

Sampling Techniques

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# Why Sample??!

- ▶ Why not study everyone??
- ▶ Debate about Census Vs. Sampling





What do we mean by Descriptive Statistics ?

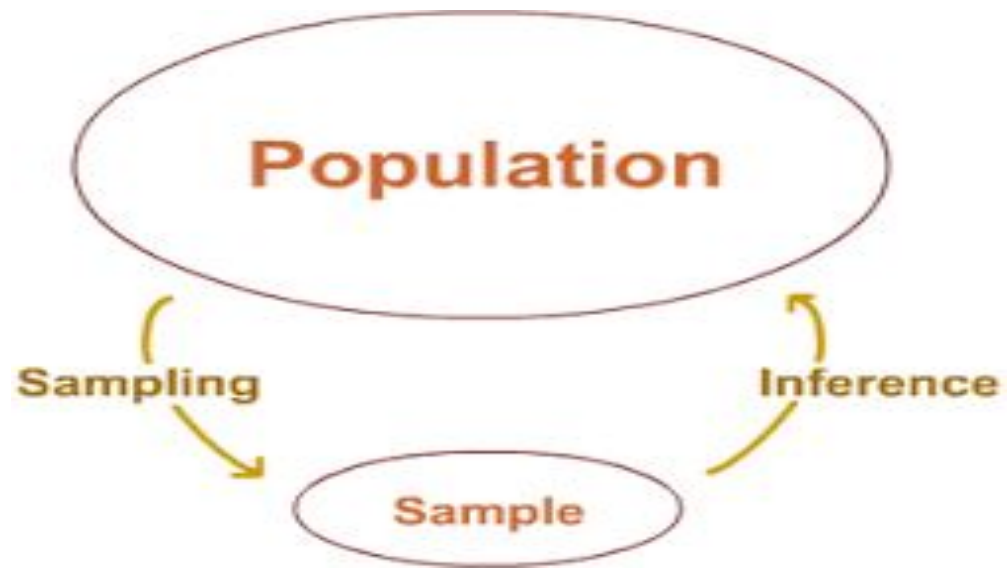
▶ Statistical Analysis

**Descriptive Statistics:**

**Organizing , presenting and summarizing data .**

**Statistical inference:**

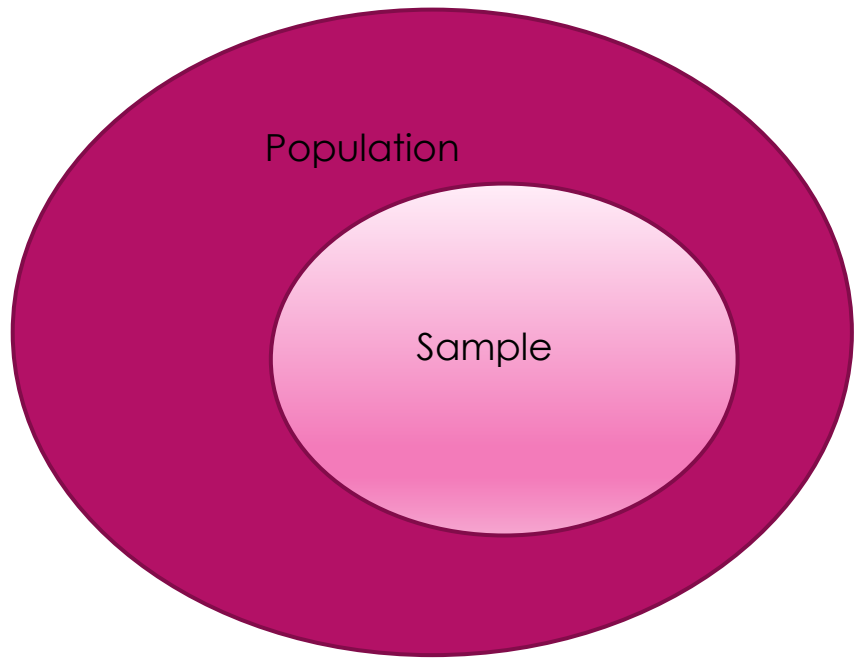
**Observe a sample from a population , want to infer something about that population.**



## Population and sample

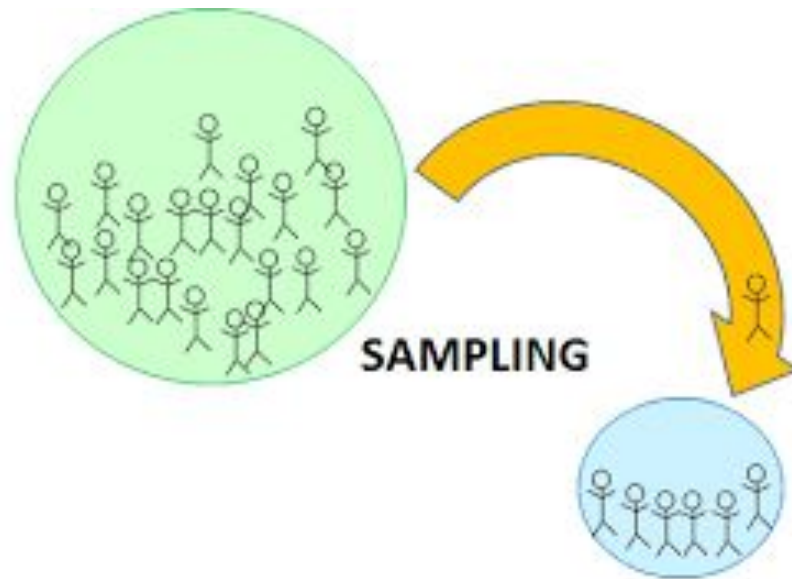
- a population is the set of all individuals that are of interest to the investigator in particular study
- a sample is usually a relatively small number of individuals taken from a relatively large population. The sample is only part of the available data
- it is very important to understand the distinction between what the population is and what the sample is -especially when carrying out inference

Population and Sample



## Population and sample :examples

- want to examine the blood pressure of all adult males with a schizophrenia diagnosis in Ireland
- population is all adult males with a schizophrenia diagnosis in Ireland
- take a random sample of 100 adult males with a schizophrenia diagnosis and measure their blood pressure



Finite Population:*a*

**A finite population is a population containing a finite number of items**

## Problems of sampling frame

- missing elements
- non-coverage
- incomplete frame
- old list
- undercoverage
- may not be readily available
- expensive to gather

Cluster  
Sampling



## Advantage of sampling

- **greater economy**
- **short time-lag**
- **greater scope**
- **higher quality of work**
- **evolution of reliability**
- **helps drawing statistical inferences from analytical surveys**

## Types of Samples:

- |   |                 |
|---|-----------------|
| ▶ Probability:                                | Non-probability |
| ▶ 1 Simple random                             | Quota           |
| ▶ 2 Systematic random                         | Purposive       |
| ▶ 3 Stratified random                         | Convenience     |
| ▶ 4 Random Cluster                            |                 |
| ▶ 5 Stratified Cluster                        |                 |
| ▶ Complex Multi-stage Random ( various kinds) |                 |

## Quota Sampling



Quota:  
Male, Above 50



## Types of probability samples

- simple random
- Systematic random
- stratified random
- random cluster
- stratified cluster
- complex multi-stage random(various kinds )

# Willing to answer Any Question

