

**Psychology** (Tue 4pm)  
Dr. Rosalyn King

# Journal 1

# My Thoughts and Ideas

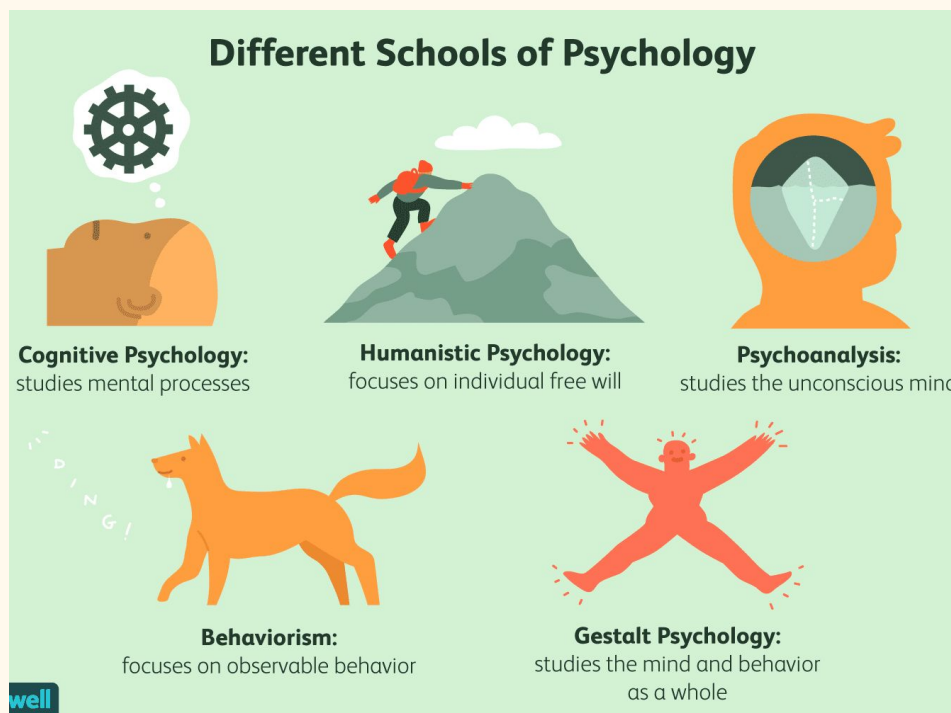
**By Sameer Rahman**



## January 14 - *Overview of Psychology*

This was the first discussion that we did in this class. I wasn't sure of my definition of psychology at that time. This was also when we were put into groups and I joined "The Boys". For our concept model we decided to create a brain that had the different aspects of psychology we thought were important including behavior, memory, and other general terms we thought of. Now, after a couple weeks, I have a better understanding of what psychology is. I was surprised to learn that the field is as big as it is. I didn't know before that psychology is considered a "hard science" but I guess it makes sense because it's been proven that certain mindsets or thoughts can lead to physical changes in the body. For example stressing over a test may activate the sympathetic nervous system, which is part of the autonomic nervous system, and ultimately releases dangerous hormones like cortisol that can cause anxiety and high blood pressure.

Our first research assignment as a group was to take notes on the schools of psychology. We found out that the older schools were led by a primary thinker and had practicing psychologists that followed him. The perspective that the primary thinker had affected everything the school did including diagnoses and treatments. Most of these schools died out due to insufficient methodologies.



Structuralism was founded by William Wundt. He focused on the structure of consciousness. Functionalism was founded by William James and focused on the function of thought. John B. Watson founded behaviorism that focused on science and study of behavior, rather than the mind. Max Wertheimer founded gestalt, which considered organization and perception thinking in a “whole” sense rather than individual. I think this applied to when we were looking at optical illusions. I remember hearing that the mind will fill in missing gaps in shapes to make a complete figure. This is because humans tend to look at things in whole shapes rather than individual parts. Humanism by Carl Rogers, Rollo May, and Abraham Maslow believed that people are good and have free will. This contradicts the thinking of Sigmund Freud, who believed that humans are evil. And finally the last one we researched was existentialism, which was founded by Victor Frankl and believed that human existence is “here and now” and the past or future is not important.

## January 28 - *Ethics*

The discussion on ethics was very interesting for me. I'm a biology major and I've always learned things objectively. For example, I learned anatomy, physiology, disease conditions, etc.



Because of this, I always have a hard time with ethics because it's not something that has a clear answer. There's a huge gray area between what's right and what's wrong. To warm up for the discussion, we were supposed to review certain cases and decide whether they were ethical or not.

The case that we got was to decide if it's okay for a college to use dogs in the pound that were going to be killed if they didn't find an owner for surgery practice. The students at the college would practice dissecting the dog to get more experience with surgeries. We decided that this was not ethical because there is still a chance that the dogs can find a home and they should not be used as puppets for learning purposes. The college could just buy more dummies that can be used for learning like the cpr dolls to teach cpr. Just like perception, I realize that ethics are also shaped by experience. The reason I denied this case is probably because my family has three dogs that we love and the thought of using a dog for surgery practice drives me nuts. On the other hand, someone who dislikes animals and wants the best possible way to learn about and help humans would most likely want to practice hand on using dogs. That's why politicians look at polls taken by the population to decide which side to stay on with issues like abortion laws.

One thing that made it easier to understand ethics was the research we did on the APA and APS. It's known that researchers conduct experiments on animals to better understand humans. We learned that there are certain guidelines that they must adhere to in order to conduct an experiment. For example, according to the APA, one of the guidelines is that you must "acquire,

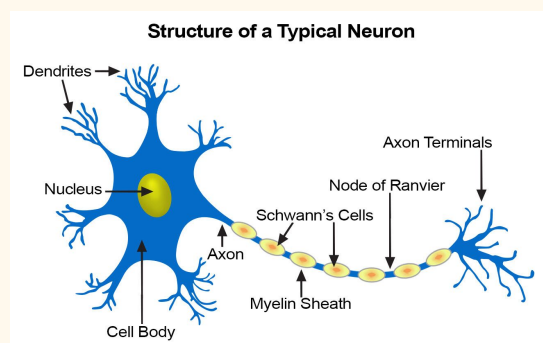
care for, use  
and dispose of  
animals in  
compliance  
with current  
federal, state



and local laws and regulations, and with professional standards" (Smith, 2003, p.34). One thing I found interesting was how the researchers must submit a long paper that explains the purpose of the experiment and the procedure to the Institutional Animal Care and Use Committee. It can take multiple tries for them to approve and the benefit of the experiment must outweigh the risk to the animal. It was especially interesting to me that the animals have all these rights because as humans we eat animals all the time. At slaughterhouses the pigs or cows don't have rights even though they will certainly die. While it's true that some places have more humane methods of killing the animals quickly, it's not nearly enforced as much as experiments are. Aren't chickens given steroids so they grow more meat before they eventually get turned into a KFC special? Where are the rights for these animals and why are they different than the animals used in experiments?

## February 4 - *Science of Mind*

To begin our unit on the the underpinnings of behavior, we had student led presentations that covered the major components of brain anatomy. We learned that neurons are nerve cells that transmit information throughout the body. I remember learning in lecture that neurons are



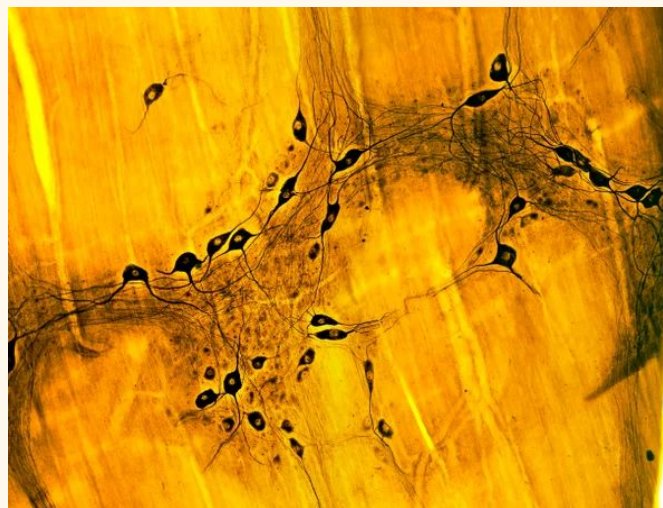
very important to keep healthy. They must be kept nourished with enough vitamins and nutrients that can be obtained from a healthy diet. We learned that afferent neurons send messages to the brain and spinal cord from sensory receptors and efferent neurons send messages from the brain and spinal

cord to the muscles and glands. Interneurons transmit messages and information between sensory and motor neurons. Neurotransmitters are chemical messengers that transmit signals across the synapse. The major ones include acetylcholine, dopamine, norepinephrine, and serotonin (Myers, 2018).

Next, The Boys gave their presentation on the overview of the nervous system. We mentioned that the two major parts of the nervous system are the central nervous system, which consists of the brain and spinal cord, and the peripheral nervous system, which consists of the nerves and sensory organs. I already knew that the central nervous system receives data from sensory organs and nerves and the peripheral nervous system's job is to carry signals with neurons. But I remembered through researching that the peripheral nervous system also includes the

autonomic nervous system, which includes the enteric, parasympathetic, and sympathetic systems. The parasympathetic and sympathetic were familiar to me because I learned about it before. The enteric on the other hand was new. I knew that enteric meant gut, but I learned in lecture that the enteric system is like a brain of its own. The picture shows the network of neurons in the walls of the gut. It has a

system of neurons that it controls independently and I remember hearing that the “gut feeling” that we get can be a result of this. Because the gut is considered a “second brain”, it also has the ability to release hormones that affect the body. I knew that the gut releases serotonin to help in digestion, mood, behavior, and



other functions, but I didn't know that serotonin could have a negative impact on the body.

According to Scientific American,

“Scientists are learning that the serotonin made by the enteric nervous system might also play a role in more surprising diseases: In a new *Nature Medicine* study published online February 7, a drug that inhibited the release of serotonin from the gut counteracted the bone-deteriorating disease osteoporosis in postmenopausal rodents. (Scientific American is part of Nature Publishing Group.) ‘It was totally unexpected that the gut would regulate bone mass to the extent that one could use this regulation to cure—at least in rodents—osteoporosis,’ says Gerard Karsenty, lead author of the study

and chair of the Department of Genetics and Development at Columbia University Medical Center” (Hadhazy, 2010).

After reading this article, I became more enlightened on the effects of serotonin. It also made me wonder what the effects of too much serotonin are.

Obviously, certain antidepressants target the enteric system by stimulating the release of serotonin to help with mood and behavior, but are there other unknown problems that could arise from this stimulation other



than the already known irritable bowel syndrome? It’s definitely something worth researching because there is a huge percentage of people that take antidepressants. According to the American Psychological Association, approximately 12.7% of the U.S. population over 12 years old is on antidepressants (Winerman, 2017, p. 120). Because serotonin is released by the gut, which also functions in digestion, I wonder if depression could be a result of an impairment in the enteric system. Maybe people who are depressed don’t have a proper diet to nourish the neurons that are in that system, and therefore are unable to release enough serotonin naturally.

Moving on in the nervous system, we talked about the limbic system. One thing that I found especially interesting was the discussion of how criminals may have a different anatomy than “normal” people. The part of the brain that controls aggression is the amygdala. Therefore, any damage to that area can lead to an increase in aggression. I was thinking that this can also tie into ethics. For example, if a person is convicted of a crime, maybe he or she can get a brain scan done and have it analyzed for any damage. The real question is would it be enough to consider someone who committed a crime innocent? And would the criminal have to claim insanity due to mental impairment and therefore be sent to a mental institution? As mentioned

in lecture, psychology is still growing and it'll be interesting to see how cases like these are held.

Finally, the last presentation of that day was on the endocrine system. We discussed how this system differs from the nervous system because it releases hormones directly into the blood, rather than

electrical impulses.

Because of this, it's

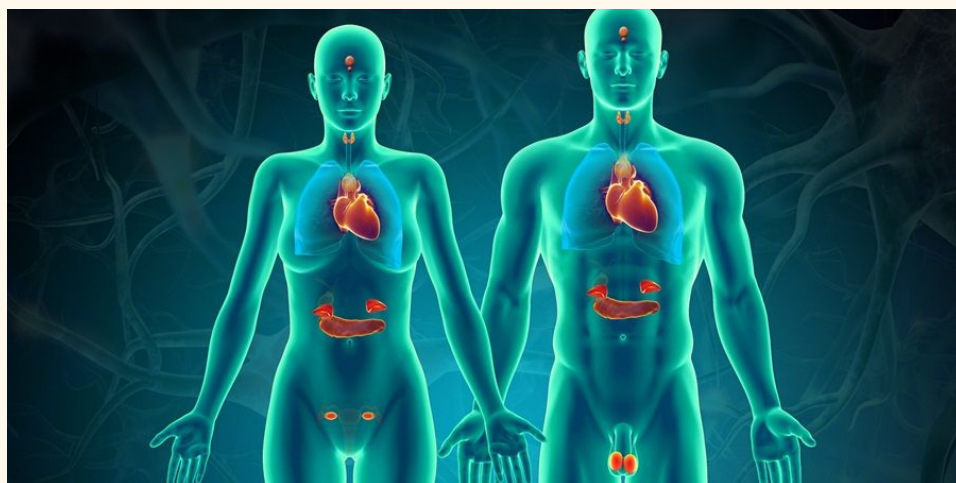
easier to monitor

the hormones by

simply checking a

blood report,

however that

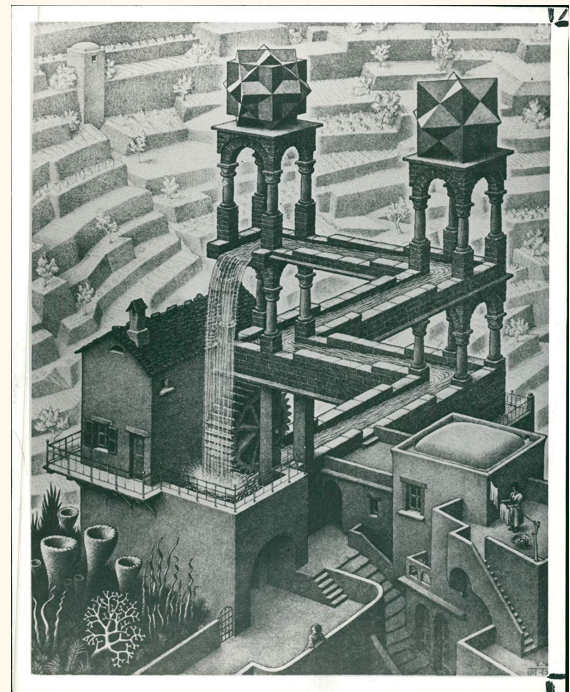


doesn't make it any easier to regulate. One thing I learned in lecture is how important it is to make sure your hormone levels are acceptable before conception. In the past, it was assumed that females were the cause of birth defects, but now it is known that males play just as big of a role in the health of a baby when it comes to having sperm that is healthy and hormones that are safe.

## February 18 - *Perception*

The class we discussed perception was different than previous classes. We spent a lot of time looking at illusions on the powerpoint and trying to decipher the hidden images in the complex illustrations. That definitely left me with a headache, but that's only because my perception needs work. I learned that perception takes time to be accurate. It is subjective because it is based on our experiences and mindset. Some people had a more difficult time than others

trying to unveil the hidden picture, most likely because their experiences up to that point did not suit them to solve the illusion. I remember trying to squint or look at the image from a different angle because perception can also be affected by the way you look at something. We watched a video on perception and I remember the first scene was of a guy in a room who looked really small until he walked towards the right and suddenly looked too big for the room. This is because the angle of the camera hid the fact that the room was



actually angled downwards towards the right, creating the illusion of looking bigger or smaller in the video. We spent a lot of time looking at the paintings of perceptual artists like M.C. Escher. The picture shown above is his “Waterfall” drawing which shows the illusion of water flowing uphill. He was a world famous artist who was known for his “impossible” drawings. After doing research, I found that Escher actually went to a school of architecture and lived in

Rome (The Editors of Encyclopaedia Britannica, 2019). It was probably due to his exposure to the architecture in Rome and his background that allowed him to have the perceptual mind to create his drawings.



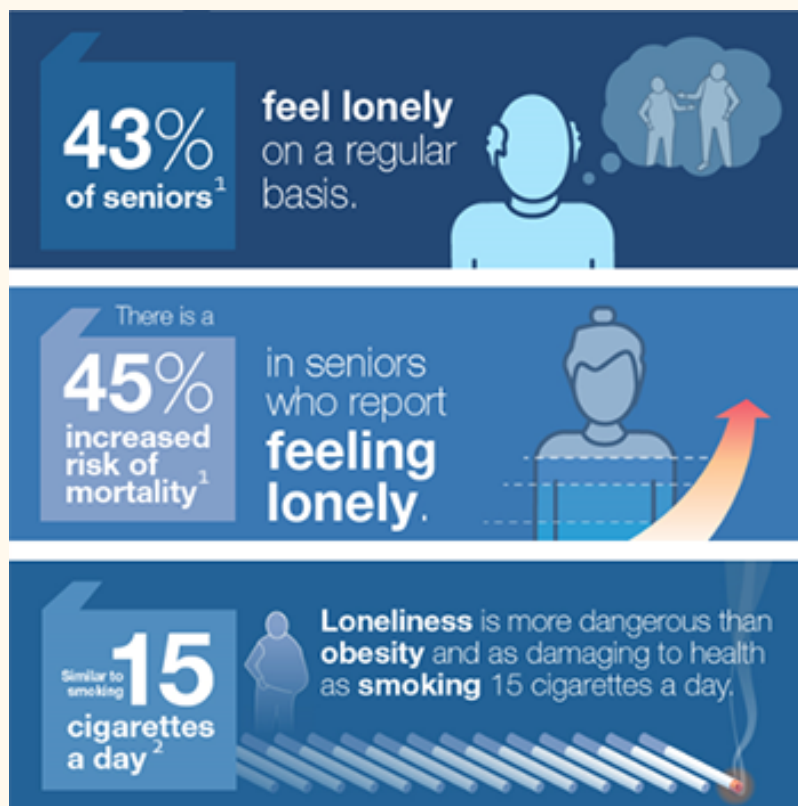
## February 25 - *Development*

For the development topic, our assignment was to choose a period of human development and create a presentation on that. My period was mature adulthood. After doing research I found



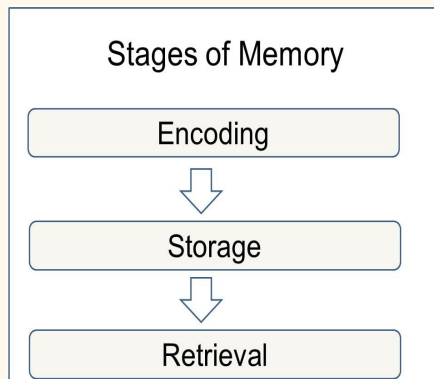
out that the period of mature adulthood has actually changed from 65 years old to 75 years old. This is because we have newer technology and knowledge that allows us to live longer lives. In mature adulthood, the

brain undergoes certain changes such as memory loss, decreased intellectual function, and neurodegenerative diseases. Most of these can be a result of decreased plasticity in the brain, which means the brain loses its ability to use different parts for different purposes. Therefore, some functions such as memory start to fade as that part of the brain gets deteriorated. One thing that surprised me was how there is a 45% increased rate of mortality in seniors who report feeling lonely (“The Loneliness Epidemic”, 2019). I understood that some elderly people could be feeling lonely due to passing of loved ones or not feeling accomplished, but I didn’t know it could have that great of an effect on their life expectancy. We talked in class about how thoughts and mentality could affect you physically. Maybe the seniors who are depressed are releasing too much cortisol and their body is too old to handle it, which hurts their body physically.



## March 3 - *Cognitive Science*

Our most recent discussion was on learning. We were trying to come up with a definition of what we thought was learning. I remember we had a tough time because most of the responses we gave were results of learning rather than learning itself. I suggested that learning was trying to understand new ideas. In the powerpoint, we saw other examples of student definitions of learning. One that I agree with said that learning is necessary to live. It also said that learning is living and if you're done learning, then you're not living. I enjoyed that definition because it makes sense if you think about it. Even if we don't realize, we are always learning. For example, even while driving a car to work or school, we have to learn the environment we're in because it's different every time. We have to look around and quickly assess the situation to see if any cars are going to hit us or learn if a car is going to go in our lane. We learned that classic conditioning takes advantage of our response like a cigarette ad with a beautiful woman that could entice us to buy cigarettes. On the other hand, operant conditioning uses a reward method to establish connections like a dog signifying a tuning fork to his food. Observational learning plays a big role in kids who watch their parents all day long and become good or bad adults depending on how they are raised. We learned that once something is learned, it must be stored in the memory. There are different strategies to do this. I remember when I was in 8th grade, someone challenged me to remember 1000 digits of pi. Being a young cocky kid, I accepted the challenge. The method I used was to split the numbers into groups of 20, and then into 4 or 5 digits. I would create a story using the numbers and establish a connection to something already in my memory, then establish connections with the numbers themselves. I completed the challenge and was proud of myself, but I forgot most of the digits after not



looking at them for a while. This is because they were not stored in my long term memory. They were only in my short term memory because I had to look at them to keep them remembered. I use the same method to study for tests or learn new names or vocabulary. To keep from forgetting, I look back at the connections I made until they are permanent in my mind. We talked about language and

watched a video about how complex it is. The tongue has evolved along with jaw shape in humans to be able to pronounce certain words. We used language to communicate with each other. In the end, I realized that learning and language are dependent on each other.

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