Lesson 3-2 Correlation

***Correlation*** measures both the strength and direction of a linear relationship between two quantitative variables. The symbol for correlation is ***r***.



# Facts about correlation

* Positive values of *r* indicate a positive relationship between the variables and negative values represent a negative relationship.
* The values of *r* always fall between 1 and -1. The strongest relationships have an *r* value of 1 and -1, which represent a straight line. The weakest relationship has an *r* value of 0.
* Because *r* uses standardized values, the units of measure do not matter for *r*.
* Correlation applies to only linear relationships, no matter how strong other relationships may be.
* Correlation is strongly affected by outliers since it involves mean and standard deviation.
* When you use correlation to describe the relationship between 2 variables, you should also include both the mean and standard deviation for x and y.