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Psychology Study Material: Nature Versus Nurture and Mendel and Darwin

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Nature Versus Nurture

Nature means hereditary influences.



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- Nurture refers to environmental influences, in child development.

- Once, it was assumed that these were significant forces that operated independently of each other.
- In the 17th century the French philosopher René Descartes set out views which held that people possess certain inborn ideas that are long lasting and colour people's approach to the world.
- The British philosophers Thomas Hobbes and John Locke, on the other hand, took a more empirical approach and emphasized the role of experience as fully contributing to behavioural development.
- Since the days of Descartes, Hobbes, and Locke, the empirical "nature" approach has led to a lot of debate, many followers and many opponents.
- Mid to late 1800's, through to the early 1900's the nature approach was the sole standpoint, consistent with the scientific discoveries of the role of inheritance and natural selection.

Mendel and Darwin

- The psychological argument developed later; Francis Galton "Hereditary Genius" (1869) ; "gifted individuals" tended to come from families, which had other gifted individuals. He went on to analyze biographical dictionaries and encyclopaedias, and became convinced that talent in science, professions, and the arts, ran in families.
- Galton went even further arguing that it would be "quite practicable to produce a high gifted race of men by judicious marriages during several consecutive generations" .
- Eugenics: "the study of the agencies under social control that may improve or repair the racial qualities of future generations, either physically or mentally."

Studies to Determine the Relative Importance of Nature or Nurture

Twin Studies

- Studies making use of twins, identical or fraternal ... reared apart and reared together
- The case of Gerald Levey and Mark Newman, twins reared apart, who had not seen each other before: When method, both were bald, 6 and a half feet tall, volunteer fire fighters, 250 pounds in weight, had droopy moustaches, wearing key rings on right side of their belts, liked to wear aviator style dark glasses; both had interest in similar subjects, had jobs in the supermarket, and liked tall, slender women with long hair; had similar hobbies, liked Chinese food and same drinks; showed similar mannerism, laugh similarly, and loved to fight fire

Research on Nature- Nurture, Focusing on Environmental Issues

- Research looking for possible environmental causes for certain traits/behaviours

- These include prenatal studies, and studies involving manipulation of the environmental factors e. g. nutrition, exercise, drugs, pollution etc
- These involve comparing actual history: surveys etc.

Limitations of Nature-Nurture Research

- Ethical considerations in research with humans
- Not all animal research can be applied to humans.

Heredity and Physical Development

- Researchers believe that although environment exerts an important influence on human development, physical traits are the ones more evidently influenced by heredity. Personality and intellectual characteristics are also affected by it
- Mechanism of Heredity: Transmission of Genetic Characteristics
- The process begins from the moment of conception; a sperm from the father unites with the ovum/egg of the mother to form zygote, a single-cell/one-celled product, containing the complete genetic package for the one to be born much later.
- The zygote contains 23 pairs of chromosomes.

Chromosomes

- Each sperm and ovum contain 23 chromosomes that are tiny rod- shaped particles containing genetic/heredity information.
- Genetic/heredity information is packed in the genes.
- Genes: parts of chromosome that are the transmitters of inheritance.
- Genes produce particular characteristics of the new being, either individually or in combination.

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