Index Card #14 (Back & Front)

Statistics

Statistical Studies:

Survey: Questionnaire – Ask (Paper/Verbal) About a Topic
No Researcher Intervention

Observational Study: Observe a Topic & Record Results
No Researcher Intervention

Controlled Experiment: Separate into Two Groups: Control Group & Experimental Group There Is Researcher Intervention

Bias: Leans the Data Towards One Direction
Location, Age, Gender, Race, Tone of Voice

Measures of Central Tendency:

Mean: Average $\frac{Sum\ of\ the\ Numbers}{Number\ of\ Numbers}$ Remember: You cannot take an Average of an average

Median: Middle Number Put the Numbers in Order – Cross From Each Side

1st Quartile: Middle Number of Lower Half Put the Numbers in Order – Cross From Each Side of the Median (On Lower Half)

3rd Quartile: Middle Number of Upper Half Put the Numbers in Order – Cross From Each Side of the Median (On Upper Half)

Inter Quartile Range: 3rd Q – 1st Q

Range: Highest Number – Lowest Number

Mode: Number that Occurs the Most

Standard Deviation:

1. Enter Data into L1 (Frequency goes into L2) Stat Edit
2. Stat Calc 1 Var Stats L1 (,L2 if there is a frequency list)
3. Enter
4. $\bar{x} = Mean$ $S_x = Standard\ Deviation\ of\ SAMPLE$
   $\sigma_x = Standard\ Deviation\ of\ POPULATION$

Variance - (Standard Deviation)^2

Normal Distribution:

If Given % - Find How Many Standard Deviations it is From the Chart
Then Find the Values

If Given the Values – Find How Many Standard Deviations it is
Look on Chart for the Standard Deviations
Add the %

If NUMBER of _____ - Set up $\frac{\%}{100} = \frac{Part}{Whole}$

<u>Percentile</u> – Higher than that % of the whole

Add the % From the LEFT on the Chart Until You Get to That % - Don't Go Over
See How Many Standard Deviations
Find the Value