Heredity [1]

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Behavior is not only influenced by biology through the mechanisms of anatomy and physiology. Heredity also plays a major role in the emergence and control of behavior. The study of heredity, genetics, particularly its subfield behavioural genetics, is crucial in understanding the relationship between heredity and behavior.

Genetics and Psychology

Heredity is defined as the manner in which characteristics and traits are passed on from parents to their offsprings. These traits may include hair color, eye color, height, facial structure and others. Genetic information containing these traits are stored in the nuclei of cells called genes. These genes are found in strands of DNA referred to as chromosomes. Forty-six of these chromosomes are found in each human cell, with the exception of sex cells, which contain only 23 chromosomes each.

Studies under behavioural genetics focus on the genetic factors that influence behavioural traits. These studies mostly have families and twins as subjects. In twin studies, fraternal twins and identical twins are compared to see which traits and behaviors are influenced by their genetic makeup. In family studies, the investigation is centered on the similarities in one or more traits among blood relatives. For instance, there are studies that try to find out the similarities on the occurrence of bipolar disorder among the members of the family.

Genetic Defects

Studies of genetic defects (for example, certain types of developmental disabilities) also provide pertinent information on the effects of heredity/environment upon behavior.

Relevant information on the influence of heredity versus behavior on behavior are being gathered from the studies concerning genetic defects. Some genetic defects include phenyketonuria (PKU), Down syndrome and Canavan disease.

Phenylketonuria

PKU is a metabolic disorder that can be inherited. A person with PKU has a gene that makes him unable to process phenylalanine, an essential amino acid. When phenylalanine is left unprocessed, excessive phenylalanine causes interference in the myelin formation in the brain. This results to one or more developmental disabilities.

Down Syndrome

A condition that results from an excess 21^{st} chromosome, Down syndrome is a defect that can be passed on from parent to offspring. People who has Down syndrome experience on or more developmental disabilities, and also have characteristic physical features.

Canavan Disease

Another genetic disorder is Canavan disease, which results from the gradual degeneration of nerve cells in the brain. There is damage to the myelin, a layer that serves as insulators of neural axons. Symptoms of Canavan disease include mental retardation from infancy, feeding problems and loss of motor skills that were acquired from infancy to childhood.

Links
[1] https://explorable.com/heredity
[2] https://explorable.com/users/sarah