

responsive variable: outcome of a study.

explanatory variable: explain or influence changes in a responsive variable.

Display the relation between two quantitative variables \Rightarrow Scatterplot

State \Rightarrow Plan \Rightarrow Solve \Rightarrow Conclude.

* put the explanatory variable on x-axis.

Examining: overall pattern/deviations

direction/form/strength

correlation / Pearson correlation coefficient

$$r = \frac{1}{n-1} \sum \left(\frac{x_i - \bar{x}}{s_x} \right) \left(\frac{y_i - \bar{y}}{s_y} \right)$$

r does not change if both x, y are divided.
 $r \in (-1, 1)$