

Schizophrenia Disorder, Prevalence, Signs and Symptoms

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Neuroscience and Behavior

In the human body, the brain is a vital organ that maintains motor control of the body, homeostasis, behavior, cognition, interpretation, and emotional responsiveness. The health of the brain whether in positive or negative terms affects the functioning of organs and all the processes that are taking place within a human body. Behavior, on the other hand, is the way one conducts oneself towards other in response to a certain stimulus or a particular situation. Together, behavioral neuroscience studies the biological basis of activities concerned with the brain's neurotransmitters and psychological events in humans. The scientific study of behavioral neuroscience has made strides in elucidating behavior guided by the assumption that every action in any particular region of the brain is due to its biological basis and therefore is explainable by chemical and biological events that take place within particular regions of the brain. Thus, it is necessary to understand the neuroscience or the scientific study of the nervous system to learn things about how to attain a healthy mind that depicts healthy and positive behavior. Psychology is the interdisciplinary field of behavioral neuroscience that studies behavior and related disorders the brain poses in case of any emotional or psychological damage to the mind. This paper presents an insight into one of the psychological disorders, Schizophrenia that is studied under behavioral neuroscience, the prevalence of the disorder, its signs and symptoms, and which regions of the brain are involved in affecting emotional and cognitive aspects of human behavior in that disorder, also how behavioral neuroscience regard this disorder with components of the brain that control behavior.

Description of the Disorder

The disorder I have chosen to debunk in the paper is Schizophrenia, which is a behavioral and mental disorder, chronic in its nature, a severe condition that affects an individual's behavior, sensation, feelings, and thoughts. Schizophrenia in Psychology under the branch of Behavioral Neuroscience is referred to as a mental disorder characterized by behavioral changes including thought disorder, hallucinatory-delusional symptoms, social withdrawal, and emotional flattening. Scientists have revealed that this brain disorder is caused due to early environment of the patient in his/her childhood, may be due to some genetic reasons, or sometimes because of chemical defects in the brain. A person suffering from Schizophrenia may have a loss of reality perception, abnormal or no response to environmental situations, constant confusion in understanding certain routine life situations and tasks and is characterized by a decreased ability to maintain speech and behavior or

attitude. It is a behavioral disorder that not only affects the patient suffering from it but also the members of the family, friends, peers, and surroundings. That is why, it is important to understand the neuroscience of this mental disorder by delving into details about what are the possible symptoms of this brain disorder, how it can be prevented, what is the correct diagnosis for it, and the early prognosis that can minimize the negative outcomes of the disorder in the future.

Prevalence of the Disorder

The prevalent notions of Schizophrenia that mainly trigger this brain disorder are genetic variations, environmental insults, traumas, disrupt chemical processes within the brain, and nutritional deficits. Individuals with Schizophrenia, therefore, experience a range of deficits in cognition, memory, and the neural systems that are associated with cognitive processes in the brain that can be observed through disturbances in episodic memory, executive control, and related dysfunctions. People with Schizophrenia commonly have symptoms such as hearing powerful sounds, bizarre delusions, disorganized thinking, and speech that is not expressed chronologically. Schizophrenic people may also experience social withdrawal, hallucinations, loss of judgment, loss of motivation, exaggerated ideas or perceptions involving a disturbance in practice, thinking, perception, and normal mental function. For instance, a study was conducted to record the experiences of Schizophrenic people who experience auditory symptoms. A group of people suffering from Schizophrenic symptoms complained that they hear angry voices that seem to compel them to do something dangerous or risky. Whereas another group of people described that they hear low-pitch sounds such as murmuring and whispering in their heads. Such symptoms can compel some of the best people in the community to commit heinous crimes and they still do not have any memory of them because of disruptions in memory and cognition. People with this behavioral illness sometimes complain that they heard voices of people plotting against them to cause them harm. This condition sometimes leads to the person observing social withdrawal from society and they sit quietly for hours in a corner as if nobody exists in their world. In case they talk, they seem like not in their senses and their conversation or monologue makes no sense to people around them.

Heterogeneity of Schizophrenia from a Behavioral Neuroscience Perspective

Schizophrenia is a heterogeneous brain disorder that may be caused due to certain heterogenic environmental and genetic factors characterized by diverse negative symptoms (Takahashi, 2013). It is a recurrent and progressive brain illness that affects the behavior and attitude of the individual with Schizophrenia through multiple relapses of continuous hallucinations and delusional symptoms. Misconceptions and misdiagnosis leave dire impacts on the lives of patients suffering from chronic Schizophrenic symptoms and the people around the patients are also at great risk because its heterogeneous nature compels patients to spout gibberish and behave erratically if they are afflicted.

It imposes devastating impacts on relationships, social life, education, and career of the afflicted person as he/she is unable to differentiate between fantasy and reality, so the person finds it quite difficult to behave in an emotionally appropriate way in social life. Variation of heterogenic symptoms such as impaired cognitive ability, social impairment, sleeping disorder, lack of motivation and concentration, and confused hallucinations make it very difficult to get diagnosed and early prognosis with Schizophrenia. Moreover, Ventral Striatum is the structure in the brain that mostly gets affected by Schizophrenia which is a dopamine target region but when dopamine level gets high abnormally it is associated with Schizophrenia. This region of the brain structure when gets affected by Schizophrenia leads to abnormal patterns of memory, cognition, and learning (Kapur et al, 2005).

Societal factors such as childhood traumas, insecurities, fears or phobias, childhood haunted memories, and insecurities due to low social strata add up to greatly affect an individual's life and cause disruption in normal mental functioning that makes him/her distant from society. Schizophrenic people suffer from the loss of tissues in the brain that disrupt connections leading to the emergence of changes in behavior and memory during their whole life span. Schizophrenia majorly affects temporal, medial temporal, and prefrontal regions of the brain that are responsible for episodic memory, spatial memory, personality development, and cognition of thinking (Karlsgodt et al, 2010). However, Schizophrenia is responsible for declining structural abnormalities in these areas including the prefrontal cortex of the brain. These complications make this mental disorder very hard to detect as the neuroscience behind this disorder is quite complex which makes the identification of behavioral abnormalities and their treatment difficult regarding the detection of Schizophrenia. However, positive symptoms of this mental disorder followed by a prolonged psychotic episode are used to diagnose the mental disorder.

In concluding the discussion regarding the disorder of Schizophrenia under Behavioral Neuroscience, it is characterized by the exhibition of aberrant behavior in the midst of a psychotic episode that changes patients' perception of reality with measurements of conditional and unconditional responses that are specific to individuals. Schizophrenia fundamentally alters the structure and [function of the brain](#) as Albert Einstein states "Reality is a mere illusion" blurring the border lines of distinguishing what is real and what is not.

References

- Frangou, S. (2014). A systems neuroscience perspective of schizophrenia and bipolar disorder. *Schizophrenia Bulletin*, 40 (3), 523-531.
- Takahashi S. (2013). Heterogeneity of schizophrenia: Genetic and symptomatic factors. *American journal of medical genetics. Part B, Neuropsychiatric genetics: the official publication of the International Society of Psychiatric Genetics*, 162B (7), 648-652. <https://doi.org/10.1002/ajmg.b.32161>
- Karlsgodt, K. H., Sun, D., & Cannon, T. D. (2010). Structural and functional brain abnormalities in schizophrenia. *Current directions in psychological science*, 19 (4), 226-231.

Kapur, S., Mizrahi, R., & Li, M. (2005). From dopamine to salience to psychosis—linking biology, pharmacology and phenomenology of psychosis. *Schizophrenia research*, 79(1), 59-68