SAMPLING & DATA COLLECTION METHODS

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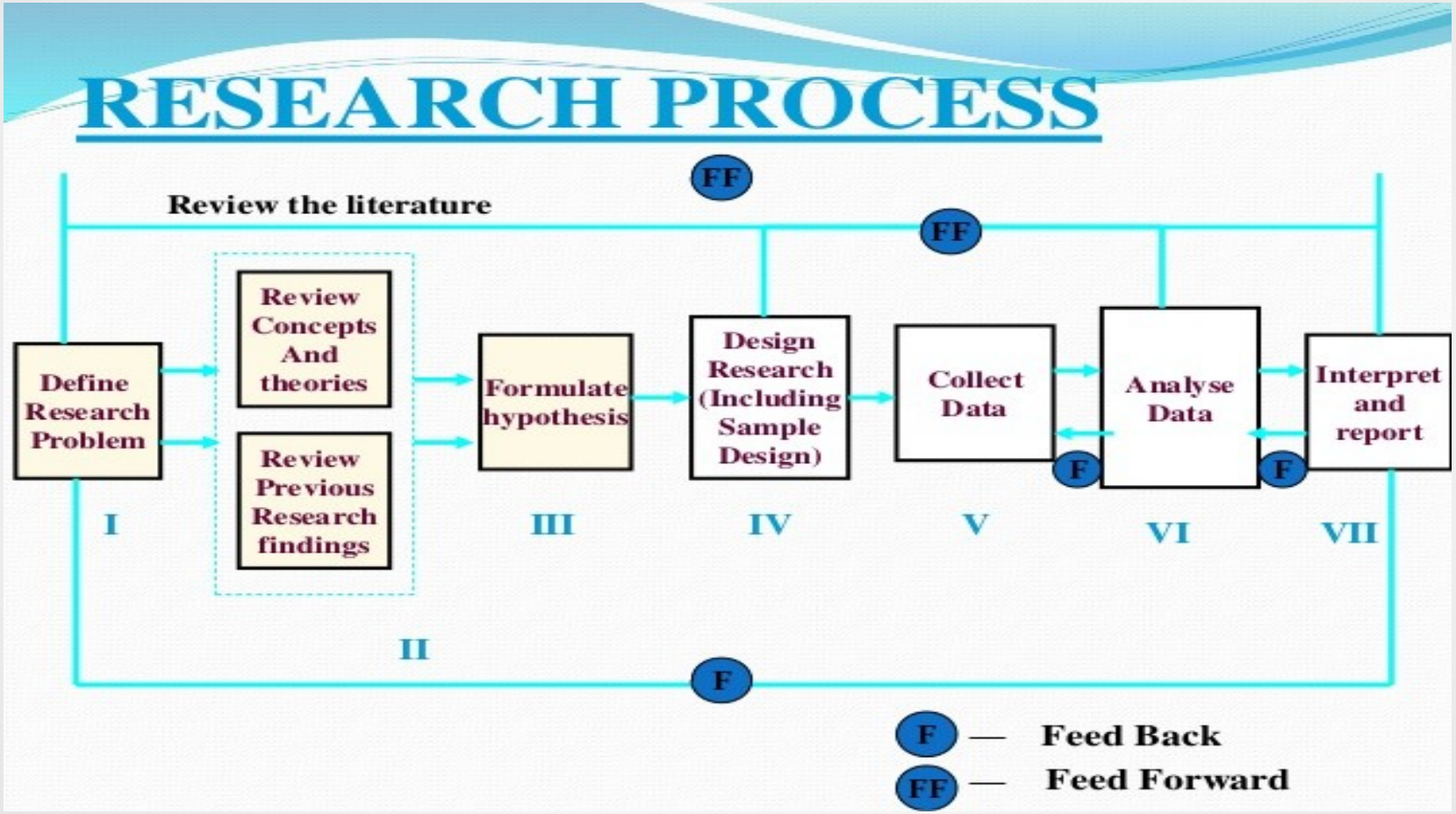

RESEARCH PROCESS
FF
Review the literature
FF
Define Research Problem
Review Concepts And theories
Review Previous Research findings
Formulate hypothesis
Design Research (Including Sample Design)
Collect Data
Analyse Data
Interpret and report
F
F
I
II
III
IV
V
VI
VII
F
F — Feed Back
FF — Feed Forward

Sampling

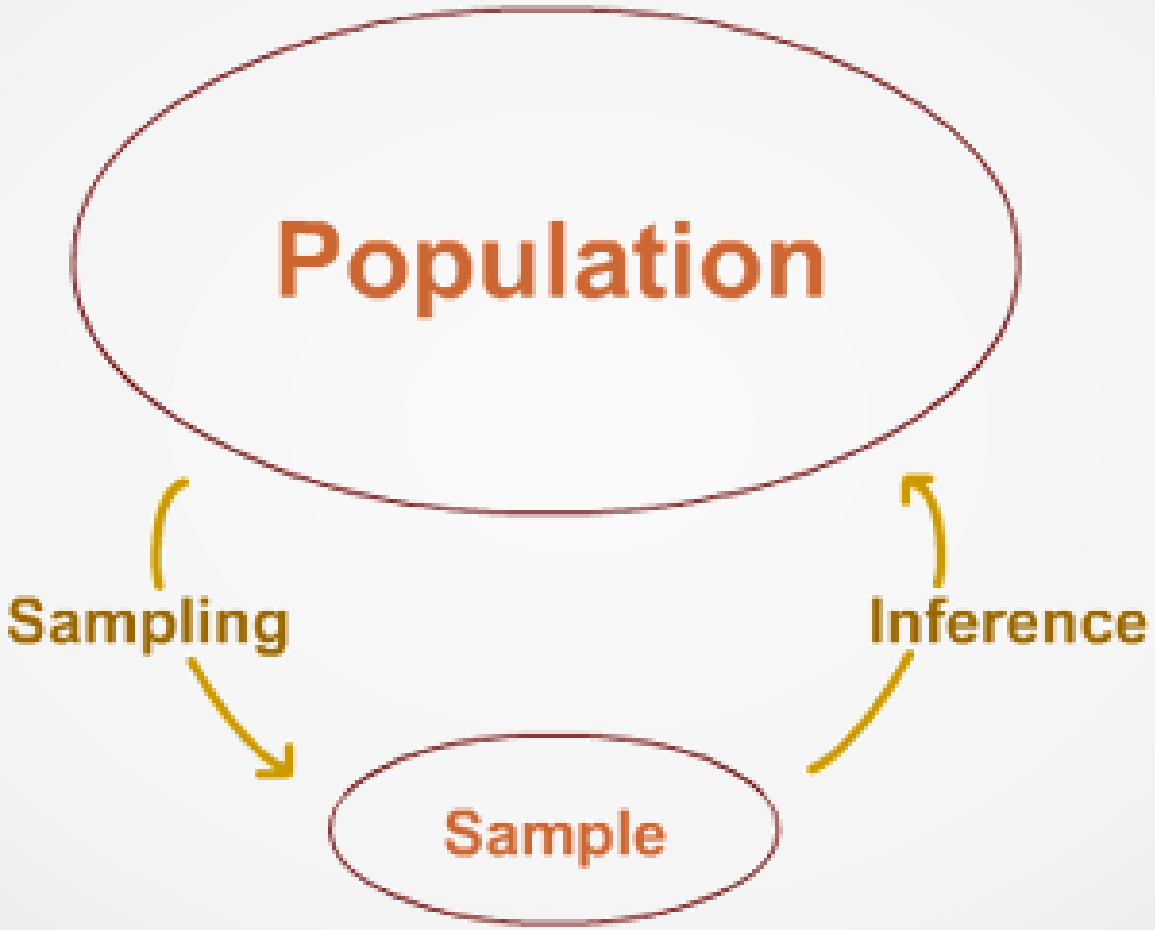
- Samples-

  “A sample can be defined as any subset of the population.”

- Population-
  “A population can be defined as any set of persons/subjects having a common observable characteristic.”

- Sampling-
  “Sampling is the process whereby a researcher chooses his/her sample. ”

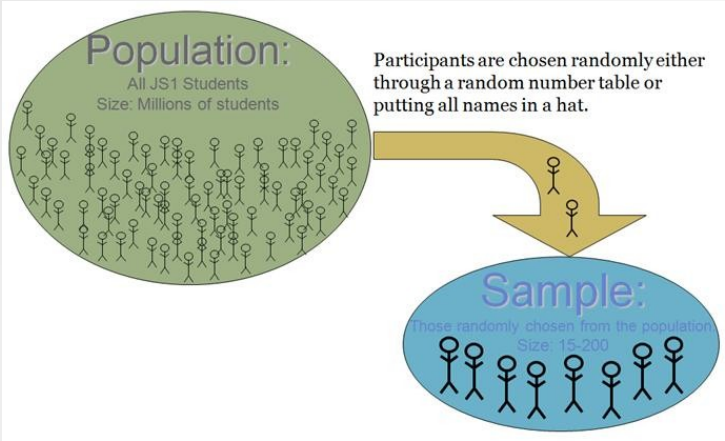
Why Sampling?

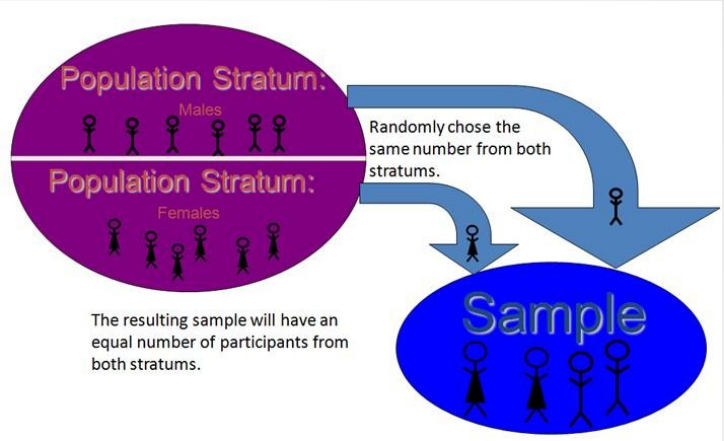


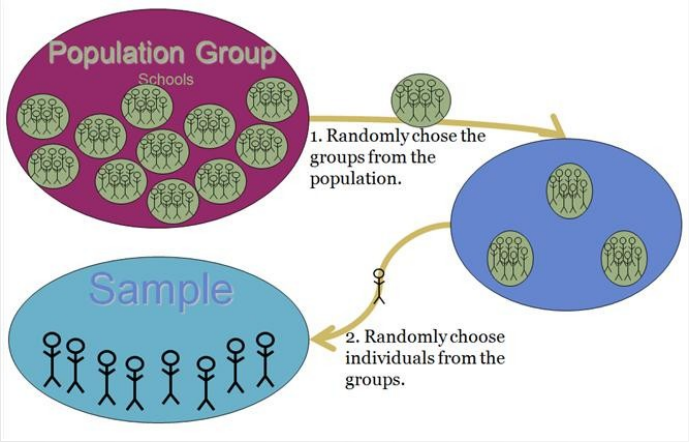
Need of sampling

- Cost effective
- Impossible to test entire population
- Sampling entire population may produce error.
- Testing may be destructive.

Types of Sampling Procedures







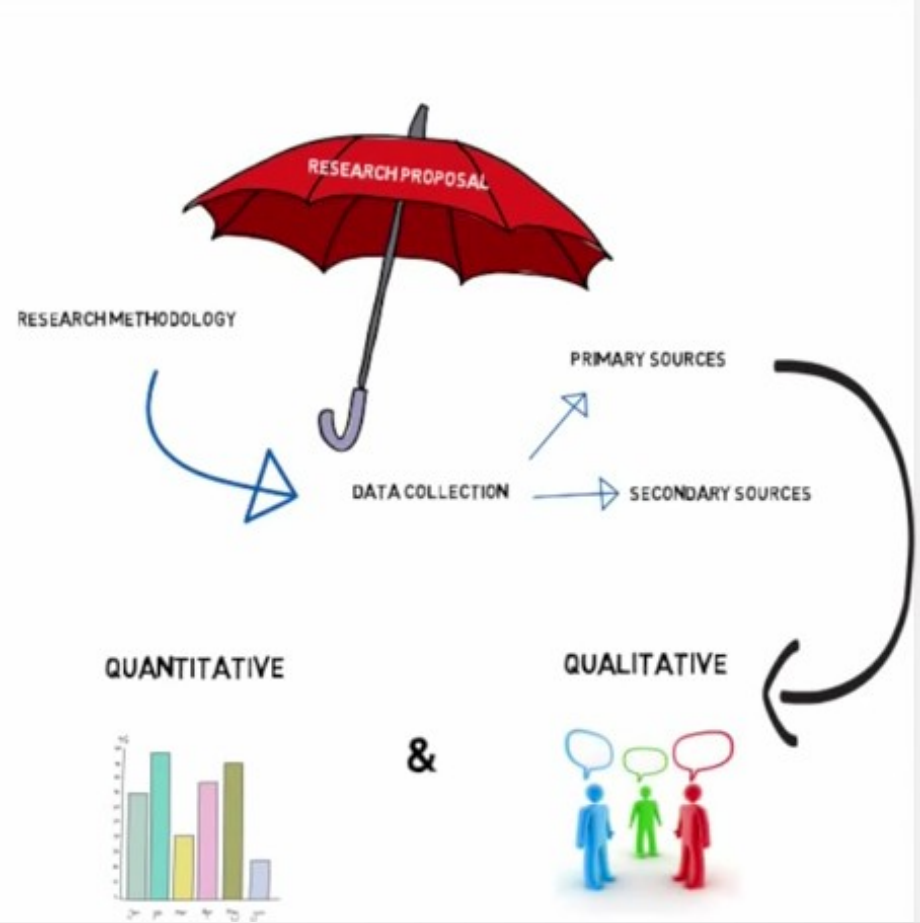
- Simple Random Sampling
- Stratified Sampling
- Multistage Sampling
- Convenience sampling

Sampling Problems

- Missing Elements
- Foreign Elements
- Duplicates

Data Collection

- *“Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. ”*



Sources of Data

Data Collection

Primary Data

This is the data that you gather yourself through methods of investigation in the field.
It make two forms:
* **Quantitative data:** measurements (river velocity, river width etc)
* **Qualitative data:** observations that you make (environmental scores), these are likely to be subjective.

Secondary Data

This is information that you get from other sources that are already published/mapped.
* It may include books, maps, websites.
* It should support/supplement your primary data - but is not as significant.
* You ***must*** reference it correctly

Quantitative Data Gathering

Typical Quantitative data gathering instruments include:

- Interviews
  - Face-to-face
  - Telephonic
  - Computer Assisted Personal Interviewing (CAPI)
- Questionnaires
  - Paper-pencil-questionnaires
  - Web based questionnaires

Qualitative Data Gathering

- Helps in impact evaluation
- improve the quality of survey-based quantitative evaluations
- The qualitative methods most commonly used in evaluation can be classified in three broad categories:
  - indepth interview
  - observation methods
  - document review

Conclusion

- The key question in sampling is How representative is the sample of the target population?
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References

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- https://onlinecourses.science.psu.edu/stat506/node/4
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- https://www.youtube.com/

THANK
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