

## Correlation coefficient

this is a number that tells you the trend of data points  
( $r$  is always used for the correlation coefficient).

\*  $r$  can be between  $-1$  to  $1$

$$r = -1$$



\* data points are linear  
\* negative trend

$$r = 0$$



\* no correlation

the closer  $r$  is to zero, the less correlation the points have.

$$r = 1$$



\* data points are linear  
\* positive trend

## causation vs. correlation

• a correlation does not mean there's causation, there could be other factors

## vocab

x-value  $\rightarrow$  independent variable  $\rightarrow$  explanatory variable

y-value  $\rightarrow$  dependent variable  $\rightarrow$  response variable