



Chapter 7

THE LOGIC OF SAMPLING

History of Sampling

- ▶ The example of the Literary Digest
- ▶ 1924, 1928, 1932 predicted Presidential winner correctly
- ▶ 1936: predicted Landon (Republican) over Roosevelt (Democrat)
- Problem = sampling frame; list of automobile owners and telephone subscribers

History, con't

- ▶ George Gallup – correctly predicted that Roosevelt would beat Landon
- ▶ Gallup and his American Institute of Public Opinion used quota sampling successfully in 1936, 1940, 1944
 - ▶ In 1948 chose Governor Thomas Dewey of New York over incumbent President Harry Truman

Nonprobability Sampling Techniques

- ▶ Any technique in which samples are selected in some way NOT governed by probability theory.

Examples of Nonprobability Sampling

- ▶ Reliance on Available Subjects
- ▶ Purposive or Judgmental Sampling
- ▶ Snowball Sampling
- ▶ Quota Sampling
- ▶ Selecting Informants in Field Research

Advantages/Disadvantages of Nonprobability Sampling

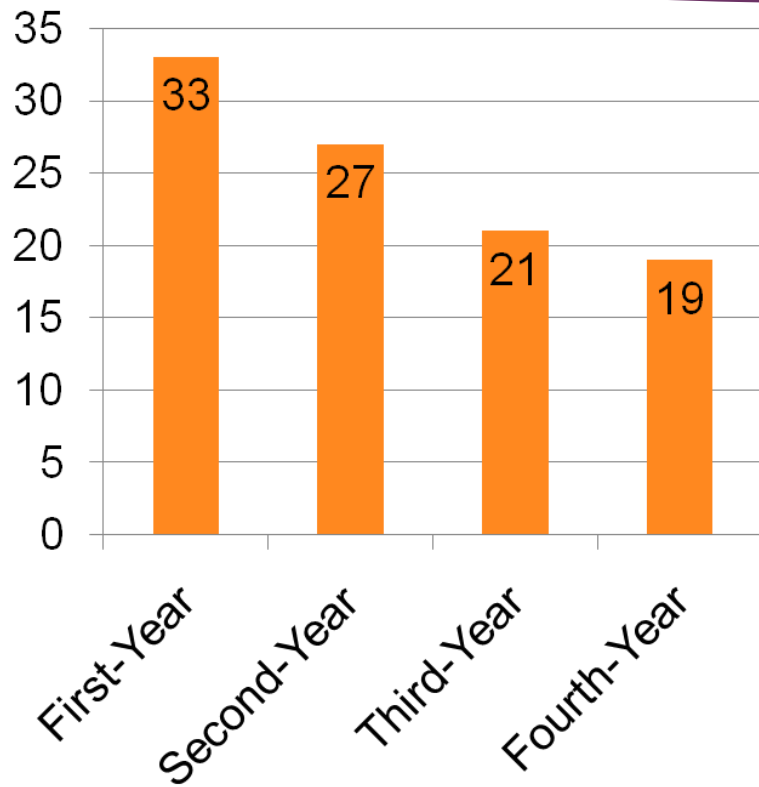
- ▶ Means to access hard to reach groups
- ▶ Not based on statistical/probability theory
- ▶ So level of generalizability is lower

The Theory and Logic of Probability Sampling

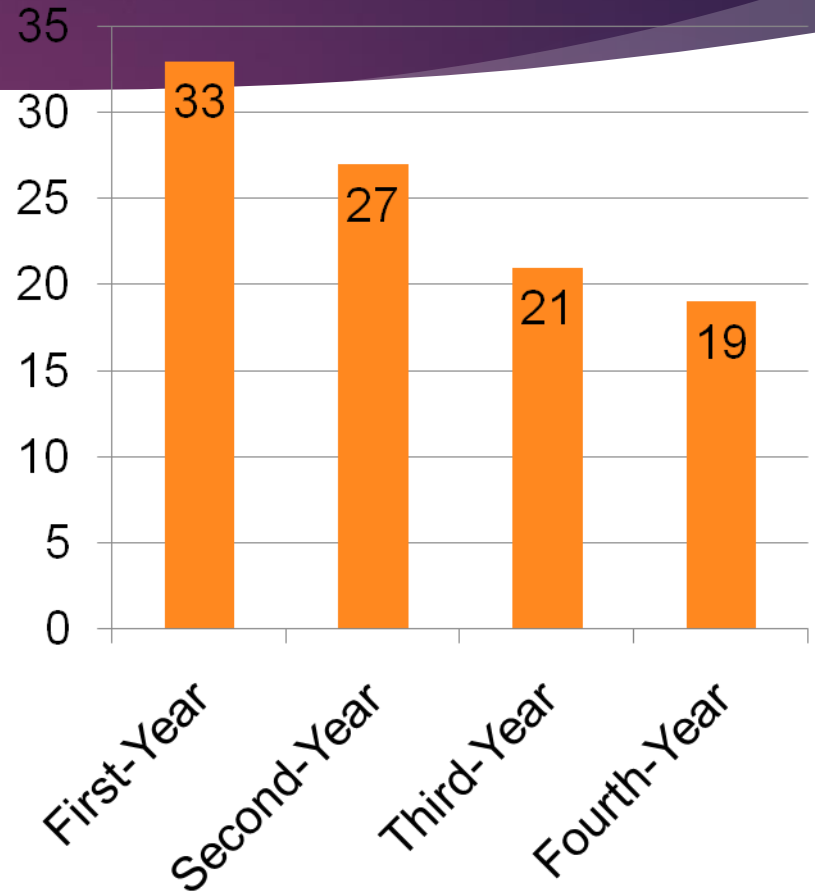
- ▶ Probability Sampling – the general term for samples selected in accord with probability theory.
 - ▶ Often used for large-scale surveys.
- ▶ If all members of a population were identical in all respects there would be no need for careful sampling procedures. However, this is rarely/never the case.
- ▶ A sample of individuals from a population must contain the same variations that exist in the population.

Perfect Probability Sample

State University
Population



State University Sample

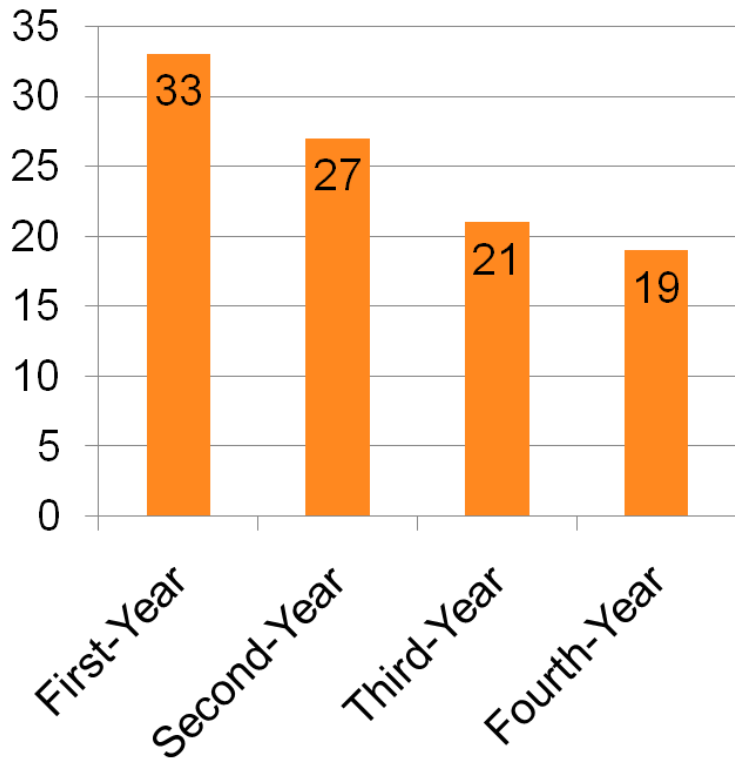


Less-Than-Perfect Probability

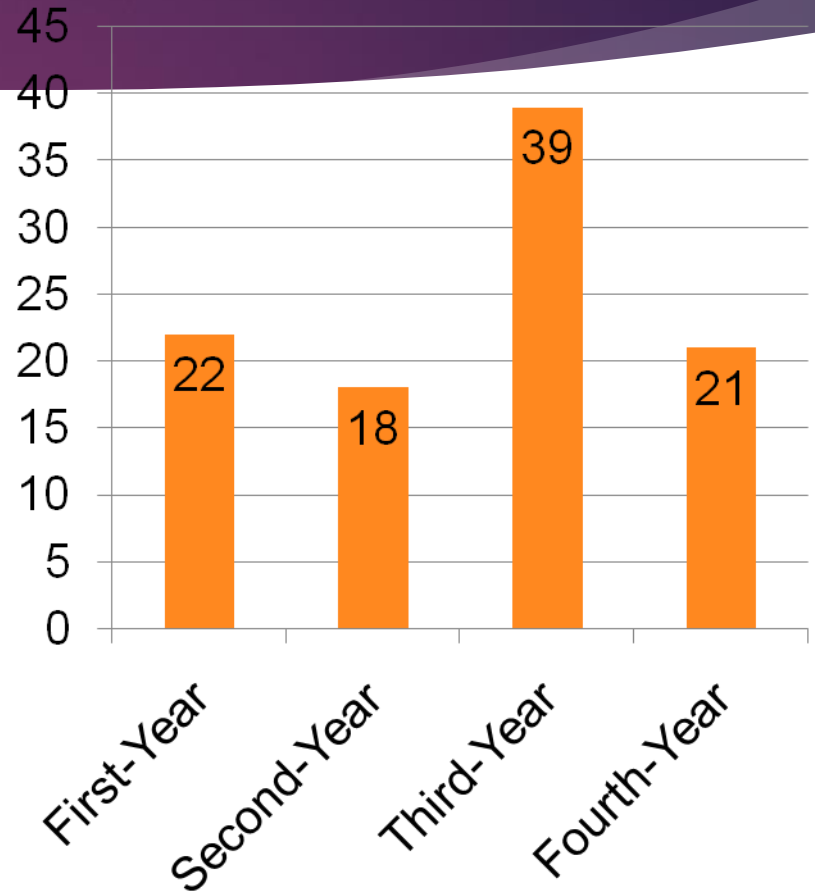
Sample

State University

Population



State University Sample



Bias Comes in Many Forms

- ▶ Those selected are not typical or representative of the larger populations they have been chosen from
- ▶ Problems with standing in the college center
- ▶ Problems with phone-in, log-in surveys/polls
- ▶ Many conscious and unconscious ways to bias your sample

The Theory and Logic of Probability Sampling


- ▶ Representativeness and Probability of Selection
 - ▶ Representativeness – the quality of a sample of having the same distribution of characteristics as the population from which it was selected.

Populations and Sampling Frames

- ▶ Sampling frame: That list of units composing a population from which a sample is selected.
- ▶ Representative sample = essential that the sampling frame include all members of the population

3 Types of Sampling Designs

1. Simple Random Sampling
 - ▶ Obtain sampling frame
 - ▶ Give number to each member, use random numbers table
2. Systematic Sampling
 - ▶ As above, but no use of random numbers table
 - ▶ Every k th element is included in the sample
3. Stratified Sampling
 - ▶ Create subsets important to your study, then use systematic sampling

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- ▶ Do our best to make our samples representative, however:
 - ▶ The most carefully selected sample will never provide a perfect representation of the population from which it was selected. There will always be some degree of sampling error.
 - ▶ Larger samples = less sampling (or standard) error