I'm not a robot

Psychological research is fundamentally concerned with understanding human behavior, emotions, and mental processes. A key methodology for advancing psychological knowledge is experimentation. Experimentation allows psychologists to manipulate variables, observe changes, and draw conclusions about cause-and-effect relationships. The role of experiments in psychology is vast, as it not only offers insights into basic psychological processes but also facilitates the development of therapeutic techniques and interventions. This module explores how experiments contribute to the advancement of psychological science, the types of experimental designs, their strengths and limitations, and the impact of experimentation on real-world applications. 1. The Importance of Experimentation in PsychologyPsychology, as a scientific discipline, aims to understand the complexities of human behavior. To achieve this, researchers rely on a variety of research methods, with experimentation being one of the most essential. Experimentation is valuable in psychology because it enables researchers to isolate and manipulate variables, helping to determine causal relationships. Unlike correlational studies, which identify associations, experiments can demonstrate how one variable causes a change in another.In psychological experimentation, the researcher controls certain variables while others are measured to assess changes. This methodological rigor enhances the reliability of findings and contributes to the objectivity of the research process. Furthermore, experiments allow for the replication of studies, which is vital for verifying results and building cumulative knowledge.Key Points:Allows researchers to establish causal relationships.Facilitates the manipulation of variables in a controlled environment.Increases the reliability and objectivity of results.Contributes to the replication and verification of findings. 2. Types of Experimental Designs in PsychologyThere are several types of experimental designs commonly used in psychological research. These designs vary in terms of how the research is structured and how variables are manipulated. Understanding the different designs helps researchers choose the appropriate method for answering specific research questions.2.1. Laboratory ExperimentsLaboratory experiments are conducted in controlled environments where the researcher has the ability to manipulate variables and measure their effects. This design is highly structured, with the researcher controlling as many extraneous variables as possible. The advantage of laboratory experiments is that they allow for a high degree of control, making it easier to establish cause-and-effect relationships.However, the artificial setting of a laboratory can sometimes reduce the ecological validity of the findings. In other words, the behavior observed in a lab setting may not always reflect how individuals would behave in real-world situations.Example: A psychologist may use a laboratory experiment to study how different levels of stress affect cognitive performance by exposing participants to stress-inducing tasks and measuring their ability to complete memory tests.2.2. Field ExperimentsField experiments are conducted in natural settings, such as schools, workplaces, or public spaces. Unlike laboratory experiments, field experiments involve manipulating variables in real-world contexts. While field experiments have higher ecological validity (i.e., the findings are more generalizable to real-life situations), they offer less control over extraneous variables, which may influence the results.Example: A field experiment might involve testing the effects of different teaching methods on student performance in actual classrooms, with researchers manipulating the teaching methods and measuring students academic outcomes.2.3. Quasi-ExperimentsIn some situations, random assignment to experimental groups is not possible or ethical. Quasi-experiments are used in these cases. In a quasi-experiment, researchers still manipulate one or more independent variables, but they do not have full control over the assignment of participants to experimental groups. These studies are useful when investigating real-world phenomena, but they are less able to establish clear cause-and-effect relationships due to the lack of random assignment.Example: A quasi-experiment might investigate the impact of a school intervention on student performance, with researchers studying existing groups of students rather than randomly assigning students to different experimental conditions.Key Points:Laboratory experiments offer control but may lack ecological validity.Field experiments provide real-world context but have less control over variables.Quasi-experiments allow research in natural settings without random assignment. 3. Key Components of Experimental DesignTo conduct valid and reliable experiments, several components must be carefully considered and integrated into the experimental design.3.1. Independent and Dependent VariablesIn an experiment, the independent variable is the one that is manipulated by the researcher, while the dependent variable is the outcome that is measured. The independent variable is hypothesized to cause changes in the dependent variable.Example: In an experiment examining the effects of sleep deprivation on cognitive performance, sleep deprivation is the independent variable, and cognitive performance (e.g., test scores) is the dependent variable.3.2. Control GroupsControl groups are essential in experiments to isolate the effect of the independent variable. The control group does not receive the experimental treatment or manipulation and serves as a baseline for comparison. This allows researchers to see what would have happened in the absence of the independent variable.Example: In a drug trial, one group might receive the actual drug, while the control group receives a placebo. This comparison helps to determine whether the drug itself has an effect or if any observed changes are due to placebo effects.3.3. Random AssignmentRandom assignment ensures that each participant has an equal chance of being placed in any experimental condition. This is crucial for minimizing bias and ensuring that the groups are comparable at the start of the experiment. Random assignment helps enhance the internal validity of the experiment by reducing the risk of confounding variables affecting the results. 4. Ethical Considerations in Experimental PsychologyPsychological experiments often involve human participants, and ethical considerations are paramount to ensure the safety, well-being, and rights of participants. Researchers must follow ethical guidelines to avoid causing harm, distress, or discomfort to participants. Key ethical considerations include:4.1. Informed ConsentParticipants must be fully informed about the nature of the experiment, any potential risks, and their right to withdraw at any time without penalty. Informed consent ensures that participants are aware of their involvement and agree voluntarily.4.2. ConfidentialityResearchers must protect the privacy of participants by ensuring that their data is kept confidential. This includes securely storing data and ensuring that participants identities are not disclosed.4.3. Deception and DebriefingIn some cases, deception may be used in psychological experiments (e.g., not revealing the true purpose of the study to prevent bias). However, this must be justified by the scientific value of the research, and participants must be debriefed afterward to explain the true nature of the study and alleviate any distress caused.4.4. Minimizing HarmExperiments must avoid causing unnecessary physical or psychological harm to participants. Researchers are ethically bound to minimize any risk to participants, ensuring that the benefits of the research outweigh the potential harm. 5. The Impact of Experiments on Advancing Psychological KnowledgePsychological experiments have significantly advanced our understanding of human behavior and cognition. The findings from these experiments not only contribute to theoretical knowledge but also have practical applications in various fields.5.1. Clinical PsychologyExperiments in clinical psychology have led to the development of evidence-based therapeutic interventions. For instance, research on cognitive-behavioral therapy (CBT) has demonstrated its effectiveness in treating disorders like depression and anxiety. Experimental studies comparing CBT with other therapies have provided valuable insights into its mechanisms and long-term outcomes.5.2. Educational PsychologyIn educational psychology, experiments have informed teaching methods and classroom practices. For example, studies on memory and learning have led to strategies that enhance student retention, such as spaced repetition and active learning techniques. Experimental research on motivation has also helped develop strategies to increase student engagement and academic performance.5.3. Social PsychologySocial psychology has benefited greatly from experimental research, particularly in understanding how individuals are influenced by social groups and environments. Classic experiments such as the Stanford prison experiment and Milgrams obedience study have provided deep insights into human behavior in group settings and the power of authority.5.4. Organizational PsychologyIn the field of organizational psychology, experiments have been used to study leadership styles, team dynamics, and workplace behavior. Research on motivation, job satisfaction, and performance has led to practical applications such as improved employee engagement and productivity. 6. Conclusion: The Power of Experimentation in Psychological ScienceExperimentation plays an indispensable role in advancing psychological knowledge. By using experimental designs, psychologists can test hypotheses, identify causal relationships, and develop theories that inform real-world practices. While experiments are not without their limitations, the rigorous methodology and control they offer allow researchers to draw conclusions with greater certainty and clarity. As psychological research continues to evolve, experimentation will remain a cornerstone of scientific inquiry, shaping not only the field of psychology but also impacting a wide range of disciplines that seek to understand human behavior. Key Takeaways:Experimentation allows psychologists to manipulate variables and draw cause-and-effect conclusions.Different experimental designslaboratory, field, and quasi-experimentsserve different research needs.Ethical considerations are vital for conducting experiments that protect participants rights and well-being.Experimental findings in psychology have led to advances in clinical, educational, social, and organizational psychology.By understanding the role of experiments, students and researchers can better appreciate the methods that drive psychological discovery and innovation. The field of psychology is a very broad field comprised of many smaller specialty areas. Each of these specialty areas has been strengthened over the years by research studies designed to prove or disprove theories and hypotheses that pique the interests of psychologists throughout the world and help us to understand human behavior.While each year thousands and thousands of studies are completed in the many specialty areas of psychology, there are a handful that, over the years, have had a lasting impact in the psychological community as a whole. Some of these were dutifully conducted, keeping within the confines of ethical and practical guidelines. Others pushed the boundaries of human behavior during their psychological experiments and created controversies that still linger to this day. And still others were not designed to be true psychological experiments, but ended up as beacons to the psychological community in proving or disproving theories.This is a list of the 25 most influential psychological experiments still being taught to psychology students of today. 1. A Class DividedStudy Conducted By: Jane ElliottStudy Conducted in 1968 in an Iowa classroomExperiment Details: Jane Elliotts famous experiment was inspired by the assassination of Dr. Martin Luther King Jr. and the inspirational life that he led. The third grade teacher developed an exercise, or better yet, a psychological experiment, to help her Caucasian students understand the effects of racism and prejudice.Elliott divided her class into two separate groups: blue-eyed students and brown-eyed students. On the first day, she labeled the blue-eyed group as the superior group and from that point forward they had extra privileges, leaving the brown-eyed children to represent the minority group. She discouraged the groups from interacting and singled out individual students to stress the negative characteristics of the children in the minority group. What this exercise showed was that the childrens behavior changed almost instantaneously. The group of blue-eyed students performed better academically and even began bullying their brown-eyed classmates. The brown-eyed group experienced lower self-confidence and worse academic performance. The next day, she reversed the roles of the two groups and the blue-eyed students became the minority group.At the end of the experiment, the children were so relieved that they were reported to have embraced one another and agreed that people should not be judged based on outward appearances. This exercise has since been repeated many times with similar outcomes. For more information click here 2. Asch Conformity StudyStudy Conducted by: Dr. Solomon AschStudy Conducted in 1951 at Swarthmore College Experiment Details: Dr. Solomon Asch conducted a groundbreaking study that was designed to evaluate a personslikelihood to conform to a standard when there is pressure to do so.A group of participants were shown pictures with lines of various lengths and were then asked a simple question: Which line is longest? The tricky part of this study was that in each group only one person was a true participant. The others were actors with a script. Most of the actors were instructed to give the wrong answer. Strangely, the one true participant almost always agreed with the majority, even though they knew they were giving the wrong answer.The results of this study are important when we study social interactions among individuals in groups. This study is a famous example of the temptation many of us experience to conform to a standard during group situationsand itshowed that people often care more about being the same as others than they do about being right. It is still recognized as one of the most influential psychological experiments for understanding human behavior. For more information click here 3. Bobo Doll ExperimentStudy Conducted by: Dr. Albert Bandura Study Conducted between 1961-1963 at Stanford University Experiment Details: During the early 1960s a great debate began regarding the ways in which genetics, environmental factors, and social learning shaped a childsdevelopment. This debate still lingers and is commonly referred to as the Nature vs. Nurture Debate. Albert Bandura conducted the Bobo Doll Experiment to prove that human behavior is largely based upon social imitation rather than inherited genetic factors.In his groundbreaking study he separated participants into three groups:one was exposed to a video of an adult showing aggressive behavior towards a Bobo dollanother was exposed to video of a passive adult playing with the Bobo dollthe third formed a control groupChildren watched their assigned video and then were sent to a room with the same doll they had seen in the video (with the exception of those in the control group). What the researcher found was that children exposed to the aggressive model were more likely to exhibit aggressive behavior towards the doll themselves. The other groups showed little imitative aggressive behavior. For those children exposed to the aggressive model, the number of derivative physical aggressions shown by the boys was 38.2 and 12.7 for the girls.The study also showed that boys exhibited more aggression when exposed to aggressive male models than boys exposed to aggressive female models. When exposed to aggressive male models, the number of aggressive instances exhibited by boys averaged 104. This is compared to 48.4 aggressive instances exhibited by boys who were exposed to aggressive female models.While the results for the girls show similar findings, the results were less drastic. When exposed to aggressive female models, the number of aggressive instances exhibited by girls averaged 57.7. This is compared to 36.3 aggressive instances exhibited by girls who were exposed to aggressive male models. The results concerning gender differences strongly supported Banduras secondary prediction that children will be more strongly influenced by same-sex models. The Bobo Doll Experiment showed a groundbreaking way to study human behavior and its influences. For more information click here 4. Car Crash ExperimentStudy Conducted by: Elizabeth Loftus and John Palmer Study Conducted in 1974 at The University of California in Irvine Experiment Details: Loftus and Palmer set out to prove just how deceiving memories can be. The 1974 Car Crash Experiment was designed to evaluate whether wording questions a certain way could influence a participants recall by twisting their memories of a specific event.The participants watched slides of a car accident and were asked to describe what had happened as if they were eyewitnesses to the scene. The participants were put into two groups and each group was questioned using different wording such as how fast was the car driving at the time of impact? versus how fast was the car going when it smashed into the other car? The experimenters found that the use of different verbs affected the participants memories of the accident, showing that memory can be easily distorted.This research suggests that memory can be easily manipulated by questioning technique. This means that information gathered after the event can merge with original memory causing incorrect recall or reconstructive memory. The addition of false details to a memory of an event is now referred to as confabulation. This concept has very important implications for the questions used in police interviews of eyewitnesses. For more information click here 5. Cognitive Dissonance ExperimentStudy Conducted by: Leon Festinger and James Carlsmith Study Conducted in 1957 at Stanford University Experiment Details: The concept of cognitive dissonance refers to a situation involving conflicting:attitudesbeliefsbehaviorsThis conflict produces an inherent feeling of discomfort leading to a change in one of the attitudes, beliefs or behaviors to minimize or eliminate the discomfort and restore balance.Cognitive dissonance was first investigated by Leon Festinger, after an observational study of a cult that believed that the earth was going to be destroyed by a flood. Out of this study was born an intriguing experiment conducted by Festinger and Carlsmith where participants were asked to perform a series of dull tasks (such as turning pegs in a peg board for an hour). Participants initial attitudes toward this task were highly negative.They were then paid either $1 or $20 to tell a participant waiting in the lobby that the tasks were really interesting. Almost all of the participants agreed to walk into the waiting room and persuade the next participant that the boring experiment would be fun. When the participants were later asked to evaluate the experiment, the participants who were paid only $1 rated the tedious task as more fun and enjoyable than the participants who were paid $20 to lie.Being paid only $1 is not sufficient incentive for lying and so those who were paid $1 experienced dissonance. They could only overcome that cognitive dissonance by coming to believe that the tasks really were interesting and enjoyable. Being paid $20 provides a reason for turning pegs and there is therefore no dissonance. For more information click here 6. Fantzs Looking ChamberStudy Conducted by: Robert L. Fantz Study Conducted in 1961 at the University of Illinois Experiment Details: The study conducted by Robert L. Fantz is among the simplest, yet most important in the field of infant development and vision. In 1961, when this experiment was conducted, there very few ways to study what was going on in the mind of an infant. Fantz realized that the best way was to simply watch the actions and reactions of infants. He understood the fundamental factor that if there is something of interest near humans, they generally look at it.To test this concept, Fantz set up a display board with two pictures attached. On one was a bulls-eye. On the other was the sketch of a human face. This board was hung in a chamber where a baby could lie safely underneath and see both images. Then, from behind the board, invisible to the baby, he peeked through a hole to watch what the baby looked at. This study showed that a two-month old baby looked twice as much at the human face as it did at the bulls-eye. This suggests that human babies have some powers of pattern and form selection. Before this experiment it was thought that babies looked out onto a chaotic world of which they could make little sense. For more information click here 7. Hawthorne EffectStudy Conducted by: Henry A. Landsberger Study Conducted in 1955 at Hawthorne Works in Chicago, Illinois Experiment Details: The Hawthorne Effect came from a 1955 study conducted by Henry Landsberger. This effect is a simple premise that human subjects in an experiment change their behavior simply because they are being studied.Landsberger performed the study by analyzing data from experiments conducted between 1924 and 1932, by Elton Mayo, at the Hawthorne Works near Chicago. The company had commissioned studies to evaluate whether the level of light in a building changed the productivity of the workers. What Mayo found was that the level of light made no difference in productivity. The workers increased their output whenever the amount of light was switched from a low level to a high level, or vice versa.The researchers noticed a tendency that the workers level of efficiency increased when any variable was manipulated. The study showed that the output changed simply because the workers were aware that they were under observation. The conclusion was that the workers felt important because they were pleased to be singled out. They increased productivity as a result. Being singled out was the factor dictating increased productivity, not the changing lighting levels, or any of the other factors that they experimented upon.The Hawthorne Effect has become one of the hardest inbuilt biases to eliminate or factor into the design of any experiment in psychology and beyond. For more information click here 8. Kitty Genovese CaseStudy Conducted by: New York Police Force Study Conducted in 1964 in New York City Experiment Details: The murder case of Kitty Genovese was never intended to be a psychological experiment, however it ended up having serious implications for the field.According to a New York Times article, almost 40 neighbors witnessed Kitty Genovese being savagely attacked and murdered in Queens, New York in 1964. Not one neighbor called the police for help. Some reports state that the attacker briefly left the scene and later returned to finish off his victim. It was later uncovered that many of these facts were exaggerated. (There were more likely only a dozen witnesses and records show that some calls to police were made).What this case later become famous for is the Bystander Effect, which states that the more bystanders that are present in a social situation, the less likely it is that anyone will step in and help. This effect has led to changes in medicine, psychology and many other areas. One famous example is the way CPR is taught to new learners. All students in CPR courses learn that they must assign one bystander the job of alerting authorities which minimizesthe chances of no one calling for assistance. For more information click here 9. Learned Helplessness ExperimentStudy Conducted by: Martin Seligman Study Conducted in 1967 at the University of Pennsylvania Experiment Details: In 1965, Martin Seligman and his colleagues were conducting research on classical conditioning. This is the process by which an animal or human associates one thing with another.Seligmans experiment involved the ringing of a bell and then the administration of a light shock to a dog. After a number of pairings, the dog reacted to the shock even before it happened. As soon as the dog heard the bell, he reacted as though hed already been shocked.During the course of this study something unexpected happened. Each dog was placed in a large crate that was divided down the middle with a low fence. The dog could see and jump over the fence easily. The floor on one side of the fence was electrified, but not on the other side of the fence. Seligman placed each dog on the electrified side and administered a light shock. He expected the dog to jump to the non-shocking side of the fence. In an unexpected turn, the dogs simply laid down.The hypothesis was that as the dogs learned from the first part of the experiment that there was nothing they could do to avoid the shocks, they gave up in the second part of the experiment. To prove this hypothesis the experimenters brought in a new set of animals and found that dogs with no history in the experiment would jump over the fence.This condition was described as learned helplessness. A human or animal does not attempt to get out of a negative situation because the past has taught them that they are helpless. For more information click here 10. Little Albert ExperimentStudy Conducted by: John B. Watson and Rosalie Rayner Study Conducted in 1920 at Johns Hopkins University Experiment Details: The Little Albert experiment is considered to be among the most unethical psychological experiments of all time. The experiment was conducted in 1920 by John Watson and Rosalie Rayner at Johns Hopkins University. The hypothesis was that through a series of pairings, they could condition a nine-month-old child to develop an irrational fear.The experiment began by placing a white rat in front of the infant, who initially had no fear of the animal. Watson then produced a loud sound by striking a steel bar with a hammer every time little Albert was presented with the rat. After several pairings (the noise and the presentation of the white rat), the boy began to cry and exhibit signs of fear every time the rat appeared in the room. Watson also created similar conditioned reflexes with other common animals and objects (rabbits, Santa beard, etc.) until Albert feared them all.This study proved that classical conditioning works on humans. One of its most important implications is that adult fears are often connected to early childhood experiences. For more information click here 11. Magical Number SevenStudy Conducted by: George A. Miller Study Conducted in 1956 at Princeton University Experiment Details: Frequently referred to as Millers Law, the Magical Number Seven experiment purports that the number of objects an average human can hold in working memory is 7 2. This means that the human memory capacity typically includes strings of words or concepts ranging from 5-9. This information on the limits to the capacity for processing information became one of the most highly cited papers in psychology.The Magical Number Seven Experiment was published in 1956 by cognitive psychologist George A. Miller of Princeton Universitys Department of Psychology in Psychological Review. In the article, Miller discussed a concurrence between the limits of one-dimensional absolute judgment and the limits of short-term memory.In a one-dimensional absolute-judgment task, a person is presented with a number of stimuli that vary on one dimension (such as 10 different tones varying only in pitch). The person responds to each stimulus with a corresponding response (learned before).Performance is almost perfect up to five or six different stimuli but declines as the number of different stimuli is increased. This means that a humans maximum performance on one-dimensional absolute judgment can be described as an information store with the maximum capacity of approximately 2 to 3 bits of information There is the ability to distinguish between four and eight alternatives. For more information click here 12. Pavlovs Dog ExperimentStudy Conducted by: Ivan Pavlov Study Conducted in the 1890s at the Military Medical Academy in St. Petersburg, Russia Experiment Details: Pavlovs experiment with dogs turned out to be one of the most pivotal experiments in all of psychology. His findings on conditioning led to a whole new branch of psychological study.Pavlov began with the simple idea that there are some things that a dog does not need to learn. He observed that dogs do not learn to salivate when they see food. This reflex is hard wired into the dog. This is an unconditioned response (a stimulus-response connection that required no learning).Pavlov outlined that there are unconditioned responses in the animal by presenting a dog with a bowl of food and then measuring its salivary secretions. In the experiment, Pavlov used a bell as his neutral stimulus. Whenever he gave food to his dogs, he also rang a bell. After a number of repeats of this procedure, he tried the bell on its own. What he found was that the bell on its own now caused an increase in salivation. The dog had learned to associate the bell and the food. This learning created a new behavior. The dog salivated when he heard the bell. Because this response was learned (or conditioned), it is called a conditioned response. The neutral stimulus has become a conditioned stimulus.This theory came to be known as classical conditioning. For more information click here 13. Robbers Cave ExperimentStudy Conducted by: Muzafer and Carolyn Sherif Study Conducted in 1954 at the University of Oklahoma Experiment Details: This experiment, which studied group conflict, is considered by most to be outside the lines of what is considered ethically sound.In 1954 researchers at the University of Oklahoma assigned 22 eleven- and twelve-year-old boys from similar backgrounds into two groups. The two groups were taken to separate areas of a summer camp facility where they were able to bond as social units. The groups were housed in separate cabins and neither group knew of the others existence for an entire week. The boys bonded with their cabin mates during that time. Once the two groups were allowed to have contact, they showed definite signs of prejudice and hostility toward each other even though they had only been given a very short time to develop their social group. To increase the conflict between the groups, the experimenters had them compete against each other in a series of activities. This created even more hostility and eventually the groups refused to eat in the same room. The final phase of the experiment involved turning the rival groups into friends. The fun activities the experimenters had planned like shooting firecrackers and watching movies did not initially work, so they created teamwork exercises where the two groups were forced to collaborate. At the end of the experiment, the boys decided to ride the same bus home, demonstrating that conflict can be resolved and prejudice overcome through cooperation.Many critics have compared this study to Goldings Lord of the Flies novel as a classic example of prejudice and conflict resolution. For more information click here 14. Ross False Consensus Effect StudyStudy Conducted by: Lee Ross Study Conducted in 1977 at Stanford University Experiment Details: In 1977, a social psychology professor at Stanford University named Lee Ross conducted an experiment that, in lay terms, focuses on how people can incorrectly conclude that others think the same way they do, or form a false consensus about the beliefs and preferences of others. Ross conducted the study in order to outline how the false consensus effect functions in humans.In the first part of the study, participants were asked to read about situations in which a conflict occurred and then were told two alternative ways of responding to the situation. They were asked to do three things:Guess which option other people would chooseSay which option they themselves would chooseDescribe the attributes of the person who would likely choose each of the two optionsWhat the study showed was that most of the subjects believed that other people would do the same as them, regardless of which of the two responses they actually chose themselves. This phenomenon is referred to as the false consensus effect, where an individual thinks that other people think the same way they do when they may not. The second observation coming from this important study is that when participants were asked to describe the attributes of the people who will likely make the choice opposite of their own, they made bold and sometimes negative predictions about the personalities of those who did not share their choice. For more information click here 15. The Schachter and Singer Experiment on EmotionStudy Conducted by: Stanley Schachter and Jerome E. Singer Study Conducted in 1962 at Columbia University Experiment Details: In 1962 Schachter and Singer conducted a ground breaking experiment to prove their theory of emotion.In the study, a group of 184 male participants were injected with epinephrine, a hormone that induces arousal including increased heartbeat, trembling, and rapid breathing. The research participants were told that they were being injected with a new medication to test their eyesight. The first group of participants was informed the possible side effects that the injection might cause while the second group of participants were not. The participants were then placed in a room with someone they thought was another participant, but was actually a confederate in the experiment. The confederate acted in one of two ways: euphoric or angry. Participants who had not been informed about the effects of the injection were more likely to feel either happier or angrier than those who had been informed.What Schachter and Singer were trying to understand was the ways in which cognition or thoughts influence human emotion. Their study illustrates the importance of how people interpret their physiological states, which form an important component of your emotions. Though theircognitive theory of emotional arousal dominated the field for two decades, ithas been criticized for two main reasons: thesize of the effect seen in the experiment was not that significant and other researchers had difficulties repeating the experiment. For more information click here 16. Selective Attention / Invisible Gorilla ExperimentStudy Conducted by: Daniel Simons and Christopher Chabris Study Conducted in 1999 at Harvard University Experiment Details: In 1999 Simons and Chabris conducted their famous awareness test at Harvard University.Participants in the study were asked to watch a video and count how many passes occurred between basketball players on the white team. The video moves at a moderate pace and keeping track of the passes is a relatively easy task. What most people fail to notice amidst their counting is that in the middle of the test, a man in a gorilla suit walked onto the court and stood in the center before walking off-screen.The study found that the majority of the subjects did not notice the gorilla at all, proving that humans often overestimate their ability to effectively multi-task. What the study set out to prove is that when people are asked to attend to one task, they focus so strongly on that element that they may miss other important details. For more information click here 17. Stanford Prison StudyStudy Conducted By Philip Zimbardo Study Conducted in 1971 at Stanford University Experiment Details: One of the most widely cited experiments in the field of psychology is the Stanford Prison Experiment in which psychology professor Philip Zimbardo set out to study the assumption of roles in a contrived situation.The Stanford Prison Experiment was designed to study behavior of normal individuals when assigned a role of prisoner or guard. College students were recruited to participate. They were assigned roles of guard or inmate. Zimbardo played the role of the warden. The basement of the psychology building was the set of the prison. Great care was taken to make it look and feel as realistic as possible.The prison guards were told to run a prison for two weeks. They were told not to physically harm any of the inmates during the study. After a few days, the prison guards became very abusive verbally towards the inmates. Many of the prisoners became submissive to those in authority roles. The Stanford Prison Experiment inevitably had to be cancelled because some of the participants displayed troubling signs of breaking down mentally.Although the experiment was conducted very unethically, many psychologists believe that the findings showed how much human behavior is situational. People will conform to certain roles if the conditions are right. The Stanford Prison Experiment remains one of the most famous psychology experiments of all time. For more information click here 18. Stanley Milgram ExperimentStudy Conducted By Stanley Milgram Study Conducted in 1961 at Stanford University Experiment Details: This 1961 study was conducted by Yale University psychologist Stanley Milgram. It was designed to measure peoples willingness to obey authority figures when instructed to perform acts that conflicted with their morals. The study was based on the premise that humans will inherently take direction from authority figures from very early in life.Participants were told they were participating in a study on memory. They were asked to watch another person (an actor) do a memory test. They were instructed to press a button that gave an electric shock each time the person got a wrong answer. (The actor did not actually receive the shocks, but pretended they did).Participants were told to play the role of teacher and administer electric shocks to the learner, every time they answered a question incorrectly. The experimenters asked the participants to keep increasing the shocks. Most of them obeyed even though the individual completing the memory test appeared to be in great pain. Despite these protests, many participants continued the experiment when the authority figure urged them to. They increased the voltage after each wrong answer until some eventually administered what would be lethal electric shocks.This experiment showed that humans are conditioned to obey authority and will usually do so even if it goes against their natural morals or common sense. For more information click here 19. Surrogate Mother ExperimentStudy Conducted by: Harry Harlow Study Conducted from 1957-1963 at the University of Wisconsin Experiment Details: In a series of controversial experiments during the late 1950s and early 1960s, Harry Harlow studied the importance of a mothers love for healthy childhood development.In order to do this he separated infant rhesus monkeys from their mothers a few hours after birth and left them to be raised by two surrogate mothers. One of the surrogates was made of wire with an attached bottle for food. The other was made of soft terrycloth but lacked food. The researcher found that the baby monkeys spent much more time with the cloth mother than the wire mother, thereby proving that affection plays a greater role than sustenance when it comes to childhood development. They also found that the monkeys that spent more time cuddling the soft mother grew up to healthier.This experiment showed that love, as demonstrated by physical body contact, is a more important aspect of the parent-child bond than the provisionof basic needs. These findings also had implications in the attachment between fathers and their infants when the mother is the source of nourishment. For more information click here 20. The Good Samaritan ExperimentStudy Conducted by: John Darley and Daniel Batson Study Conducted in 1973 at The Princeton Theological Seminary (Researchers were from Princeton University) Experiment Details: In 1973, an experiment was created by John Darley and Daniel Batson, to investigate the potential causes that underlie altruistic behavior. The researchers set out three hypotheses they wanted to test:People thinking about religion and higher principles would be no more inclined to show helping behavior than laymen.People in a rush would be much less likely to show helping behavior.People who are religious for personal gain would be less likely to help than people who are religious because they want to gain some spiritual and personal insights into the meaning of life.Student participants were given some religious teaching and instruction. They were then were told to travel from one building to the next. Between the two buildings was a man lying injured and appearing to be in dire need of assistance. The first variable being tested was the degree of urgency impressed upon the subjects, with some being told not to rush and others being informed that speed was of the essence.The results of the experiment were intriguing, with the haste of the subject proving to be the overriding factor. When the subject was in no hurry, nearly two-thirds of people stopped to lend assistance. When the subject was in a rush, this dropped to one in ten.People who were on the way to deliver a speech about helping others were nearly twice as likely to help as those delivering other sermons,. This showed that the thoughts of the individual were a factor in determining helping behavior. Religious beliefs did not appear to make much difference on the results. Being religious for personal gain, or as part of a spiritual quest, did not appear to make much of an impact on the amount of helping behavior shown. For more information click here 21. The Halo Effect ExperimentStudy Conducted by: Richard E. Nisbett and Timothy DeCamp Wilson Study Conducted in 1977 at the University of Michigan Experiment Details: The Halo Effect states that people generally assume that people who are physically attractive are more likely to:be intelligentbe friendlydisplay good judgmentTo prove their theory, Nisbett and DeCamp Wilson created a study to prove that people have little awareness of the nature of the Halo Effect. Theyre not aware that it influences:their personal judgmentsinferencesthe production of a more complex social behaviorIn the experiment, college students were the research participants. They were asked to evaluate a psychology instructor as they view him in a videotaped interview. The students were randomly assigned to one of two groups. Each group was shown one of two different interviews with the same instructor. The instructor is a native French-speaking Belgian who spoke English with a noticeable accent. In the first video, the instructor presented himself as someone:likablerespectful of his students intelligence and motivesflexible in his approach to teachingenthusiastic about his subject matterIn the second interview, he presented himself as much more unlikable. He was cold and distrustful toward the students and was quite rigid in his teaching style.After watching the videos, the subjects were asked to rate the lecturer on:physical appearancemannerismshis accentHis mannerisms and accent were kept the same in both versions of videos. The subjects were asked to rate the professor on an 8-point scale ranging from like extremely to dislike extremely. Subjects were also told that the researchers were interested in knowing how much their liking for the teacher influenced the ratings they just made. Other subjects were asked to identify how much the characteristics they just rated influenced their liking of the teacher.After responding to the questionnaire, the respondents were puzzled about their reactions to the videotapes and to the questionnaire items. The students had no idea why they gave one lecturer higher ratings. Most said that how much they liked the lecturer had not affected their evaluation of his individual characteristics at all.The interesting thing about this study is that people can understand the phenomenon, but they are unaware when it is occurring. Without realizing it, humans make judgments. Even when it is pointed out, they may still deny that it is a product of the halo effect phenomenon. For more information click here 22. The Marshmallow TestStudy Conducted by: Walter Mischel Study Conducted in 1972 at Stanford University Experiment Details: Walter Mischel of Stanford University set out to study whether deferred gratification can be an indicator of future success.In his 1972 Marshmallow Experiment, children ages four to six were taken into a room where a marshmallow was placed in front of them on a table. Before leaving each of the children alone in the room, the experimenter informed them that they would receive a second marshmallow if the first one was still on the table after they returned in 15 minutes. The examiner recorded how long each child resisted eating the marshmallow and noted whether it correlated with the childs success in adulthood. A small number of the 600 children ate the marshmallow immediately and one-third delayed gratification long enough to receive the second marshmallow.In follow-up studies, Mischel found that those who deferred gratification were significantly more competent and received higher SAT scores than their peers. This characteristic likely remains with a person for life. While this study seems simplistic, the findings outline some of the foundational differences in individual traits that can predict success. For more information click here 23. The Monster StudyStudy Conducted by: Wendell Johnson Study Conducted in 1939 at the University of Iowa Experiment Details: The Monster Study received this negative title due to the unethical methods that were used to determine the effects of positive and negative speech therapy on children.Wendell Johnson of the University of Iowa selected 22 orphaned children, some with stutters and some without. The children were in two groups. The group of children with stutters was placed in positive speech therapy, where they were praised for their fluency. The non-stutterers were placed in negative speech therapy, where they were disparaged for every mistake in grammar that they made.As a result of the experiment, some of the children who received negative speech therapy suffered psychological effects and retained speech problems for the rest of their lives. They were examples of the significance of positive reinforcement in education.The initial goal of the study was to investigate positive and negative speech therapy. However, the implication spanned much further into methods of teaching for young children. For more information click here 24. Violinist at the Metro ExperimentStudy Conducted by: Staff at the Washington Post Study Conducted in 2007 at a Washington D.C. Metro Train Station Experiment Details: An interesting study was conducted by the staff of the Washington Post to test how observant people are of what is going on around them.During the study, pedestrians rushed by without realizing that the musician playing at the entrance to the metro stop was Grammy-winning musician, Joshua Bell. Two days before playing in the subway, he sold out at a theater in Boston where the seats average $100. He played one of the most intricate pieces ever written with a violin worth 3.5 million dollars. In the 45 minutes the musician played his violin, only 6 people stopped and stayed for a while. Around 20 gave him money, but continued to walk their normal pace. He collected $32.The study and the subsequent article organized by the Washington Post was part of a social experiment looking at:perceptiontastethe priorities of peopleGene Weingarten wrote about the social experiment: In a banal setting at an inconvenient time, would beauty transcend? Later he won a Pulitzer Prize for his story. Some of the questions the article addresses are:Do we perceive beauty?Do we stop to appreciate it?Do we recognize the talent in an unexpected context?As it turns out, many of us are not nearly as perceptive to our environment as we might like to think. For more information click here 25. Visual Cliff ExperimentStudy Conducted by: Eleanor Gibson and Richard Walk Study Conducted in 1959 at Cornell University Experiment Details: In 1959, psychologists Eleanor Gibson and Richard Walk set out to study depth perception in infants. They wanted to know if depth perception is a learned behavior or if it is something that we are born with. To study this, Gibson and Walk conducted the visual cliff experiment.They studied 36 infants between the ages of six and 14 months, all of whom could crawl. The infants were placed one at a time on a visual cliff. A visual cliff was created using a large glass table that was raised about a foot off the floor. Half of the glass table had a checker pattern underneath in order to create the appearance of a shallow side.In order to create a deep side, a checker pattern was created on the floor; this side is the visual cliff. The placement of the checker pattern on the floor creates the illusion of a sudden drop-off. Researchers placed a foot-wide centerboard between the shallow side and the deep side. Gibson and Walk found the following:Nine of the infants did not move off the centerboard.All of the 27 infants who did move crossed into the shallow side when their mothers called them from the shallow side.Three of the infants crawled off the visual cliff toward their mother when called from the deep side.When called from the deep side, the remaining 24 children either crawled to the shallow side or cried because they could not cross the visual cliff and make it to their mother.What this study helped demonstrate is that depth perception is likely an inborn train in humans. For more information click here Among these experiments and psychological tests, we see boundaries pushed and theories taking on a life of their own. It is through the endless stream of psychological experimentation that we can see simple hypotheses become guiding theories for those in this field. The greater field of psychology became a formal field of experimental study in 1879, when Wilhelm Wundt established the first laboratory dedicated solely to psychological research in Leipzig, Germany. Wundt was the first person to refer to himself as a psychologist. Since 1879, psychology has grown into a massive collection of:theoriesconceptshypothesesmethods of practiceIts also a specialty area in the field of healthcare. None of this would have been possible without these and many other important psychological experiments that have stood the test of time.Related: ResourcesAbout Education: PsychologyExplorable.comMental Floss.comAbout the AuthorAfter earning a Bachelor of Arts in Psychology from Rutgers University and then a Master of Science in Clinical and Forensic Psychology from Drexel University, Kristen began a career as a therapist at two prisons in Philadelphia. At the same time she volunteered as a rape crisis counselor, also in Philadelphia. After a few years in the field she accepted a teaching position at a local college where she currently teaches online psychology courses. Kristen began writing in college and still enjoys her work as a writer, editor, professor and mother.

Psychology experiment. Experiment application to psychology. Applications of experimental psychology. Experiments in ap psych.