x-axis is typically the one doing the explaining – the explanatory, predictor, or independent variable.

y-axis is typically the one being explained – called the response or dependent variable.

positively associated – when above-average values and below-average values tend to occur together

scatterplot slopes upward as you move from left to right

negatively associated – when above-average values of one variable tend to accompany below-average values of the other

scatterplot slopes downward as you move from left to right

correlation – \( r \) describes the direction and strength of a straight-line relationship between two quantitative variables

sign indicates negative or positive association

\( r = 0 \) \( \rightarrow \) no linear association

\( r = -1 \) or \( r = 1 \) \( \rightarrow \) perfect straight line

\( r \) has no units and won’t change if we change the units of measurement

\( r \) ignores the distinction between explanatory and response variables

\( r \) is strongly affected by outliers