**Chapter 3.1 Notes: Scatterplots and Correlation**

Why do we use scatterplots?

* Used to investigate relationships between \_\_\_\_\_\_\_\_\_\_\_\_\_ variables.
* Types of Variables
  + Response Variable:
  + Explanatory Variable:

Investigate scatterplots by talking about these 4 things:

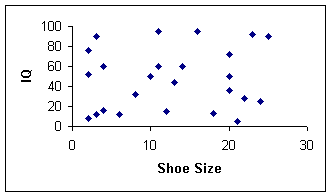
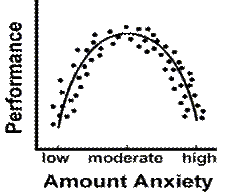
Examples:

Form: Form:

Direction: Direction:

Strength: Strength:

Outliers?: Outliers?

Form: Form:

Direction: Direction:

Strength: Strength:

Outliers?: Outliers?

Correlation Coefficient

* **Describes the \_\_\_\_\_\_\_\_\_\_**of the \_\_\_\_\_\_\_\_\_\_\_\_ relationship.
* *r*: Can take all values between -1 and 1 inclusive
  + r =-1
  + r = 0
  + r = +1
  + r = 1.2
* A **perfect correlation:** all plotted points lie on a straight line.

|  |  |  |  |
| --- | --- | --- | --- |
| **0 – 0.25** | **0.25 – 0.5** | **0.5 – 0.75** | **0.75 - 1** |
| very weak | weak | moderate | strong |

Calculating the Correlation Coefficient (Calculator)