

# AP Statistics

## 2019-01-22 3.1 Scatterplots & Correlation

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**Response variables** measures the outcome of a study

An **explanatory variables** can explain what caused it

A scatterplot shows the relationship between two quantitative variables for the same subject

As in any graph, look for the overall pattern and departures from the pattern.

Direction, form, and strength shows the relationship

**Association does not imply causation**

The correlation **r** measures the strength of the linear relationship

**r** is always between -1 and 1

$r > 0$  means a positive association,  $r < 0$  indicates a negative association

Values of **r** near 0 indicate a weak relationship

Extreme -1 and 1 occur only in a perfect linear relationship

Correlation is not resilient and does not change with value

Four-step process to analyze: direction, form, strength, outliers