

Analyzing Twin Studies and Adoption Studies

Each example below provides a summary of the results research studies. Indicate if each of the following pieces of evidence support the belief that NATURE (genes) or NURTURE (life history) affects behavior:

1. A person whose identical twin has Alzheimer's is twice as likely to get the disease as someone whose fraternal twin has Alzheimer's.
2. A person whose identical twin has Alzheimer's has a 60% chance of getting the disease (not a 100% chance).
3. A person whose identical twin has divorced is 5.5 times more likely to also divorce, whereas a person whose fraternal twin has divorced is only 1.6 times more likely to also divorce.
4. Baboons who achieve higher status are physiologically healthier than those with lower status. The changes in their health appear to occur AFTER the change in status.
5. Children from impoverished environments score better on intelligence tests given at age 12 if given stimulating infant care.
6. Children raised in severely impoverished environments display stunted physical and mental growth. When placed in nurturing environments later, they exhibit a period of rapid growth.
7. Dmitry Belyaev created a breed of devoted, affectionate, and tame foxes by selectively breeding the tamest animals over 40 years.
8. In a study of 16-year-olds, the verbal abilities of adopted children more closely resembled that of their birth parents and than their adoptive parents.
9. In tests of extraversion, identical twins are more similar than fraternal twins.
10. In tests of spatial reasoning ability, the scores of identical twins correlates more strongly ($r=.78$) than the scores of fraternal twins ($r=.28$)
11. Intelligence test scores tend to rise during the school year and drop in the summer.
12. Monkey infants that are original classified as uptight, stay uptight, even when placed with an easy-going mother. The same is true for easy-going monkeys placed with uptight mothers.
13. Rats in impoverished environments had thinner cerebral cortices and 20% fewer synapses than rats raised in stimulating environments.
14. Same-placenta identical twins are more similar in psychological traits than separate placenta identical twins.
15. The correlation between intelligence test scores of identical twins reared together is 0.86. The correlation between intelligence test scores of identical twin reared apart is only 0.72. The difference is statistically significant.
16. The personalities of adopted children are more like their biological parents than their adoptive parents, especially as they get older.
17. The values of adopted children are more like their adoptive parents than their biological parents.
18. When body fat is measured in adult twins, identical twins reared apart are nearly as similar to one another as identical twins reared together. The small difference between the two groups is not statistically significant.

CRITICAL THINKING : HOW DO YOU DO THAT?

Directions: In this exercise you will develop a map that describes how the various parts of the brain collaborate to enable you to perform leisure activities. Select a leisure activity that you enjoy (playing poker, playing piano, monopoly, etc). Using the following table, identify whether the specific brain sites in the list would be involved in the complex skills employed in the activity you selected. Begin by identifying the general brain function of the specific site (consult your text and notes if necessary). Then determine whether that part of the brain is directly involved or is not essential in your activity. Explain.

LEISURE ACTIVITY: _____

Brain Site	Function?	Involvement?
Hypothalamus		
Occipital Lobe		
Reticular Formation		
Cerebellum		
Parietal Lobe		

Medulla		
Temporal Lobe		
Frontal Lobe		
Thalamus		
Amygdala		
Hippocampus		