SAMPLING

I. Purpose of sampling
II. Sampling terminology
III. Sampling techniques
IV. Determining sample size
V. Sensitivity to diversity
I. Purpose of sampling

1. Why sampling?
   - Study the whole population?

2. Representativeness
   - How representative the selected cases are?

3. Casual vs. scientific sampling
1. Purpose of sampling

4. What is sampling?
II. Sampling terminology

1. (Study/Target) Population
   - All possible cases
   - Specify the following:
     1) Content
     2) Unit
     3) Extent
     4) Time
II. Sampling terminology

2. Sampling frame

- A listing of all element (cases) in a study population
- Examples: listings of telephone numbers, customers from a local electric utility
- Adequacy of sampling frame
II. Sampling terminology

3. Sample
- The group of people you select to be in your study
III. Sampling techniques

1. Probability sampling
   - Based on probability theory
   - *Equal probability of selection* can ensure representativeness
   - *Random selection*
   - Can estimate *sampling error*
   - Types of probability sampling
     1) SRS
     2) Stratified
     3) Cluster
III. Sampling techniques

1. Probability sampling

1) Simple random sampling (SRS)
   - Random selection using random numbers
   - Simple vs. not most efficient & not good representation of subgroups
III. Sampling techniques

1. Probability sampling

2) Stratified sampling
   - For adequate representation of subgroups
   - (1) Divide the sampling frame into homogeneous subgroups
   - (2) taking a SRS in each subgroup
III. Sampling techniques

1. Probability sampling

3) Cluster sampling

- When a population is spread across a wide geographic region

- (1) Divide a population into clusters
  (2) randomly select clusters
  (3) measure all elements within sampled clusters.
III. Sampling techniques

2. Nonprobability sampling
   - What if we can’t develop a sampling frame?
   - May not be much interested in generalization
   - Rely on availability or judgment on selecting subjects
III. Sampling techniques

2. Nonprobability sampling

1) Convenience (availability) sampling
   - Rely on availability

2) Purposive sampling
   - Based on judgment or prior knowledge
IIII. Sampling techniques

2. Nonprobability sampling

3) Quota sampling
   - Using quotas for better representation
   - Construct matrix

4) Snowball sampling
   - Accumulated gradually in a snowball fashion
   - When to use?
IV. Determining sample size

- # of variables * minimum # of cases per variables
V. Sensitivity to diversity in sampling

➢ Gender bias

➢ Cultural sensitivity
Future Weeks

Next (week 8): Survey Research
Week 9: Exam
Week 10: Spring break
Week 11: Single Case Designs