

Psychology: The Study of the Mind

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Introduction

I chose to submit a digital portfolio for the Psychology Fair because there are so many aspects of psychology that I found interesting that I could not just pick one to focus on. Instead, I chose topics that I was interested in that we have covered throughout the semester in PSY 201 and expanded upon them. These topics include animals in psychology, outlawed psychological experiments, the importance of glial cells, and the effects of drugs on the mind. Many of my examples include videos and other websites. In order to access them, just click on the blue links.

Topic 1

Overview of Psychological Science: Animal Development in Psychology

Introduction:

When learning about the overview of psychological science and the major contributors to psychology in class and in the book, I became interested in learning more about how animals have contributed to psychology. I decided to do more research into ways that animals have helped humans learn more about themselves. As discussed in our notes, psychology is concerned with animal development because we can compare it to the development of humans. Psychologists have researched gorillas that learned sign language, dogs that have been trained to assist humans, and dolphin's mental development. I have included examples of each of these in this portfolio.

Animal Development in Psychology

[Michael the gorilla tells the story of his mother's murder through sign language \(article\)](#)
(Adamson, 2012)



[Video](#)
(kokoflix)

Reflection:

I selected the story of Michael the gorilla because it helps give insight into how humans' cognitive abilities developed. His story includes topics such as memory, cognitive development, the evolutionist' theory, and of course, how animals contribute to psychology. I learned that humans are not alone in their ability to store long-term memories and to communicate past events. I also learned that animals are important in learning more about ourselves and therefore we must work to protect these intelligent animals.

Animal Development in Psychology

Reflection:

I included this research experiment with the dolphins and the mirror because it is another example of how animals can contribute to the understanding of human brain function. In this experiment, scientists learned that we are not the only species with the ability to think and process information, such as our own image in a mirror. This goes along with our study of the brain, especially the frontal lobe which aids in processing information. By studying dolphins, we can conclude how our own brains might have developed.

[Dolphins recognize themselves in mirror \(video\)](#)

(CNN, 2010)



Animal Development in Psychology

[Psychiatric Service Dogs \(article\)](#) (Wooldridge, 2008)



Reflection:

This explanation about the relatively new service guide dogs are providing helps explore not only the abilities of dog's understanding human language, but also gives an insight into more treatment possibilities for the mentally ill. This article addresses psychological topics such as mental illness, understanding of language, and again, how animals can assist in human psychology. From this article, I learned that dogs are able to not only help with physical disabilities, but also cope with emotional situations.

Topic 2

The History of Psychology: Outlawed Psychological Experiments

Introduction:

To explain the history of psychology I decided to go more in-depth with researching old psychological experiments that have since been outlawed. By researching these unethical experiments, I learned more not only about the old theories of psychology, but also about psychology's ethical principles such as the Nuremburg Code and the Belmont Report that are now in place for the precise reason of preventing these experiments from happening today. Without the ethical principles today, psychologists performed experiments that often resulted in life-long trauma to the patient or even death while not producing a valuable insight into the human mind. Here I have presented some examples of such cases.

Outlawed Psychological Experiments

[The Little Albert Experiment \(video\)](#)

(johncheezy, 2010)

Reflection:

In this experiment, scientist John B. Watson conducted tested the idea of classical conditioning on a 9-month old boy which ultimately caused the little boy to have a permanent fear of animals. (Danko, 2013) This experiment violates the Nuremburg Code because the subject was not able to give voluntary consent and the effects of the experiment caused mental instability to the subject (the boy was never able to overcome his phobia). This experiment covers the psychological topics such as the ethics of psychology and also the idea of classical conditioning (Pavlov's Dog). I thought this experiment was disturbing because John B. Watson did not seem consider the long-term consequences of his work and did not seem to care that he was experimenting on an innocent 9-month old baby.



Image:
blog.lib.umn.edu

Outlawed Psychological Experiments

[The Milgram Experiment \(video\)](#)

(GriefTourist, 2009)



Image:
thesituationist.wordpress.com

Reflection: In this experiment, the subjects were told that they were participating in an experiment that had to do with memory where they were instructed to give an electrical shock to another subject (who was an actor) when they got a simple memorized phrase wrong. Disturbingly, the subjects continued to administer the electrical shocks when the actor got the questions wrong, despite hearing the screams of agony coming from the other room. (Danko, Meredith) This experiment would be unethical today because it did not allow the subject to terminate the experiment if they felt they could no longer continue, which is a rule stated in the Nuremburg Code. It also risked psychological damage to the subjects if they were told that they could have potentially killed the victim who was being shocked. I thought that this experiment was interesting in that it shows that the humans will often follow orders even if they do not agree with them, however, I would never approve of how the experiment was conducted.

Outlawed Psychological Experiments

Harlow's Monkey Experiment (video) (Baker, 2010)

Reflection: In this experiment, Harry Harlow tested infant dependency on their mothers by raising monkeys solely with a wire vs. cloth “mother”. In the experiment, the monkey was found to favor the cloth mother more than the wire mother even though the wire mother was the one who fed the monkey. This experiment was unethical as it violated the APA rules against the mistreatment of animals. (Danko, Meredith) This psychological experiment relates to human development, the use of animals in research, and psychology’s ethical principles. I thought that this experiment had interesting findings, however, it was entirely unethical because the infant monkey will never be able to interact in social situations with other monkeys and therefore will probably not be able to mate later on in his lifetime. The monkey was also put into harsh conditions, being trapped in a small cage with no mother for his entire life and often times being scared by Harlow’s machine in order to test the infant’s reaction.



Image:
(www.abc.net.au)

Topic 3

The Biology of the Mind: Glial Cells

Introduction

In class and through the book, we also learned about the biology of the mind and how the mind controls and responds to behaviors. How we perceive environmental changes, and how we react to those changes is most attributed to our nervous system, which consists of nerve cells that send messages to and from the brain. We learned that our nerve cells are not connected to each other, although they come very close. Instead, there is a gap in between nerve cells, called the synaptic gap. In this gap, chemicals travel from the axon, to the neighboring neuron's dendrites. This results in a somewhat messy process if you think about it. Chemicals are being secreted by one neuron in the hopes that the neighboring neuron will absorb them, but I wondered; what happens to the traces of chemicals that are not absorbed by the receiving neuron? Surely the chemicals cannot just wander around freely throughout the body, and so that is where glial cells come in. I decided to expand upon these often overlooked cells to discover their true importance.

Glial Cells

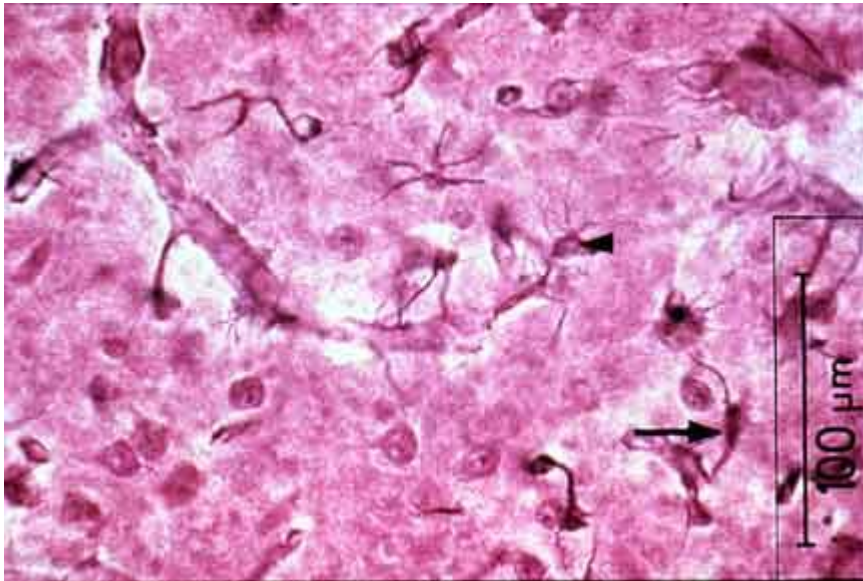
[Glial Cells: The Dark Matter of Our Brain \(article\)](#) (Zimmer, Carl)

Reflection:

I chose this article from 2009 because it explores the many abilities of glial cells that many scientists before now did not know about. The article indicates that astrocytes, the most common type of glial cells, may be important in our memory and our ability to learn. Psychological topics that are mentioned in this article are the nervous system, structure and function of neurons, glial cells, the brain, learning, and memory. Reading this article helped me to learn more about the power of glial cells, and that new discoveries about the glial cells are still being made. Next I wondered if there were any cases of people being born without glial cells or had a dysfunction with their glial cells and what that caused.

Glial Cells

Brain Cells and Depression/Bipolar Disorder (video) (Drevets, Wayne)



Glial Cells

Image:

http://millette.med.sc.edu/Lab%20&10/histology_of_nervous_tissue.htm

Reflection:

In this video Professor Wayne Drevets explains the importance of glial cells and mentions studies of people who had died who suffered from mental disorders such as bipolar disorder or severe depression. Upon inspection of their brain, it was found that they had less glial cells than people who did not have a mental disorder. I chose this video because it answers my previous question of what happens to those who have a glial cell deficiency. Psychological topics that are discussed in this video are the nervous system, structure of the neuron, and mental disorders. Through this article I learned that glial cells, although not much is known about them, must be very important in maintaining the brain.

Glial Cells

Reflection:

After learning about the importance of glial cells, I researched how to maintain glial cells so that your brain can be at its optimum ability. Not much is known on how to nourish glial cells because there are so many different types; it is hard to pinpoint one substance that could facilitate glial cells. However, in this article, nutritionist Byron Richards says that taking DHA (Decosahexaenoic Acid) will help “offset stressful activation of glial cells.” Reading this article made me think about the importance of proper nutrition and taking vitamin supplements. It is clear that in order to maintain a healthy brain, you must nourish it.

[Take DHA to Regulate Glial Cells](#) [\(article\)](#)

(Richards, Byron)



Topic 4

The Biology of the Mind: Drugs Affects on the Brain

Introduction

Although it was mentioned in lecture, we never got the chance to really look into how drugs affect the brain. I decided to look further into how drugs affect the brain and the long-term damage that drugs can cause. Going into this research, some questions I had were “why are drugs so addicting?”, “how do drugs affect the brain?”, and “what are the long term effects of drug use?” I learned that all drugs of abuse target the awards system by flooding the brain with dopamine, a chemical neural transmitter, which relays pleasure messages to other parts of the brain. Eventually the body associates the drug with pleasure and becomes addicted to the drug. Here I have clipped some articles on the effects of drug use and addiction.

Drug Effects on the Brain

[How Drugs Affect the Brain \(webpage\)](#)

(University of Utah)

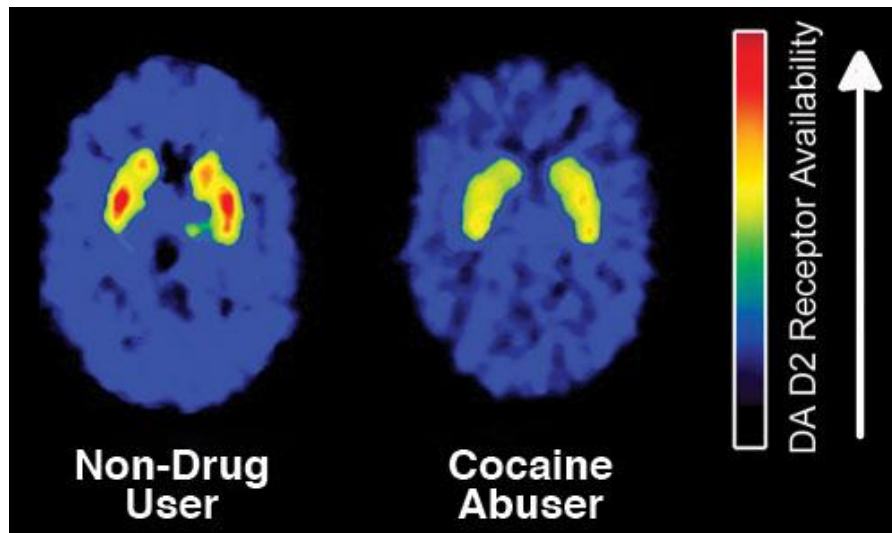
Reflection:

I put in this interactive website because it is useful in addressing the many different addictive drugs and their individual effects on the brain. Overall, I learned that drugs are effective on the brain because they mimic natural brain chemicals that stimulate pleasure (dopamine) receptors. Overtime, the brain compensates for the drug use by reducing the amount of dopamine receptors, meaning that the user will need to use more of the drug next time in order to feel the same “high”. This website addresses the psychological topics such as neurotransmitters, neurons, and how drugs effect the brain. I liked this website because it allows you to interact with it, especially with the “mouse party” where you can click on each mouse and learn about the drug that is effecting it.

Drug Effects on the Brain

Image:

<http://www.drugabuse.gov/publications/research-reports/cocaine-abuse-addiction/what-are-long-term-effects-cocaine-use>

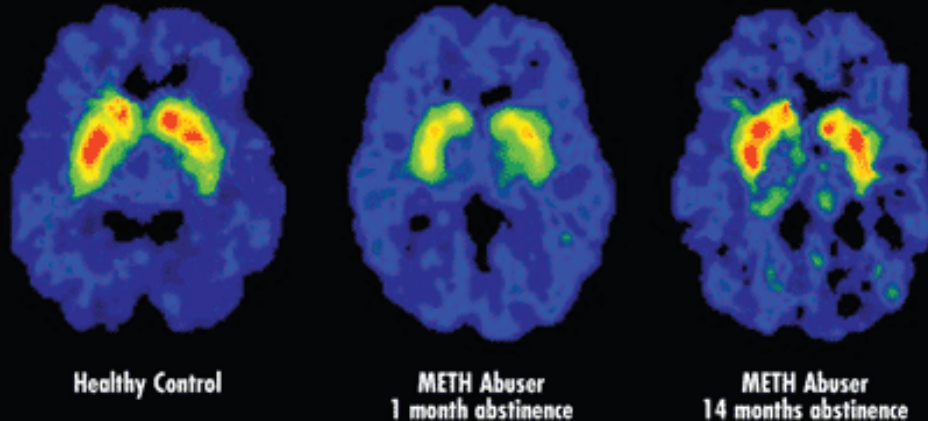


Reflection:

I chose to include this image because it is a real life example of how drugs effect the brain. In this picture, the red indicates dopamine receptors. As you can see, the cocaine abuser has little to no dopamine receptors because the brain has reduced the amount of receptors in order to compensate for the overstimulation. From this image, I learned that drugs can damage our ability to perceive pleasure. This picture illustrates psychological concepts such as neurotransmitters, the brain, and the long-term effects of drugs on the brain. I think that because of this user's abuse of drugs, he or she is now unable to perceive natural pleasures.

Drug Effects on the Brain

RECOVERY OF BRAIN FUNCTION WITH PROLONGED ABSTINENCE



Website:

<http://www.insynergystl.com/addiction-101.php>

Reflection:

This website goes further into the effects of drugs on the brain and also discusses the possibilities of recovery. As seen in this picture, the dopamine transmitters can be restored after long abstinence from the drug. This website and its image helped me to learn more about how possible it is to recover from drug abuse. It also helps illustrate the ability of the brain to adapt to certain situations. Psychological concepts covered in this website include neurotransmitters such as dopamine, the brain, and long-term effects of drugs.

Summary

Creating this portfolio has expanded my understanding and appreciation for psychology in that it helped me to elaborate on subjects that we mentioned in class and allowed me to explore more into things that I was interested in. Overall, this portfolio taught me more about how we have learned as a species by studying animals, trial and error, and studying the brain itself with the new technology available to us. This project has also shown me that there is so much more that we have to learn. Just in exploring these subjects briefly, I have discovered that there are even more facets to the human mind that I would never have enough space to fill in this portfolio and we will never have enough time to discuss in class. The abilities of the human mind are surely as abundant as the stars in the sky.

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