

Heredity and Environment

Objectives

After this lesson, you will be able to understand

- The two factors affecting development i.e. Heredity and Environment
- Nature vs Nurture debate

Keywords

Personality

the qualities that form an person's character

Genes

Genes are inherited traits encoded into a person's DNA

Inherit

something that is received or transferred from one's parents

Characteristics

the qualities of a person

Nutrition

food that is necessary for health and growth

Factors that affect Development

There are two factors that affect the development of a child . They are:

1. Heredity
2. Environment

What is Heredity?

The transfer of physical or mental characteristics from parent to child through genes is called heredity.

Genes are inherited traits encoded into a person's DNA.

In some previous year question papers you might find that genes, genetics and heredity are used as synonyms.

What does heredity influence?

Heredity influences the different aspects of growth and development i.e. height, weight and structure of the body, colour of hair and eye, intelligence, interest and certain behaviours.

Heredity is a static social structure meaning once we inherit certain genes they cannot be modified or changed.

What is Environment?

The word environment in this context means the environment around the child, his interaction with his family, his neighbourhood, his school, the nutrition the child receives.

What are the environmental factors which influence development?

There are various environmental factors which influence the development. Some of these are classified as follows:

1. Physical factors:

Physical and geographical conditions influences a child's behavior, responses, and attitudes. For examples, a person born in Chennai would be more tolerant to hot, humid environment, as compared to someone born in Himachal Pradesh.

2. Family:

Family plays an important role in a child's development since the first interaction a child has, is with his/ her family.

The behaviors that a child observes, the values she or he is taught are all through this initial interactions.

3. School and teachers:

The school environment, and the teachers also play a very important role in the grooming of a child.

The teachers are the first role models for a child, and through the way a teacher conducts herself, or interacts with the child affects the knowledge they acquire, and the people they become.

There are various other environmental factors, in addition to these, like the book a child reads, or what he/she watches on TV, the sport they play, affects their development.

What is the Nature vs Nurture debate

For many years scientists debated whether heredity or environment was more important in a child's development. This is called as the Nature vs nurture debate

Here the word Nature represents heredity or genes which are carried from parent to child and NURTURE represents ENVIRONMENT the child is exposed to.

It is believed that it is both Heredity and Environment together influence the development in children.

Previous Year Questions

1. **Which of the following is predominantly a heredity related factor ?**
 - a. Attitude towards peer group
 - b. Thinking pattern
 - c. Colour of the eyes
 - d. Participation in social activities
2. Environmental factors that shape development include all of the following except
 - a. quality of education
 - b. physique
 - c. quality of nutrition
 - d. culture
3. In the context of 'nature vs nurture' debate, which one of the following statements seems appropriate to you
 - a. child is like a blank slate whose character can be moulded by the environment into any shape
 - b. Environmental influences only have a little value in shaping up a child's behaviour which is primarily genetically determined
 - c. Heredity and environment are inseparably interwoven and both influence development
 - d. Children are genetically predisposed to what they would be like irrespective of whatever environment they grow up in
4. **The nature -nurture debate refers to**
 - a. genetics and environment
 - b. behaviour and environment
 - c. environment and biology
 - d. environment and upbringing
5. **Human personality is the result of**
 - a. upbringing and education
 - b. interaction between heredity and environment
 - c. only environment
 - d. only heredity
6. Which one of the following statements is true regarding the role of heredity and environment in human development?
 - a. The role of environment is almost fixed, whereas the impact of heredity can be altered

- b. The theories based on the 'behaviourism' are largely based on the role of 'nature' in human development
- c. The relative effects of heredity and environment vary in different areas of development
- d. The policy of compensatory discrimination of the Government of India is based on the role of 'nature' in human development

7. Why do individuals differ from one another?

- a. Because of the impact of the environment
- b. Due to the inborn characteristics
- c. Due to the interplay between heredity and environment
- d. Because each individual has received a different gene set from his/her parents

8. What is meant by 'nature' in 'nature-nurture' controversy

- a. The environment around us
- b. Biological gives or the hereditary information
- c. Temperament of an individual
- d. Complex forces of the physical and social world

Summary

- Factors that affect development 1. Heredity 2. Environment
- The transfer of physical or mental characteristics (traits) from parent to child is called heredity.
- Both heredity and environment together influence child development.

Answers

- 1. c. Colour or the eyes
- 2. b. physique
- 3. c. Heredity and environment are inseparably interwoven and both influence development
- 4. a. genetics and environment
- 5. b. interaction between heredity and environment
- 6. c. The relative effects of heredity and environment vary in different areas of development
- 7. c. Due to the interplay between heredity and environment
- 8. b. Biological gives or the hereditary information