

PH01 : Population & Sample Data

- Population - is defined by the Researcher
 - There are no set rules to apply when defining a population
 - Population can be quite large
- Sample Data - when we need to make conclusions or estimates about an entire population, we choose a sample from population of interest.
 - It is SMALL well-chosen sample which accurately reflect the characteristics of the entire population.
i.e., sample is representative of population.

	Population	Sample
Measurement	Parameter	Statistic
Mean	μ "Mu"	\bar{x} "x-bar"
Variance	σ^2 "sigma squared"	$s^2, \sigma^2_{\bar{x}}$
Standard Deviation	σ "Sigma"	$S, \sigma_{\bar{x}}$

Population Standard Deviation = $\sigma = \sqrt{\frac{\sum (X - \mu)^2}{n}}$

Sample Standard Deviation = $S = \sqrt{\frac{\sum (X - \bar{x})^2}{n-1}}$

Basically the same formula.