Zimbardo's Stanford Prison Experiment

Researcher:

Philip Zimbardo (1933–)

Question:

What are the psychological effects of becoming a prisoner or a prison guard?

The Experiment

Zimbardo set up the basement of a building at Stanford University to serve as a prison and recruited college students, randomly assigning some to be "guards" and the others to be "prisoners." At the beginning of the experiment, there were no noticeable differences between the prisoners and the guards. Ultimately, however, the "guards" became gradually more sadistic, devising cruel mental tortures, while the "prisoners" first rebelled then either broke down or succumbed in cowed and mindless obedience. The experiment exacted such a toll on the prisoners that Zimbardo called it off after only six days instead of the two weeks he had planned.

Conclusion:

Individual values and identities can break down under situational pressure where power relationships are inherently unequal. Zimbardo also has said, "Prisons are evil places that demean humanity... They are as bad for the guards as they are for the prisoners."

Famous Psychology Experiments

The Skinner Box

Operant conditioning

Researcher:

B.F. Skinner (1904–1990)

Hypothesis:

Rats can be trained to perform specific behaviors in order to receive a food reward.

The Experiment

Skinner placed the rats into a soundproof glass box containing a bar or a lever that the rat could press down to receive food. This bar or lever was hooked up to an instrument that recorded how many times the rat pressed it. Skinner used a process called "shaping" to teach the rats to press the bar for food. For example, if a rat approached the bar, he might initially give it a pellet of food as a reward for getting close to the bar. Skinner would gradually make the rat get closer to the bar before giving it food. Eventually, the rat learned that it had to press the bar in order to get any food.

Conclusion:

This experiment involved a process known as "operant conditioning." Skinner believed that humans learn behavior through reinforcement, much as rats learn to press a bar when that behavior is reinforced with food.

Famous Psychology Experiments

Milgram and Obedience to Authority

Researcher:

Stanley Milgram (1933–1984)

Hypothesis:

People will respond to commands from an authority figure (a scientist) to do something they might otherwise not do.

The Experiment

Milgram had a man in a white lab coat (the "experimenter") tell subjects they were taking part in a study of the effects of punishment on learning. Participants were assigned to the role of "teacher." Another person, whom the subjects thought was a participant like themselves but was really a confederate, took the role of "learner." The "teacher" sat in a room by a control panel that they were told could administer electric shocks to the "learner." Each time the learner gave a wrong answer, the experimenter instructed the teacher to pull a switch that delivered a shock. The teacher did not know that the shocks were not real and that the learner was an actor. The experimenter instructed the teacher to increase the level of the shock after each successive error by pulling a different switch labeled with a higher voltage.

Conclusion:

Some 80 percent of the "teachers" administered shocks up to the highest level, even after the "learner" began screaming in pain. Milgram's experiment showed that people often follow someone they perceive to be an authority figure—even if doing so goes against their own personal judgments, morals, or standards. The experiment in particular demonstrates how ordinary people can behave cruelly without explicitly malicious intentions.

Famous Psychology Experiments

Asch and Conformity

Researcher:

Solomon Asch (1907–1996)

Hypothesis:

People will hesitate to express their true ideas and opinions when they feel pressured to conform.

The Experiment

One real subject participated with four other individuals who appeared to be subjects but were really in on the experiment. The experimenter presented the group with a drawing showing four lines. One line was the standard line, and the other three were comparison lines. He asked the subjects which of the comparison lines was the same length or height as the standard line. The differences between the lines were rather obvious. The real subject of the experiment would be seated in a location so that he would be asked for his answer after some of the other "participants." The others would, one by one, state the same incorrect answer to the question. By the time the real subject was asked for his answer, he would be much more likely to agree with the others than he would have if he had been asked to analyze the lines on his own.

Conclusion:

Subsequent experiments have found that people are likely to conform to group standards when they feel incompetent or insecure, when the group has at least three people, when everyone in the group agrees on an answer, when the group is perceived to be of high status, or when a person comes from a culture that places high value on respecting group standards.

Famous Psychology Experiments

Pavlov's Dogs

Classical conditioning

Researcher:

Ivan Pavlov (1849–1936)

Hypothesis:

Dogs can be conditioned to salivate when exposed to an external stimulus.

The Experiment

Pavlov placed a dog in a small room and harnessed it so it couldn't move. He then attached a collection device to the dog's mouth to measure how much the dog salivated. He began the experiment by ringing a bell and then immediately placing some food into the dog's mouth. He measured the amount of saliva the dog excreted after each feeding. After repeating this bell-and-feeding sequence several times, Pavlov found that the dog would begin to salivate before it actually received the food.

Conclusion:

The overall process by which the dogs became conditioned to salivate when presented with the external stimuli (the bell, light, etc.) is called classical conditioning. Pavlov's studies have had a significant impact on theories of learning in humans.

Famous Psychology Experiments

Sperry's Split-Brain Experiments

Researcher:

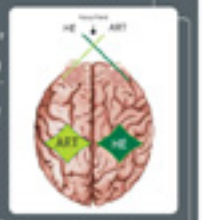
Roger Sperry (1913–1994)

Question:

How do the brain's hemispheres differ from one another?

The Experiment

Sperry and colleague Michael Gazzaniga conducted studies on people who had had their corpus callosum—the bundle of neural fibers that joins the two hemispheres of the brain and flows them to communicate with one another—severed. In one test, these "split-brain" patients were shown the word "HEART" in the middle of a screen. Since information viewed with the left eye goes to the right side of the brain and information viewed with the right eye goes to the left side of the brain, the patients saw "HE" with their left eyes and "ART" with their right eyes. When asked to state what they had seen, the patients would say "ART." When asked to use their left hand to point to what they saw, however, they pointed to "HE."



Conclusion:

The split-brain experiments showed that the brain's hemispheres perform different functions. For example, the left hemisphere tends to be the main area for processing speech, while the right hemisphere is the main area for visual perception.

Famous Psychology Experiments

Harlow's Monkeys

Infant/Parent attachment

Researcher:

Harry Harlow (1905–1981)

Hypothesis:

Baby monkeys will become attached to sources of nurturing, even if these sources do not provide food.

The Experiment

Harlow began to raise monkeys with two individual artificial "mothers": one a wire cylinder with a wooden head and one a wire cylinder wrapped with terry cloth. He attached a bottle to the "mother" without the cloth. Harlow found that the little monkeys greatly preferred the cloth "mother," even though they received their nourishment from the one made of wire. When nervous, they would cling to the cloth mothers, and they used these mothers as the secure base from which they could explore their environment. The monkeys preferred the cloth ones even more when these mothers were made to rock and pat the babies.

Conclusion:

Harlow's study showed the powerful bond of attachment between infants and parents and emphasized the importance of nurturing traits such as warmth and softness, along with the ability to hold and cuddle a baby as well as feed it. Human parents also serve as the secure base from which an infant can begin to explore its environment.

Famous Psychology Experiments