

Ch. 9: More About Correlation

Some features of the correlation coefficient r :

- r is a pure, unitless number.
- r is not effected by adding a constant to all values of one or both variables.
- r is not effected by multiplying all values of one or both variables by a constant.
- r is symmetric in x and y . r between x and y is the same as r between y and x .

r is not always a good indicator of the relationship between x and y - remember that it only measures _____.

A generally linear pattern may have r near 0 due to _____, and a strong _____ can still lead to r near 0.

Ecological Correlations

Correlations that are based on averages or rates (and not on individual data points) are called _____.

Ecological correlations tend to be much _____ than the correlations for individuals, because ...

Note: A high ecological correlation does not imply that the association is equally strong for individual data points.

Warning:

Correlation measures _____.

But _____ is not the same as causation!

Ex: The scores on standardized reading tests of elementary school children are strongly correlated with their shoe sizes. Does improving reading skills cause foot growth?