Learning from Famous Psychology Experiments: A Junior High Schooler's Perspective

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Introduction

I've always been interested in finding out more about the causes of why people do what they do. Like, why does my twin sister Arya freak out whenever she sees the tiniest spider possible even though she knows there is no way it can hurt her? Or why do I sometimes go along with what my friends want, even though I want to do something else? Psychology tries to answer these questions by studying how our minds work, and I think that is pretty cool.

Since moving back to the US right after Covid, I have been reading about psychology blogs and experiments whenever I can. Some of these tests are kind of nice and fun while some are really messed up, but they taught me a lot. Being inspired by these earlier readings combined with what I learned during my AP Psychology course in my Junior year, this paper presents my perspective on ten famous psychology experiments.

The following sections present my overview of these ten experiments, with takeaway points on how they helped understand ourselves a bit more. While some are quite controversial, I think they are all quite fascinating!

1. Pavlov's Dogs - Classical Conditioning

Almost everyone knows about this experiment and it may be the most famous one, right there with the marshmallow test. An interesting fact is that Ivan Pavlov wasn't even trying to make a breakthrough in psychology, he was simply trying to discover more about dog digestion. But he noticed a pattern; whenever his lab assistants came in to feed the dogs, the dogs started drooling before seeing any food. Pavlov must be like, man, I must be on to something.

So, he put together a test to discover more about this drooling behavior. He would ring a bell right before feeding the dogs, and after repeating this test a number of times, the dogs started drooling after hearing the bell although there was no food in sight. He was able to connect an automatic response, like the drooling of dogs for food, to something that is totally unrelated, like a bell. This finding was an eye opener for many in the field.

This experiment explains so many things in real life:

- Why do I suddenly crave Chipotle whenever I hear their ad jingle?
- Why do some particular smells give me warmth and comfort?
- Why do certain songs give me a little burst of happiness?

The strange thing is that we don't choose to learn these connections but rather they happen automatically. Like how when my phone makes that specific ding sound, I get a little rush of excitement, before I even check who texted me.

2. Little Albert Experiment - Learned Fears

This experiment would not be acceptable in today's standards but back in 1920, John B Watson and Rosalie Raynor decided to study if they can make a baby afraid of something harmless. They chose this poor 9 month old baby and called him "Albert B."

When they started the experiment, little baby Albert was totally cool with the white rat. He would even try to reach it out of curiosity. Next, Watson and Raynor did something that would be considered totally unethical today; they made a startling noise by smashing a piece of metal with a hammer whenever Albert touched the rat. Poor Albert started to freak out and this noise made him cry.

After they repeated the test several times, Albert became scared of the rat even when there was no noise. Not only that, but also he started being afraid of other white fluffy things like cute rabbits, dogs, and even a Santa Claus mask with white cotton balls in the beard. They called this fear spreading to similar things, the "stimulus generalization".

The results of this unethical experiment yielded quite significant insights:

- Fears can be learned through experiences
- Once you are afraid of something, that fear can spread to similar stuff
- It does not have to be always fear; positive feelings can be learned as well. This may be why we enjoy vacations in similar environments

Luckily, we have ethics committees and rules to help protect the participants from such researchers today. No way researchers should be allowed to traumatize a cute little baby, just to make a point about how fear works.

3. Asch Conformity Experiments - Power of Social Pressure

In this landmark study, Solomon Asch aimed to find out whether people are willing to go against their own clear perceptions and give an obviously wrong answer, just to fit in with the majority? His experiment was a pretty clever setup.

He brought college students in for what they thought was a vision test where each student sat in a room with seven other participants who were actually in on the experiment. Everyone looked at cards with lines and had to say which lines matched in length and the answers were super obvious.

For the first few rounds, everyone gave the right answers. But then the fake participants started giving obviously wrong answers on purpose. Would the real participant go along with the wrong answer just because everyone else was saying it?

The results were very surprising with about 75% of the real participants going along with the incorrect group at least once. About 32% conformed with the wrong answer repeatedly. When asked why they did so after the experiment, many said while they knew the answers were wrong, they did not want to stand out.

I can think of the following real life examples to support the findings of this experiment:

- Laughing at an unfunny joke just because everyone else is
- The pressure to buy the same trendy clothes that most are wearing at school
- Why someone, although believes their idea is better, might hesitate to voice their different opinion in a group project

Last week, the whole class pretended to understand our math teacher's explanation of polar coordinates even though I knew most of us were lost. Nobody wanted to be the one to raise their hand and look stupid. Classic conformity!

4. Stanford Prison Experiment - Power of Roles

This is probably the most controversial social psychology experiment ever and it gives me chills. Professor Zimbardo created a fake prison in the basement of Stanford University in 1971 and he randomly assigned college student volunteers to be either the "guards" or the "prisoners".

The experiment, although supposed to last 2 weeks, had to be shut down after just 6 days due to emotional distress of the participants. The guards started power tripping hard, they became bossy and the prisoners became passive, very stressed, and some of them even had

psychological breakdowns. Within a very short amount of time, these very normal college students started acting very differently depending on the roles they were given.

The craziest part is that while everyone knew it was just an experiment, they still went full method actor anyway. Even Zimbardo himself got into his "warden" role too much and did not stop the bad behavior until his girlfriend, who is also a psychologist, visited and was like what the heck is going on here?

I can think of some similar real world examples :

- People acting differently online when they are anonymous as compared to how they act in person
- A shy person becoming quite assertive when put in charge of a group
- Good people doing bad things when they have power and there is no one holding them accountable

There is a lot of controversy around this experiment for multiple reasons. Some say Zimbardo encouraged the guards to be tough, which messed up the results, others say the whole thing was unethical and traumatizing. The lack of a control group without any role assignment was criticized as well. Today's ethics boards would shut this down in a heartbeat, and they definitely should.

This experiment also makes you think about why prison guards, police officers, or even hall monitors at school sometimes let power go to their heads. The situation seems more powerful than personality sometimes, as we would come across again in "The Good Samaritan Study" in section 10.

5. Milgram Obedience Study - Following Authority

Stanley Milgram designed an experiment in the 1960s to figure out why people obey authority even when asked to do terrible things and inflict harm on others. He wanted to find the reasons why ordinary Germans participated in the holocaust?

Participants thought they were helping with a study about learning and punishment. They were told to give electric shocks to another person, who was an actor, whenever that person made mistakes on a memory test. The real participant, in the role of the teacher, sat in a separate room but could hear the responses.

With each mistake, the scientists would tell the teacher to increase the voltage. The machine had labels from "Slight Shock" to "Danger: Severe Shock" to "XXX", which would be deadly if real. The actor would pretend to be in pain, beg to be released, complain about heart problems, and would eventually go silent.

The very disturbing part is that about 65% of participants went all the way to the highest voltage level, even when they thought the person might be seriously hurt or dead. Many participants were visibly stressed; sweating, trembling, digging their nails into their palms, but continued because the scientist guy in the lab coat told them that the experiment requires them to continue no matter what.

This experiment shows something very uncomfortable about human nature:

- Regular people will follow orders from authority figures even if it goes against their conscience
- When someone in charge takes responsibility, people feel less responsible for their actions
- It is easier to do harmful things if you do not have to see the consequences up close

This could be why some people might do unethical things when their boss tells them to, or why soldiers might follow questionable orders of their commanders. When Milgram changed the setup such that the authority figure was not physically present or the participant could see the person being shocked, way fewer people went all the way.

6. Harlow's Monkey Experiments - Importance of Comfort and Attachment

Do babies bond with their mothers because mother means food? Before Harry Harlow's work in the 1950s, experts thought so. Harlow's experiments with baby rhesus monkeys completely changed our understanding of love and attachment, but the methods he used were very sad.

Harlow, very cruelly, separated baby monkeys from their real mothers and he gave them two fake mothers instead. One was made up of cold wire, but it had food, a bottle of milk. The other was covered in soft cloth but did not have any food.

If experts of the time were right and all it mattered was food, these cute monkey babies would prefer the wire mom, right? No, that is not what happened at all. The baby monkeys spent most of their time clinging to the soft cloth mother and went to the wire mother only when they were hungry. When they were scared, they always ran to their cloth mother for comfort. They missed their real moms. Monkeys raised with only wire mothers grew up with serious social and emotional problems, poor babies.

This was a breakthrough that showed:

- Comfort and affection are just as important as food
- Physical contact is crucial for normal emotional development
- Early attachment experiences affect how we relate to others our whole lives

This research helped change how orphanages and hospitals treat babies. Before, they were focusing mainly on keeping the babies fed and clean, but not enough holding and comforting them. Now we know that emotional neglect can be just as harmful as physical neglect.

7. Bobo Doll Experiment - Observational Learning

My mom always says I pick up bad habits from TV shows she doesn't like. Turns out, she might be right, according to Albert Bandura's famous experiment in 1961.

In this experiment, children watched how adults interact with a large inflatable doll called Bobo. One group of kids saw the adults beating up the doll, hitting, kicking, and even being very verbally aggressive against Bobo. Another group of kids saw the adults playing nicely. The third group of kids were not exposed to any adults interacting with the doll at all. Afterwards, these children were left alone with Bobo.

As you would expect, the results were quite obvious. Kids who watched the aggressive adults were way more likely to beat up the doll too, often copying the exact same actions and even the abusive words. Nobody told them to act that way or rewarded them for doing it, they just imitated what they saw.

This explains why parents get so worked up about violence and bad examples in video games and TV shows. Kids naturally copy the behaviors they see, especially from adults or cool older kids. This does not mean every violent game creates a bunch of violent kids, but it shows that we learn by watching others.

Bandura's findings through this experiment has been very influential and later became a key component of his Social Learning Theory.

If you have a little brother or sister, you may notice this all the time. Everything you say, and especially those words that you should not use, gets repeated.

8. Robbers Cave Experiment - Group Conflict and Cooperation

This experiment was basically a real life "Lord of the Flies" situation. In 1954, researcher Muzafer Sherif and his colleagues turned a summer camp into a social psychology experiment without the kids knowing it.

They brought 22 boys, all 11-12 years old, to Robbers Cave State Park in Oklahoma. The boys were randomly divided into two groups that lived in separate cabins. In the first week, each group did activities that required teamwork, like setting up tents. They even created names for their group, the Eagles and the Rattlers, and they developed strong group pride.

During the second week, researchers set up competitions between the groups with prizes for the winners. Almost immediately, friendly competition turned into hostility, name calling, refusing to sit down and eat with the other group, cabin raids, and even burning the other group's flag.

Then came the clever part. In the third and final phase, researchers created problems that required both groups to work together, such as fixing the water supply that mysteriously broke. When the groups had to cooperate toward shared goals, the hostility decreased, and kids from different groups actually became friends.

This helps explain why there is so much conflict between different groups in real life:

- Groups naturally develop strong "us vs. them" identities
- Competition for limited resources creates conflict
- Working together toward shared goals can reduce prejudice

Do you see this at your school where the rivalry between the drama club and the football team suddenly disappears when they need to work for a cause together?

9. The Marshmallow Test - Delayed Gratification

This may be the cutest experiment on the list. Walter Mischel designed an experiment towards 4-5 year old children with a very simple choice of eating one marshmallow now or waiting about 15 minutes to get two marshmallows.

The researchers placed the marshmallow right in front of the children, leaving them alone while secretly recording what happened. The videos were hilarious, some kids popped the marshmallow in their mouth right after the researcher left the room. Others tried many different distraction tactics such as covering their eyes, turning away, talking to themselves, or even petting the marshmallow like a tiny pet.

While the majority of the kids could not wait, about a third of the kids managed to hold out for the full time to get the second marshmallow. But what made this study really famous was the follow up research years later. The children who waited longer for the second marshmallow generally had better outcomes as teenagers with better grades, higher SAT scores, healthier body weight, and better social skills.

The marshmallow test showed that:

- Self-control is a skill that can develop early in life
- The ability to delay gratification could be a good predictor of success in various areas
- Different strategies can help resist immediate temptations

In addition to the importance of cognitive skills like self-regulation and executive functions, later research found that trust is also another important factor. Children who trusted the adults would really return with the second marshmallow were more likely to wait. Also, there were other factors like the home environment that affected the ability to delay gratification.

I definitely struggle with this. Whenever I try to study and my phone keeps lighting up with notifications, my marshmallow resistance skills get seriously tested!

10. The Good Samaritan Study - Situational Factors in Helping

Researchers John Darley and Daniel Batson wanted to see what it is that makes people help others in an emergency. The results of this study from 1973 has an ironic twist.

They worked with seminary students who are the people studying to become priests or ministers. These students were told they needed to give a talk in another building. Some were told to hurry because they were late and others were told they had plenty of time. On the way to the other building, students passed an actor that was slumping in a doorway who appeared to be in a stressful situation.

Would these religious students, some of whom were preparing to give a speech on being a good Samaritan and the importance of helping strangers, stop to help? As you may kind of expect, the main factor in helping was not their personality, their religious beliefs, or the subject of their speech, but it was simply whether they were in a hurry or not! While only about 10% of those students who were told they were late stopped to help, about 63% of those who were told they had plenty of time stopped to help.

This experiment shows that:

- Being in a hurry dramatically reduces our helping behavior
- Even people with strong moral values might not help if they're situationally constrained
- We tend to overestimate how much someone's personality determines their behavior

This connects to something called the "fundamental attribution error", which is our tendency to assume and explain others' behavior based on their character rather than their situation. When we see someone not helping others in need, we might think that they are selfish although they might be just stressed about rushing to an important meeting.

Conclusion

These experiments helped me learn more about human behavior and some of the potential causes behind why people behave the way they do. We may not realize it, but we are way more influenced by our environment, by other people, and by the situations we are in. I used to think most people do things mainly because of their personality but now I see it is way more complicated than that.

Unfortunately, some of these experiments crossed ethical lines. Today, researchers must follow quite strict rules to protect the participants, which is definitely a very good thing! We do not want to repeat the mistakes of these famous studies.

The thing that fascinates me the most is how these experiments help explain our everyday behaviors. When I notice myself caving to peer pressure, I think about Asch's conformity study. When I struggle to finish homework instead of checking TikTok, I remember the marshmallow test. Psychology helps me understand myself and others much better.

If we all understand these influences and human psychology better, we can not only make better choices but also be much more understanding towards others. After all, we are all just humans, trying to figure things out, in a very complicated world.

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