

Chapter 1 review questions

1. Vocabulary

Match the terms to the phrases. Each term may be used once, more than once, or not at all

Phrases

A self-replicating genetic structure found in the nucleus of a cell

An ordered part of a chromosome that codes for a specific functional product in the body

One of the variant forms of a gene

A test used to discover if a fetus carries a genetic abnormality

All the genetic material in the chromosomes of an individual

The molecule that encodes genetic information

Extent to which genes contribute to variation for a characteristic

Terms

Allele Amniocentesis Chromosome Clone Correlation

DNA Fragile X Gene Genome Heritability

Multivariate genetic analysis

2. True or False

- a. One of the most important changes in the behavioral sciences in the past 30 years is the recognition that genes influence almost all behaviors
- b. If genes influence a behavior, we would expect identical twins to be more similar for that behavior than non-identical (fraternal) twins.
- c. Among the childhood psychopathologies, autism and ADHD are the most genetically influenced

- d. Antisocial behavior in adolescence is highly heritable
- e. Genes only influence disordered behavior
- f. Weight is almost as influenced by genes as height.
- g. Personality and cognitive ability vary from person to person in large part due to genetic differences between people.
- h. Many cases of early-onset Alzheimer's disease are caused by single genes
- i. No cure for Alzheimer's disease has been discovered, so it is worthless that single-gene causes for the disease have been identified.
- j. Late-onset Alzheimer's disease is not influenced by genetics
- k. It is possible to get a genetic test for a gene-variant that influences risk for late-onset Alzheimer's disease
- l. Down syndrome is caused by a problem in a single gene
- m. Gene influence on cognitive ability decreases over the course of a lifetime
- n. Cognitive ability in adulthood is not nearly as influenced by genes as is height
- o. The family environment is the most important cause of similarities in behavior among family members.

Thought Questions

- 3.** Parents who play chess with their children have children who do better in school. Does this mean that playing chess is an environmental cause for better academic achievement?

- 4.** Explain the statement "To some extent, people create their own experiences for genetic reasons"

ANSWERS

1. chromosome gene allele amniocentesis genome DNA heritability

2. a.True
b.True
c.True
d.False
e.False
f.True
g.True

h.True

i.False

j.False

k.True

l.False

m.False

n.False

o.False

3. Not necessarily. A correlation does not prove causation. It might be that parents and children who like to play chess together do so because they share similar genetic constitutions and this constitution makes the children do better in school reasons”

4. Since many environmental measures used in behavioral sciences show genetic influences, it is likely that these environmental outcomes (like parenting, childhood accidents, life events, social activities etc.) come about in part because of the genetic constitution of the person, acting through characteristics like personality and cognitive style.

