

STAT 110
Chapter 14 Definitions

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

$r = 0$ → no linear association

$r = -1$ or $r = 1$ → 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