Week 4 Day 2

The goal today is to

- Distinguish population and sample
- Practice different types of sampling
- Identify and avoid causes of bias in sampling method.

Part I: population, sample, and bias

For each report, identify the following items (if possible). If you can't tell, then say so – this often happens when we read about a survey.

- The population
- The sample
- The sampling method, including whether or not randomization was employed and what (if any) biases might result.

Problem 1 On August 13, 1999, the Associated Press reported on an online survey conducted by ABC News that estimated there to be 11 million Americans suffering from "some form of addiction to the World Wide Web." This estimate was based on data collected from 17251 responses to an Internet use questionnaire distributed and returned through the Web site abcnews.com.

Problem 2 A telephone survey of 2000 children ages 10–16 found that 25% of the children were slapped, punched, kicked, hit, or threatened with an object in the past year by an adult, sibling, or another child.

Problem 3 A consumer magazine asked all subscribers whether they had used alternative medical treatments and, if so, whether they had benefited from them. For almost all of the treatments, approximately 16% of those responding reported cures or substantial improvement in their condition.

Part II: Sampling methods

For each of the following reports, identify the sampling methods that are used.

Problem 1 Administrators at Texas A&M University were interested in estimating the percentage of students who are the first in their family to go to college. The A&M student body has about 46,000 members. The university administrators select several dormitories at random and contact everyone living in the selected dorms.

Problem 2 Administrators at Texas A&M University were interested in estimating the percentage of students who are the first in their family to go to college. The A&M student body has about 46,000 members. The university administrators use a computer-based list of registered students, contact 200 freshmen, 200 sophomores, 200 juniors, and 200 seniors selected at random from each class.

Problem 3 Food-safety inspectors visit a random sample of poultry farms unannounced and take samples of a day's worth of eggs to testfor contamination. If the samples are found to contain dirt,antibiotics, or other foreign matter, the eggs will be destroyed and the farm reinspected until purity is restored.