**Topic 26**

**Graphical Displays of Association**

The final simple graphical display will be the scatterplot.

Let’s see how far we’ve come:

One dimensional

 Categorical

 **Bar Graph**

 Quantitative

 Few data points

 **Dotplot**

 **Stemplot**

 Lots of data

 **Histogram**

Two dimensional

One dimensional with categorical binary

 Categorical

 **Bar Graph with groups**

 Quantitative

 Few data points

 **Side-by-side stemplot**

 Lots of data

 **Population histogram**

 Categorical – Categorical

 **2-way table**

 **Proportional bar graph**

 **Bar graph with groups (limited number of groups)**

 Categorical – Quantitative

 **Stemplot**

 **Stacked histograms**

 Quantitative –Quantitative

 **Scatterplot**



**Scatterplot**

* Two Quantitative (Continuous) Variables
* Explanatory Variable is on Horizontal Axis
* Response Variable is on Vertical Axis

Variables are **Associated** if one can be predicted (to some degree) from the other.

**Direction of Association**

* **Positive** – if they both move in the same direction (both up or both down)
* **Negative** – if they move in opposite directions (one up, the other down)

 

***Strength* of Association -** How accurately one value (e.g. response) can be predicted from the other value (e.g. explanatory.

Strong



Weak



**Sometimes Not at All**



***Form* of Association**

* **Linear**
* **Curvilinear**

