements because they increase the likelihood of behavior).
Differences Between Classical and Operant Conditioning (page 211)

• In classical conditioning, the organism learns an association between two stimuli—the CS and UCS (e.g. food and tone)—that occurs before the behavior (e.g. salivation).

In operant conditioning, the organism learns an association between behavior and its consequences. Behavior changes because of events that occur after it.

• Classical conditioning focuses on elicited behaviors (involuntary behavior): The conditioned response is triggered involuntary, almost like a reflex, by a stimulus that precedes it.

Operant conditioning focuses on emitted behaviors: In a given situation, the organism generates response (e.g., pressing a lever) that are under its physical control.

Also realize that, although classical and operant conditioning are different processes, many learning situations involve both.
## Descriptions of Reinforcement and Punishment

**Reinforcements:** A response is strengthened by outcomes that follow it. The outcome that increases the frequency or likelihood of a response is called a reinforcer. Behaviors that are reinforced are more likely to be repeated.

**Punishments:** A response is weakened by outcomes that follow it. The outcome that decrease the frequency or likelihood of a response is called a punishment. Behaviors that are punished are more likely to be reduced.

<table>
<thead>
<tr>
<th>STIMULUS is</th>
<th>BEHAVIOR that Increases</th>
<th>BEHAVIOR that Decreases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addition (+)</td>
<td>Positive reinforcement occurs when a response is strengthened by the subsequent presentation of a stimulus</td>
<td>Positive punishment (aversive punishment): A response is weakened by the subsequent presentation of a (aversive) stimulus.</td>
</tr>
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<td></td>
<td>Examples: Aggressive behavior gets you results, or dog biscuits for doing a trick.</td>
<td>Examples: Spanking a dog for getting into the garbage, scolding a coworker for making a mistake, touching a hot stove</td>
</tr>
<tr>
<td>Removed (-)</td>
<td>Negative reinforcement: A response is strengthened by the subsequent removal (or avoidance) of an (unpleasant) stimulus.</td>
<td>Negative punishment (punishment by removal): A response is weakened by the subsequent removal of a stimulus.</td>
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<td></td>
<td>Example: Smoking to relieve anxiety. Skipping class to avoid a bully.</td>
<td>Examples: Time-out, or the loss of privileges (driver’s license, video game, etc.) for misbehaving.</td>
</tr>
</tbody>
</table>
Identify the following as being:
(a) positively reinforced
(b) negatively reinforced
(c) positive punished (aversive punishment)
(d) negative punished (punishment by removal)

Ask yourself three questions:
(1) What is the key behavior to be modified?
(2) Is the likelihood the behavior is going to increase or decrease (this defines it as a reinforcement or punishment)?
(3) Does the consequence apply or remove/avoid (this defines it as either positive or negative)?

If you are a visual learner…

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What is the behavior to be modified?

What is the consequence?
Will the consequence increase or decrease the behavior?

<table>
<thead>
<tr>
<th>Increase / reinforcement</th>
<th>Decrease / punishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you applying a something “good”?</td>
<td>Are you removing something “bad”?</td>
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<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Are you applying a something “bad”?</td>
<td>Are you removing something “good”?</td>
</tr>
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<td>+</td>
<td>-</td>
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</tbody>
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To identify what type of reinforcement or punishment it is, you should break it down into sub-problems.

**Examples:**
- A teacher praises the student for turning their homework on time.
- A teacher stops criticizing the student for their late work when he turns their homework in on time.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Consequence</th>
<th>Future Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student turns in their homework on time.</td>
<td>The teacher praises the student</td>
<td>The student increasingly turns in homework on time</td>
</tr>
<tr>
<td>Student turns in homework on time</td>
<td>The teacher stops criticizing the student</td>
<td>The student increases turns in homework on time</td>
</tr>
<tr>
<td>The teacher verbally reprimands a student for interrupting the teacher.</td>
<td>The teacher takes away recess privileges</td>
<td>The student stops interrupting the teacher.</td>
</tr>
</tbody>
</table>

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<tr>
<th>Behavior</th>
<th>Consequence</th>
<th>Future Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student interrupts the teacher</td>
<td>The teacher stops interrupting the teacher</td>
<td></td>
</tr>
<tr>
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<td>The student stops interrupting the teacher.</td>
<td></td>
</tr>
</tbody>
</table>
Examples of Negative Reinforcement

Negative reinforcement: A situation in which a response is followed by the removal, avoidance, or escape of a punishing stimulus, that increases the likelihood that the response will be repeated in similar situations.

1. Jane stops telling her husband how she feels to avoid getting yelled at by him.
2. Smoking to relieve anxiety.
3. Smoking helps a person avoid the withdrawal symptoms of nicotine.
4. Using caller ID or the answering machine to answer the phone and avoid telemarketers.
5. Giving into your dog that barks at the dinner table until fed.
6. Small doses of alcohol can initially make people feel good, relaxed and sociable. When alcohol is eliminated from the body, these feelings can be replaced with drowsiness. To avoid these withdrawal effects, people may be motivated to drink more to maintain this initial pleasant buzz.
7. Giving into an argument.
8. Saying "uncle" to stop being beaten.
9. Following prison rules to be released from confinement.
10. Feigning a stomachache to avoid school.
11. Skipping class because you don’t like it.
12. Putting on a seatbelt to stop an irritating buzz.
13. Turning down the volume of a very loud radio.
14. I never call home to talk to my parents because mother always seems to have something bad to say to me.
15. Avoiding spiders or snakes because you don’t like them.
Other examples
• Hurrying home in the winter to get out of the cold.
• Fanning yourself off to escape the heat.
• Leaving a movie theater if the movie is bad.
• Putting up an umbrella to escape the rain.
• Taking aspirin to relieve a headache.
Problems with Punishment by Application

A common error in logic called false dilemma would be the belief that if you don’t spank a child, you let your children have their own way all the time. You can still set limits, have structure and discipline the family (page 215).

The well-known behaviorist B.F. Skinner was strongly opposed to the use of punishments because of several drawbacks.

• Punishments do not promote appropriate or desired behavior to take the place of inappropriate behavior.
• Punishments can make the person who has been punished feel anxious, fearful, resentful and angry.
• The effects of punishments on behavior tend to be temporary.

In addition to these problems, punishments have other problems and dangers associated with them (see Beneath the Surface: Spare the Rod, Spoil the Child?, page 214). To effectively use punishments:

• they need to immediately follow the response and,
• they need to be applied consistently.
Examples:
- Getting a ticket for speeding.
- Getting yelled at for carrying a microscope with one hand.

What are examples where punishments may not be effective?

Despite the problems with punishments, parents, employers, leaders, nations, etc. frequently use punishments.
- Why do you think so?
- What are specific issues where punishments are used, and the specific problems that are created?
- What are the alternatives?

What are examples where punishments are being used by parents, employers, leaders, nations, etc. to shape behavior and appear to be ineffective and/or has some of the drawbacks of the use of punishments?

For example:
- The IRS use punishments and penalties for filing your taxes late. I think that this helps foster a negative image of the IRS and they should reinforce people for paying their taxes early.
- Although it is debatable, U.S. economic sanctions rarely shapes the behavior of other nations. It creates negative feelings towards the U.S. and has unintended consequences of hurting the civilians and not the government of those nations.
Using Operant Conditioning to Explain “Real-Life” Events

- Nations that did not support the United States invasion of Iraq in 2003 are excluded from bidding on lucrative contracts in rebuilding Iraq (France, Russia, Germany, Canada)
- The U.S. cut off military aid to 35 friendly countries in retaliation for their support of the International Criminal Court (ICC) and refusal to exempt U.S. soldiers from the ICC’s jurisdiction.
- Will small fines (caps on punitive damages) deter large corporations (e.g., Microsoft, Phillip Morris, G.E./Westinghouse/NBC, Bristol-Myer) from breaking the law?
- Will small fines (caps on punitive damages) deter small businesses from breaking the law?
- During the Seattle WTO protest, why did the media show cover the anarchists who broke windows and not the reason for the protest? Why will the media do this in the future? What effect does this have on “the public mind”?
- When a woman tells an abusive partner “what she really thinks”, and the abusive partner (usually a man) yells at her for this behavior, what will occur in the future?
  - How can you make this into an example of classical conditioning?
- Why do politicians, friends, coworkers, significant others tell us what we want to hear?
• What happens when we tell people what they want to hear?
  • Do we tend to reinforce their behavior?
  • Do we tend to punish their behavior?
  • What are the effects on society?

True words are not beautiful
Beautiful words are not true

What kind of society is created when we reinforce people for telling us what we want to hear?
And punish people for telling us what we don’t want to hear?

How do reinforcements and punishments affect our perception of social issues and “the public mind”? 
  • Political debates: People do not watch debates that have substance, but those that have “conflict” (mudslinging, attacks, drama, etc.), hence, debates with substance become less likely, and those with less substance get reinforced.
  • Political debates: People say they want political debates to be filled with substance. However, many people say that they are “boring” and don’t attract ratings. This doesn’t reinforce the networks, and won’t continue to air political debates that try to get at the issues.
  • Political coverage: Who will be more critical of President George W. Bush or former President Bill Clinton: Reporters on the Washington beat, or those who aren’t? Why?
• **Political advertisements:** Political advertisements have very little substance and appeals to the emotions (via conditioning), rather than the rational, thoughtful part of the mind because they are more effective in influencing our behavior. Since they work (reinforced), politicians and their strategists will use them. Until we stop being influenced by them, politicians will use them less.

• **Product advertisements:** Ads for products are now oriented at the images they create and emotions they evoke. It works (reinforcement). Most of the people who wear athletic shoes are not athlete, but we create an image and social environment that makes it more acceptable (CC).

• **We tend to reinforce people** (with promotions, status, etc.) for telling us what we want to hear. If a person tells us we can increase quarterly profits by “shifting the books” and “creating shell companies”, we set up an environment that increases the likelihood people will do this and manipulate numbers.
Alternative Strategies to Positive Punishment

1. Reinforce an incompatible behavior.
   • Reinforce an alternative behavior that is both constructive and incompatible with the problem behavior. For example, reinforce people for coming to class instead of skipping. Reinforce sharing, not selfishness. Reinforce wearing a seatbelt, not when a driver isn’t wearing the seatbelt.
   • The procedure works best when it is used very consistently and when potent positive reinforcers are used.

2. Stop reinforcing the problem behavior to begin the process of extinguishing the problem behavior.
   • It is important that when the extinction process is initiated, the problem often temporarily increases. Expect this.
   • Once you begin, it is critical to be consistent in not reinforcing the problem behavior.

3. Reinforce the nonoccurrence of the problem behavior.
   • This strategy requires close monitoring of the individual to ensure that a positive reinforcer is delivered only after the behavior has not occurred. For example, reinforce sales clerks for checking identification when people buy alcohol and cigarettes, instead of punishing them when they don’t.

4. Remove the opportunity to obtain positive reinforcement (eg. negative punishments).
• The reinforcers might be difficult to identify and eliminate.
Enhancing the Effectiveness of Positive Reinforcements

- Remember: positively reinforce the behaviors you want to increase.
- Make sure that the reinforcer is strongly reinforcing the individual whose behavior you are trying to modify.
- The positive reinforcement should be delivered immediately after the preferred behavior occurs.
- The positive reinforcer should initially be given every time the preferred behavior occurs. Once the behavior is well established, gradually reduce the frequency of reinforcement.
- Use a variety of positive reinforcements.
- Capitalize on the Premack principle—desired activities are allowed provided the less desired behavior is completed (you must eat your spinach before you can have dessert, or you must take a bath before you can play your game).
- Encourage the individual to engage in self-reinforcement in the form of pride, sense of accomplishment and feelings of self-control. Remember, reinforcements affect behaviors, not attitudes. When behavior is engaged in for a specific reason (a reinforcer or punishment), attribution for the behavior is external, not internal. (See the overjustification effect).