



Portfolio: The Cognitive Sciences

Course: Psy 200
Instructor: Dr. Rosalyn M.King
Created by Tatiana Zakharova

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Introduction

I believe that the best way to learn it to research the topic by oneself. The portfolio is a great opportunity to do so. It also encouraged me to look outside the course program, analyze the material and structure it in an appropriate way.

This portfolio was created for the section of the course which was devoted to the cognitive sciences. From each topic I have chosen on particular area. Each chapter is consisted of a short overview of the area of research followed by several examples of the articles and/or videos. Each video or an article is accompanied by the paragraph of my reflective thoughts.

I tried to search the information in different sources and different media such as articles from different Internet-sources, youtube videos, and TED-Talks.

Memory

The Overview

Memory is essential for the human kind. Memories are connected to the learning, our life experiences, and, in many cases, even our personalities. More often than not we perceive the world based on our learnt experiences and knowledges. As children, we work hard to remember everything we could, and our mind becomes this great device that help us understand the world, people, and, most importantly, ourselves. From the first days of our lives be are engaged in the process of remembering: language, family and cultural values, knowledges and skill are the subjects of this process.

But how exactly does memory work? This is the question that interested many scientists, philosophers, and intellectuals alike. Now we, indeed, know the cognitive component behind the memory. As a result, the understanding of the process helps with th process itself.

How We Make Memories

Crash Course Psychology video



**please, click on the picture to open the video in browser*

For the start of this section, I decided to take the video from the Crash Course Psychology channel. Although the video primarily consists of the already known information to me, I found it to be great for the *relearning* process. The video provides the **definition** of the **memory: learnt information that has been stored and often can be recalled**. After the definition the video gives the examples the way we can access our memories: by recalling them, recognition, and relearning. Next, it provides the information about **how** the memories are stored: the way we first store memories into the short-term memory and long-term memory. The narrator talks about all the necessary concepts of the memory, and, at the end, mentions mnemonics - a technique that help to memorize things better.

As mentioned before, such educational videos can be really helpful in the process of relearning, thus helping us to store the material into the long-term memory.

Controlling Visual Working Memory Content

An article from APA

Because working memory capacity is limited, it is necessary to efficiently manage what information is maintained on the basis of the current goal. For example, when looking for the sandals you want, it would be a waste of resources to actively maintain representations of other pairs of sandals that you already own.

*Previous work has shown that people can control the content of working memory by actively forgetting items on the basis of task requirements. Tu and Hampton (2014, *Journal of Experimental Psychology: Animal Learning and Cognition*) (PDF, 119KB) investigated whether rhesus monkeys can control working memory in a similar way.*

Continue reading: <http://www.apa.org/pubs/highlights/peeps/issue-24.aspx>

Every day we are bombarded by the huge amounts of information, especially visual. Since the capacity of our working memory (which can also be referred to as short-term memory) is limited, we have to manage our resources. The study shows that this is possible. As mentioned in the article, both humans and primates can forget information that is unnecessary for the requirements of the task. The study opens up the new possibilities for the learning processes: in the everyday life we rarely notice the processes that are involved in the memorizing information; however, it can become essential to start managing our mental and cognitive resources strategically. With the globalization and new technologies, we are accessing the vast amount of the informational data that can (and often does) become overwhelming. The information is power, yet it can also interfere with the process of learning. The effective managing of our brain resources is becoming more and more necessary for the effective learning. I believe that further studying of the subject can help us create more effective programs for educational institutions.

Memory Palace Technique



We are surrounded by the information, and it is no surprise that we always try to find new, better, more effective ways to learn and remember. However, sometimes it is a good idea to look back into the experiences of many generations.

The Memory Palace (also known as Method of loci) technique has been known in the Ancient times and still used today. The idea of it is that a person creates a visual space in the imagination and places their things that he or she wants to remember. The visualization is important as are the associations: the more vivid and interesting those images are, the better they will be remembered. The person also creates a route within the visualized “palace” to access the things that were remembered. By creating strong links, connections and associations, building the space within the mind that would be organized in a way that person see the best, it may be possible to memorize any information. This process; however, may take time, but with enough effort the perfect memory can be achieved. I think it is useful to introduce myself to the technique and to try in for the educational purposes.

Intelligence

Animal Cognition

The Overview

Humans tend to think that they are the most intellectual being on the Earth, overlooking the fact that animal world and animals themselves are far more complex than we think. It is known that dolphins have creative thinking and imagination, many other species, including the dolphins, primates and birds, can learn human speech. Some primates possess exceptional capacity for memorizing things. In fact, in some ways animals can outsmart the humans.

We still tend to overlook the fact that animals can think too, but with enough research and effort, it is possible to educate our own kind to appreciate all creatures great and small and, perhaps, learn from them.

The gentle genius of bonobos



To me, the Bonobos are the best example of animal cognition. They are the species that can actually convince human kind that animals can think to. The Bonobos are able to learn some incredible things, such as lighting the fire, creating the stone tools, driving, and even using the scissors. The bonobo also have geometric language, they have the capacity to understand human language, they recognize themselves in the mirrors and, in many ways, they behave in a similar to human ways.

The Bonobos are in the particular video are raised within both Bonobo and human culture which provides the researchers with the valuable data on culture development. As our ancestors, the Bonobos are creating some basic tools, and their language, although not as developed as the human one, is complex enough to be understood.

I was fascinated by the Bonobos. I believe that looking further into the animal cognition will not only enhance our knowledge of the animal world, but also will develop humans as the species to be more empathic and intelligent.

Personality

The Overview

“Know thyself” - says an Ancient Greek aphorism. But what is self? The human kind been struggling with this question from the dawn of time. Is there a fixed personality? Is there some intrinsic traits we carry on through life from the day we are born or do we develop traits through nurture and personal experiences? And does it mean “know thyself?”.

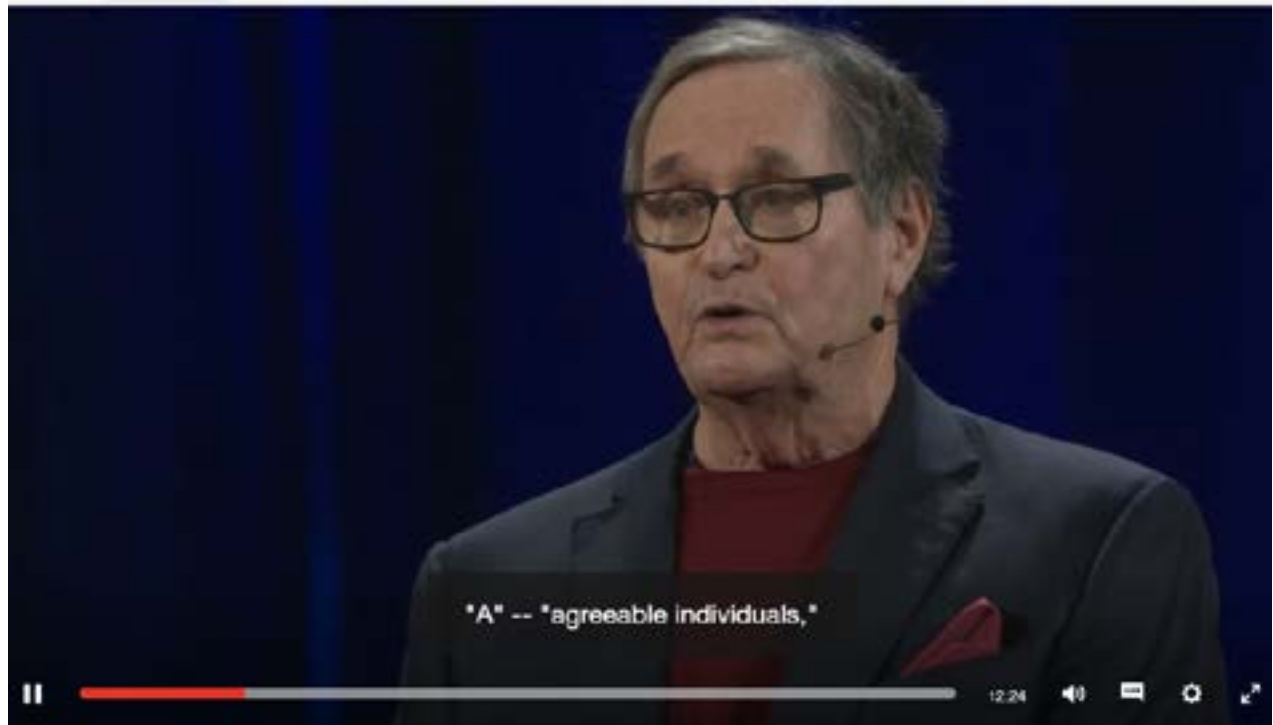
Through the course of history the scientists and philosophers, and artists were exploring the subject of self. The importance of the questions tells us that we are eager to dive into the depths of the personality and look deeper into the human beings and things that make us ourselves.

Many personality concepts has been developed through the 20th century. Jung’s idea of archetypes, Freud’s concept of the development of personality, Adler’s idea of self-actualization: these are just few early examples of the study of personality. The personality has been approached from the different perspectives, yet we still have not found the multiple answer to the question of personality.

Nowadays we all know about extroverts and introverts, about openness, and neuroticism. We refer to ourselves as to the contracts of culture and our family values, but also we nurture the idea of the individuality and uniqueness, even when we try to fit ourselves into the established cliché. Perhaps, the answer to the question about what makes our personalities can be found in our urge to both relate and be unique individuals.

Who are you, really? The puzzle of personality

TED-talk



Brian Little talks about the common personality traits, such as extraversion and introversion, and how those affect our experiences. For instance, introverts are easily stimulated by any kind of events, whereas extraverts need stimulations. Although Brian Little talks about the traits, he also states that we are not just traits, but something more. As we develop our “personal projects”, we also shape ourselves as unique individuals that think, desire, and create. Our traits affect those decisions, but also we can react “out of the character”, depending on a situation.

This particular video tells how we might be tempted to generalize some of the traits, thus referring to ourselves as “extraverts” or “agreeable” people, but also how different we can be while displaying those traits. I think that Brian Little himself might be a particular example of an introvert who, in fact, carries on his individuality, show what person he is. The way we speak, and act, and display ourselves is also what makes up our personalities.

Who am I?

The School of Life video



The School of Life speaks about our personal identity and what exactly defines it. Is that our memories? Our personal experiences? Is it something else, such as temperament or values? We may have a different body or lose our memories, yet we will act in a certain characteristic way after that. In this video the narrator makes an assumption that we are, indeed, most likely defined by our temperament, values, and inclinations. The narrator touches the fear of death, yet introduces an exciting concept: a personality being more of an idea that will live on in the human species long after our physical death. From this perspective, all of us are the part of the fundamental human character, and everybody is essential for the species to live on and develop. In fact, it reminds me of Jung's idea of the collective unconscious. While fear of death is a natural thing, it can be reassuring to know that we will live on in the space of ideas and concepts, and values.

The power of introverts

TED-talk



Even though the world is changing, there is still the idea that being an extravert is a better than being an introvert. This video, however, trites the opposite. As an introvert myself, I find it really encouraging. The video also might answer the question about self-knowledge and personality. While referring to oneself as an individual who possesses a certain trait, we can also enhance our understanding of our inner self, our personality.

I feel that Susan Cain is a great example of a person who truly knows herself. This, in its turn, becomes her inner power, the driving motive. In a way, it is a base for identity. But it is also a starting point for personal growth and development. When understanding some traits and characteristics of oneself, a person can start a journey to further exploration which, in it's turn, can lead to further development of the ideas, and values, and traits that will be the personality.

Self-knowledge is important for caring for oneself as well. And when cared for, a person can blossom into an incredible being.

Psychopathology. Abnormal Behavior

The Overview

It is said that only one in five individuals have not experienced any signs of mental illness. In our times people often suffer from anxiety and depression. Such situation influences both individual and the society as a whole. Psychopathology is one of the largest fields of study in psychology, and, most likely, will be growing further more.

Depression and anxiety are most commonly faced mental problems. The fast pace of life and ever-growing population lead to such problems. People are becoming trapped in the routine, and intense stimuli provoke anxiety and desperation which may result in depression.

Although there has been a huge development in this area, people with mental illnesses still face societal stigma and lack of support. People with depression often hear words such as “You just have to brace yourself together”, and this judgmental attitude towards them does not help to solve the problem.

The solution lies in the studying the ways people with no mental illnesses think and teaching those who experience such problems to cope with their illness in the productive and self-compassionate way.

Temperamentally blessed

An article from Aeon

Jonathan Schaefer, a graduate student in psychology, is among the researchers who have begun to address such questions. Soon before Schaefer arrived at Duke University in North Carolina, his advisor, the psychologist Terrie Moffitt, published a paper showing that when people are assessed regularly for mental-health problems, their incidence of common mental illnesses was far higher than previous estimates. By age 32, more than 40 per cent of the study participants had had at least one episode of depression, while nearly 50 per cent had suffered from anxiety. Schaefer remembers digesting the paper and finding it intriguing. 'OK, so if this proportion of the population is experiencing different disorders, who's left over?' he thought to himself. 'Who actually is making it through the first half of their life without a diagnosis?'

Continue reading: <https://aeon.co/essays/why-do-the-temperamentally-blessed-sail-through-lifes-storms>

I believe that to find the effective strategies for coping with mental illnesses, particularly depression, one should understand the ways “normal” people think. As mentioned in the article, such individuals tend to create strong social bonds, engage themselves in the society, and build social network. In many cases, the support network is essential for recovery.

Depression often leads to social isolation, and that is what a person should try to change in order to recover. In the state of post-traumatic growth; however, such people may achieve great results, build stronger connections and supportive relationships.

I think that teaching people from the young ages to build their social networks and to communicate with others might be a great preventive strategies for anxiety and depression.

Overcoming depression

An article from APA

Everyone experiences sadness at times. But depression is something more. Depression is extreme sadness or despair that lasts more than days. It interferes with the activities of daily life and can even cause physical pain. Fortunately, depression is highly treatable.

Depression, also known as major depressive disorder or clinical depression, is one of the most common mental disorders in the United States. In 2014, an estimated 15.7 million adults in the U.S. – about 6.7 percent of all U.S. adults – had at least one major depressive episode, according to the National Institute of Mental Health (NIMH).

Continue reading: <http://www.apa.org/helpcenter/depression.aspx>

Depression is something that can happen to anyone. In this article, APA provides with some symptoms of depression and the way to treat it with the help of the professional. As one of the main therapy types, APA mentions Cognitive Behavioural Therapy, which actually helps to manage negative patterns of thought.

I find this article most useful for those who are in need of therapy. There are many methodics available, but not all of them will be useful. In this brief overview APA provides with the essential information about two types of therapy that most certainly will give best results.

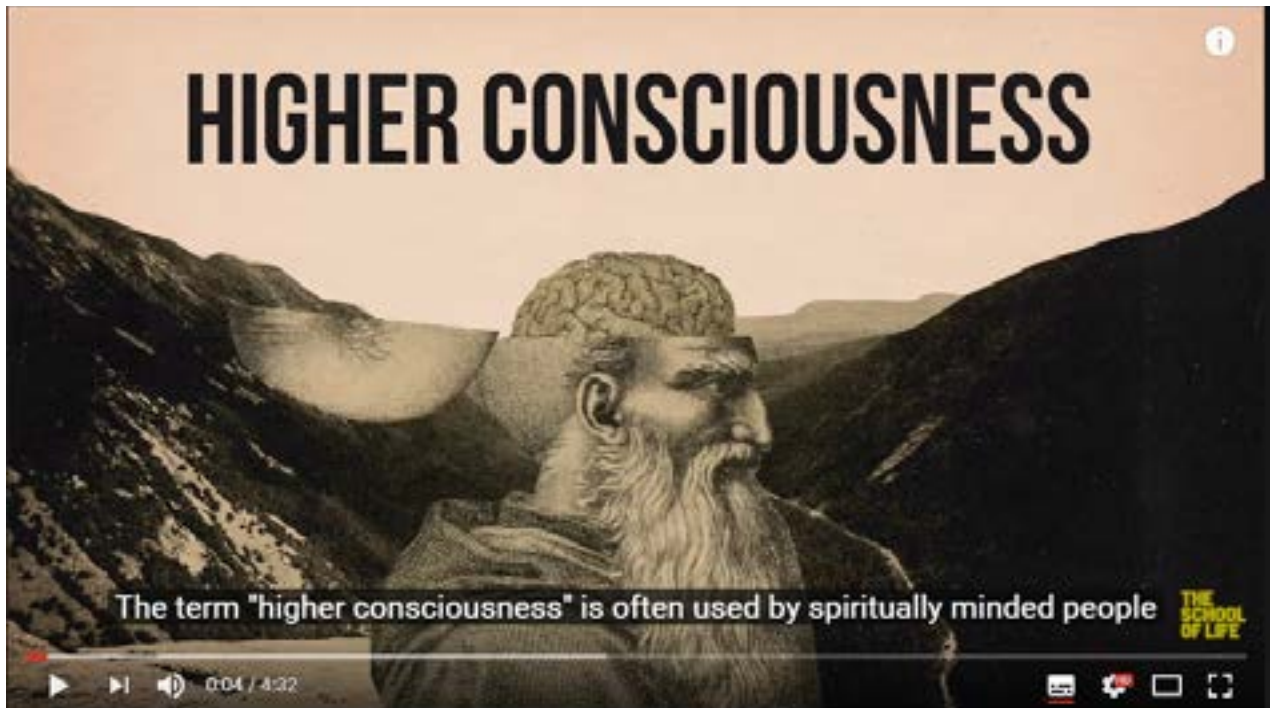
Altered States of Consciousness

The Overview

By speaking about altered states of consciousness, we often think of something purely esoteric or altered by the use of drugs; however, this is not the case. Such a state of “higher consciousness” can be achieved by any individual with enough effort. There are many accounts on the things unimaginable, such as human levitation, but at the end it is more about striving beyond the “lower conscience” of everyday routine. This, of course, a long journey towards higher understanding and perception.

Higher Consciousness

The School of Life video



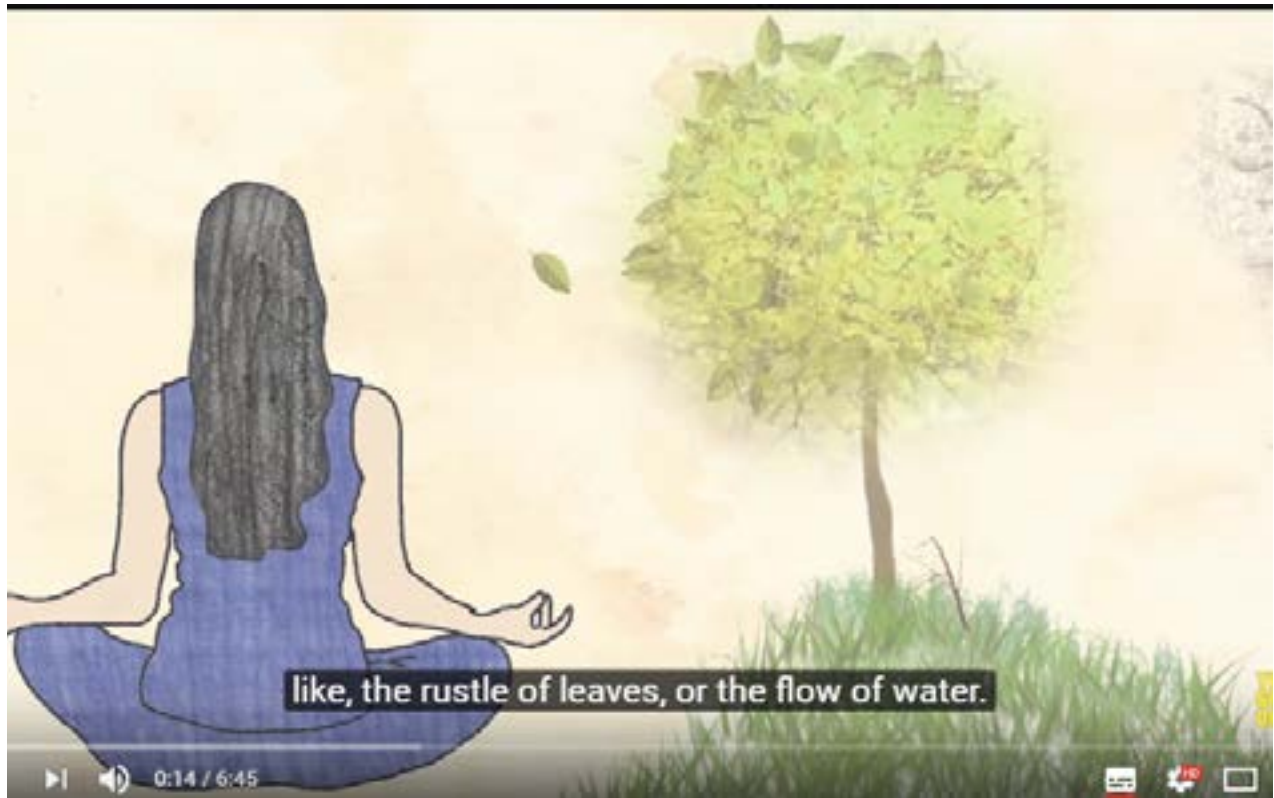
When entering the state of Higher Consciousness, we enter the realm of the imagination. In many ways, it is an inspiring and life-affirming state that leads us towards the perceiving a world as a whole, on a different level.

I would think, that any creative person can (and often does) come close to this kind of state in the flow of inspiration. It opens up the possibilities, the altered perception of reality. For an artist, the visual information he or she perceives will be pure beauty, as detailed as can possibly be. For a musician, sounds will create a melody. For a thinker, the world will be a puzzle that can and will be solved by looking deeper.

As a creative person, I can sometimes glimpse such a state and drive the inspiration from it. I think that consciously trying to achieve it is what can motivate and engage a person in a process of self-actualization.

Philosophical Meditation

The School of Life video



The meditation is common among the Eastern cultures. Indeed, a quiet observation and thoughtless rest helps to cope with anxiety and brings peace into our lives. The observations of nature calm us down, the breath techniques can help us achieve an altered state of mind.

However, the School of Thought introduces another concept for the meditation which includes observing our own everyday experiences and troubles. This technique, in fact, can help us on a way of achieving higher consciousness, because a person in a distress will be always drawn into the pool of his or her problem. This technique, in fact, can be the first step in achieving the state of Higher Consciousness.

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