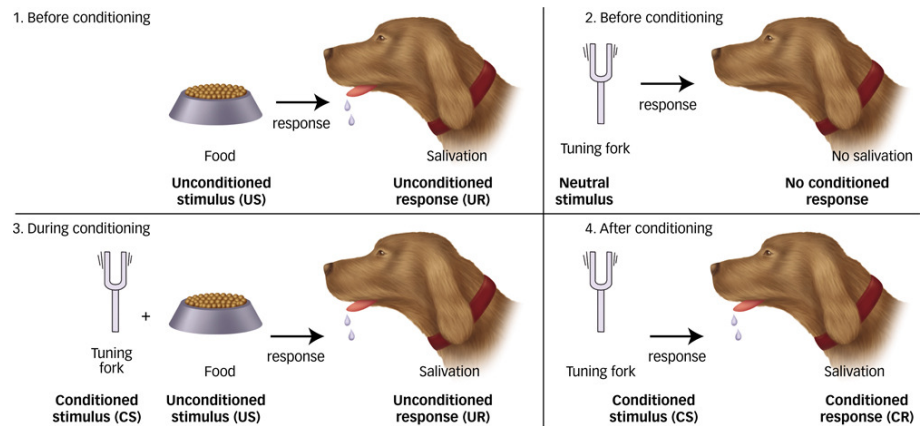


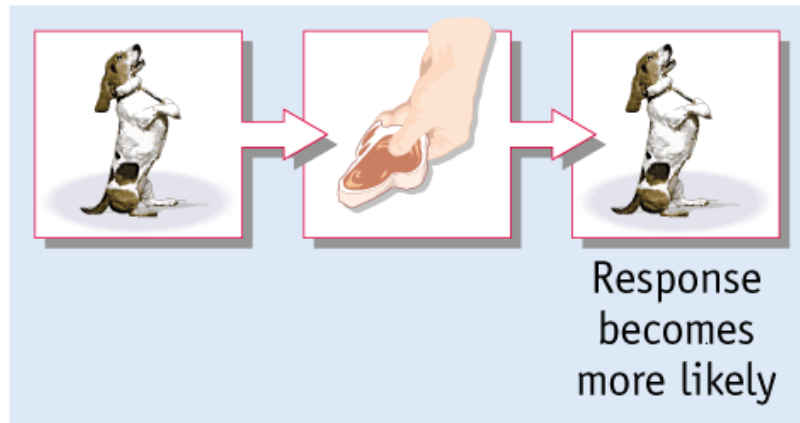
Learning

Most general psychology textbooks describe three types of learning.

Classical Conditioning



Operant Conditioning



Observational Learning (or vicarious learning)



Observational Learning (or vicarious learning)

Learning that takes place by watching the actions of others.



Observational Learning

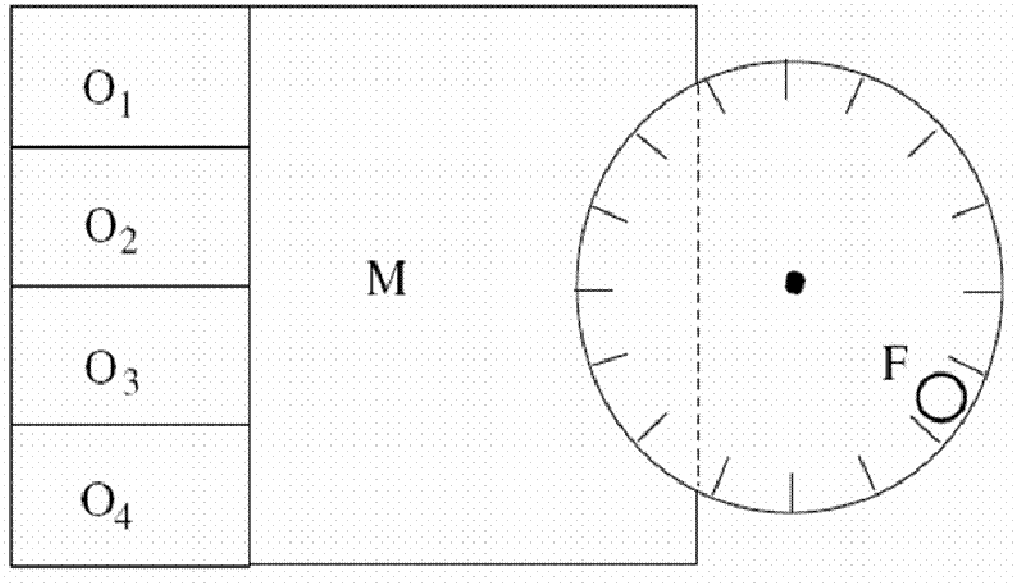


Figure 9-1 View from above the Herbert and Harsh apparatus with the turntable problem installed. Observers sat in chambers at O_1 , O_2 , O_3 , and O_4 and watched as a model, at M , worked on the problem of getting the food at F . (After Herbert and Harsh, 1944.)

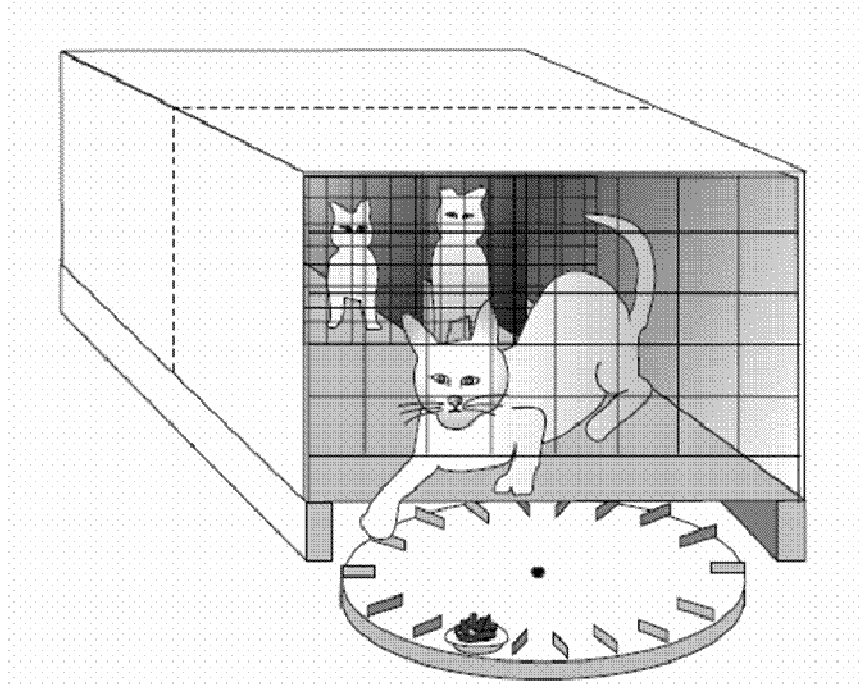


Figure 9-2 Miss White working at the turntable problem. (After Herbert and Harsh, 1944.)

Observational Learning

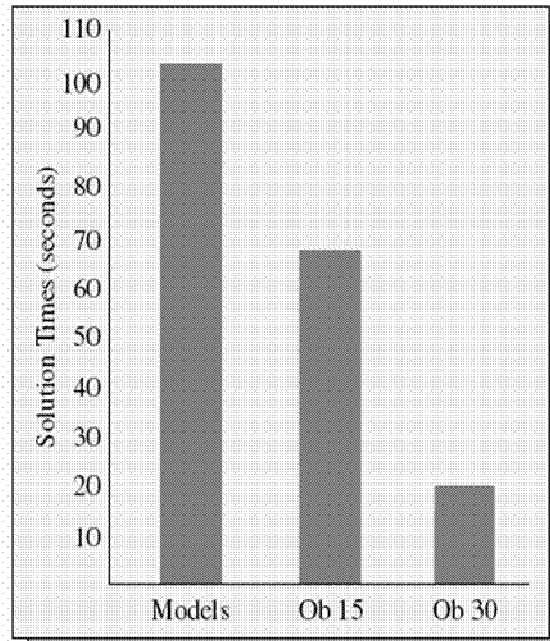
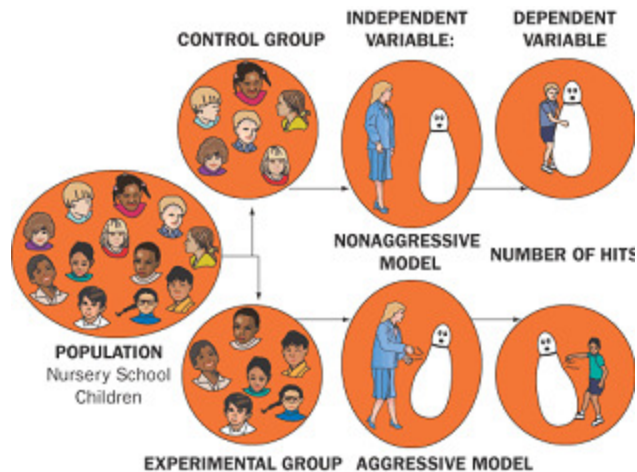


Figure 9-3 Number of observed reinforcements. Average solution times on first trial of four problems by models and observers. Observers watched models perform on 15 or 30 trials. Data from one problem, failed by four observers, are not included. (Compiled from data in Herbert and Harsh, 1944.)

Observational learning

Many behaviors are not learned through classical conditioning or operant conditioning. Learning that occurs through observing the actions of others.

Albert Bandura wanted to illustrate that people learn by watching others and that expectations are relevant for performing a behavior. In his experiment, he had three different groups of children watch an adult aggressive play with a Bobo doll.



<u>Group 1:</u>	<u>Behavior</u> Adults hit the Bobo doll	<u>Consequence</u> The adults were <u>reinforced</u> for their aggressive behavior
<u>Group 2:</u>	Adults hit the Bobo doll	The adults were <u>punished</u> for their aggressive behavior
<u>Group 3:</u>	Adults hit the Bobo doll	There were <u>no consequences</u> for aggressive behavior.

Observational Learning

After watching the adult interact with the Bobo doll, the children were allowed to play with the Bobo doll.



Group 1: Behavior
Adults hit the Bobo doll

Consequence
The adults were reinforced for their aggressive behavior

Group 2: Adults hit the Bobo doll

The adults were punished for their aggressive behavior

Group 3: Adults hit the Bobo doll

There were no consequences for aggressive behavior.

- Did all of the children imitate the adults and display aggressive behavior?
- Did all of the children learn the aggressive behavior?
- Why would a behaviorist (Watson and Skinner) make a different prediction of whether the child would learn aggressive behavior?

Examples of observational learning

Newton is very aggressive and greedy when it comes to food. Another one of our dogs, Tuffy is a very good and obedient dog (of course he is mine). My sister taught Tuffy to give us a hug. He understood this as a gesture of love and friendship (if the word applies to dogs). One day, Newton saw Tuffy give a hug and received a treat. Newton quickly learned this trick because food was involved. However, it was unclear that he learned that that this was a gesture of love and friendship. Newton imitated the behavior, but didn't understand the reasons for this behavior.



Likewise, Kris's German shepherd (Xena, Warrior Princess) learned how to open doors by moving her paws up and down next to the doorknob. I joke that we need to quarantine his dog or else she will teach other dogs how to open doors by watching her.

Variables that Affect Observational Learning

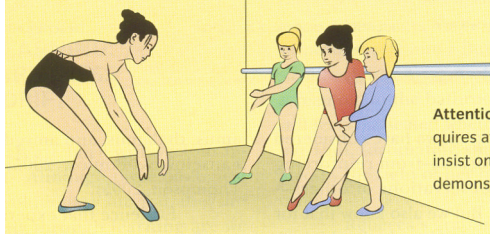
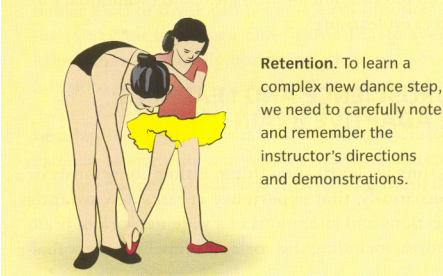
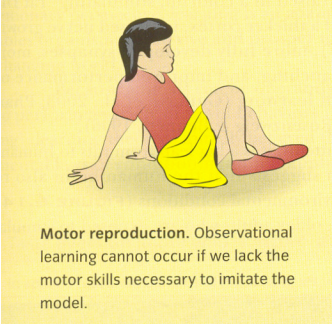
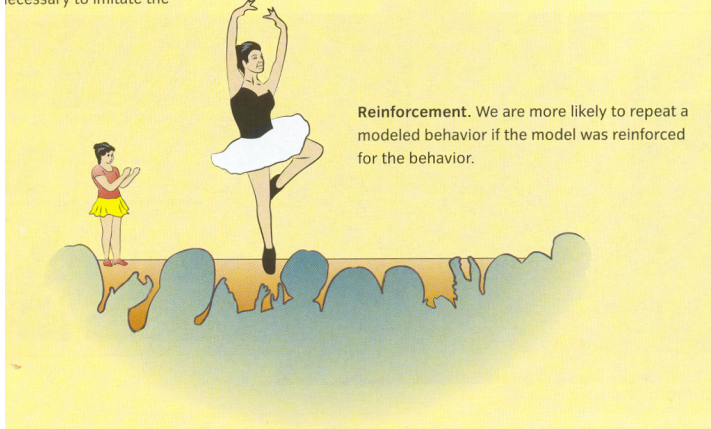
If you observe your parents, friends or coworker lie, what factors influence whether or not you are going to imitate their behavior?

Variables Affecting Observational Learning

1. Difficulty of the task (easy versus hard)
 2. Skill of the model (skilled versus unskilled)
 3. Characteristics of the model (attractive, likeable, prestige, status, age, sex)
 4. Characteristics of the observer (species and age) (those who are younger are more likely to imitate others than those who are older)
 5. Consequences of the observed behavior (were the models reinforced or punished for their behavior)
 6. Consequences of the observer's behavior
 7. Observer's learning history (were you reinforced or punished for imitation)
-

Cognitive Processes that Influence Imitation

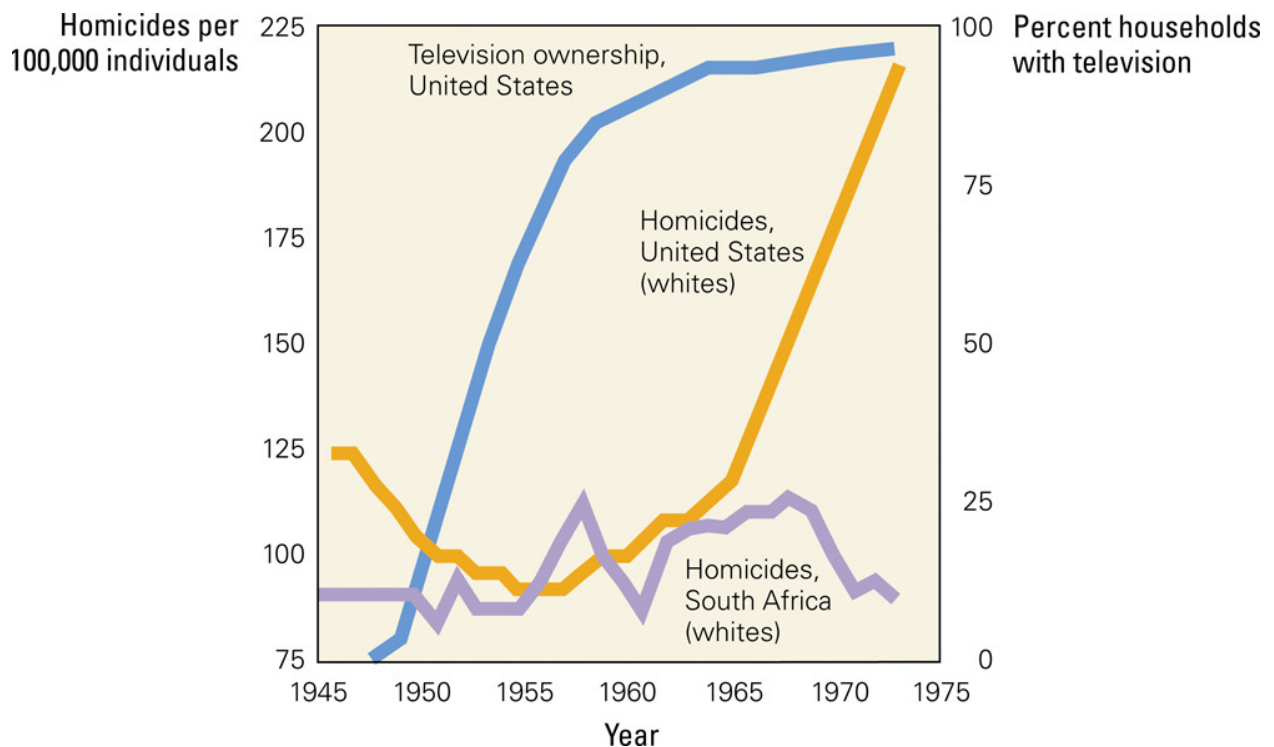
Four cognitive processes interact to determine whether imitation of behavior will occur:

 <p>Attention. Observational learning requires attention. This is why teachers insist on having students watch their demonstrations.</p>	<ul style="list-style-type: none">• <u>Paying attention</u> to another's behavior.
 <p>Retention. To learn a complex new dance step, we need to carefully note and remember the instructor's directions and demonstrations.</p>	<ul style="list-style-type: none">• <u>Remembering the behavior</u> to be imitated.
 <p>Motor reproduction. Observational learning cannot occur if we lack the motor skills necessary to imitate the model.</p>	<ul style="list-style-type: none">• <u>Transforming the mental representation</u> of the observed behavior into actions you can reproduce. (can't imitate Jackie Chan)
<p>necessary to imitate the</p>  <p>Reinforcement. We are more likely to repeat a modeled behavior if the model was reinforced for the behavior.</p>	<ul style="list-style-type: none">• <u>Motivation</u> to imitate the behavior.

Violent Entertainment and Behavior

Researchers have collected strong evidence that there is an association between violent behavior and increased exposure to violent media (). As the amount of violent TV watched by children in elementary school increases, the likelihood of being aggressive as teenagers and the likelihood of criminal behavior as adults increases. (this does not suggest that everyone who watches violent TV become more violent, but those who watch violent TV are more likely to display violent behavior)

As seen in the [Figure](#), rates of homicides increased soon after television was introduced in the United States.



Although there is much debate about the mechanisms that lead to increased aggression or the role violent TV has on behavior, most psychologists believe that massive amounts of viewing or listening to violence is more likely to do harm than good, whether or not observational learning plays a role ().

Mirror Neurons

Neurons that fire during both performance of an action and during visual observation are called mirror neurons.

When you watch someone tie a shoe and when you tie a shoe, these neurons fire. Mirror neurons are considered important for imitation, perceptual-motor learning and the interpretation of actions.