

To calculate the Pearson correlation coefficient , there are several **hypotheses**

- The data must be in the form of pairs
- Data for each variable must be normal distributed.
- The sample must be random, **that means any individual value does not depend on the values of another individual.**
- The relationship between the two variables must be linear. Because this coefficient measures the strength of the linear relationship.

Notation:

- A strong linear relationship does not mean that a causal relationship between two variables.
- If the variables are not normal distributed, there are another correlation coefficients , such as Sperman, Kindal