CORRELATION

Consider alternative explanations

Correctional studies examine the relationships between variables in a study.

Direct relationships (positive correlations) exist when high scores on one variable are associated with high scores on another variable, as when intelligence is positively correlated with grade point average. Inverse relationships (negative correlations) exist when high scores on one variable are associated with low scores on a second variable, as when the amount of sleep one gets is negatively correlated with levels of irritability and anxiety.

Demonstrating that a correlation exists does not prove that changes in one variable are the cause of changes in the other, partly because other factors which are undetected may be influencing both known variables. Thus, knowing that a correlation exists may lead to two or more different interpretations of the correlation. For the studies described below, decide whether the correlation is positive or negative and give two explanations for the finding.

1. A government study reveals that the more a mother smokes, the more her children are likely to exhibit behavioral problems

   Type of correlation:_________

   One explanation:

   Another explanation:

2. The more psychology courses students take during their college years, the higher scores they get on a measure of interpersonal sensitivity.

   Type of correlation:

   One explanation:

   Another explanation:

3. A study on the effects of alcohol found that higher and higher doses of alcohol produced increasingly lower scores on a test of memory recall.

   Type of correlation:

   One explanation:
Another explanation:

4. A college professor notices that the farther students sit toward the back of the room, the worse their grades in the course seem to be.

Type of correlation:

One explanation:

Another explanation:

5. When the physical attractiveness of high school girls was rated by their peers, it was noticed that those with the highest scores tended to do the best on a measure of self-esteem on record in the guidance office.

Type of correlation:

One explanation:

Another explanation:

6. A survey of adolescents being treated for eating disorders noted that those who watched the most TV during the week tended to receive the lowest ratings on a measure of general health.

Type of correlation:

One explanation:

Another explanation:

7. In a study of suburban communities, it was noticed that communities that sex-related crimes was highest in the communities that had the largest number of X-rated adult book stores.

Type of correlation:

One explanation:

Another explanation:

8. A survey reveals that college students who eat breakfast regularly have a higher GPA than those that don't eat breakfast regularly.

Type of correlation:

One explanation:
Another explanation:

There may be several reasonable explanations for each finding.