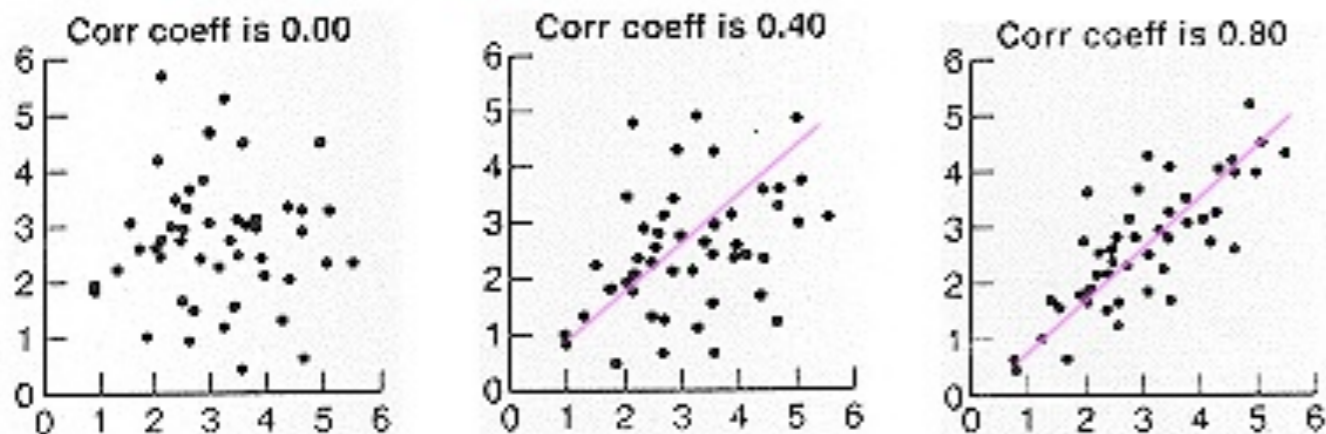


# Hypothesis testing in statistical studies (3): Correlation Analysis

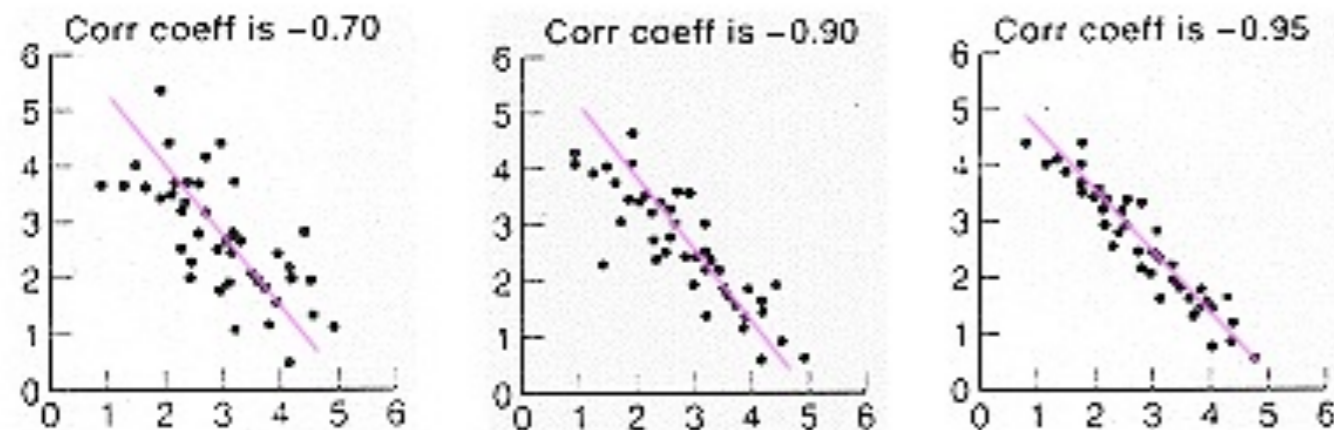


Ask Mish

## Scatter plots representing different values of the correlation coefficient.



**Positive correlation... when one variable increases, the other variable also increases.**



**Negative correlation... when one variable increases, the other variable decreases.**

- A CORRELATION:
  - means two measures are related not why they are related. Does not mean one variable necessarily causes the other
- CORRELATION COEFFICIENT:
  - indicates the DEGREE to which two measures are related. The further from 0 the stronger the relationship. Max. values +1 and -1 indicates a linear relationship. When coefficient = 0 means the two variables have no linear relation to one another (e.g. height and exam scores).
- POSITIVE correlation: the 2 variables go the same direction
- NEGATIVE correlation: the 2 variables go in opposite directions
- TYPES of correlation: PEARSON compares 2 interval level variables and SPEARMAN - 2 ordinal l.variables.
- SCATTER PLOT is a graphical representation of a correlation