

Name: _____

Key Topic Chapter 4

Is about... *Collecting Data well for observational studies & Experiments*

Main Idea
Observational Studies and Surveys

Statistical Questions
Simple Random Sample
When each person in pop has = likely chance of being chosen.
Convenience Sample using people that are easy to reach
Voluntary Response
Participants select themselves to be in
Sampling Variability
Even sample will yield diff. results
Margin of Error (MOE)
 $MOE = 2 * SD$
→ increase sample size to decrease MOE

Main Idea
Experiments

Control Group
Placebo
Single and Double Blind
Confounding Variables
Lurking Variables
Completely Randomized Design
Design by Blocking
Matched Pairs Design

Main Idea
Bias

Bias - consistently over/under estimating
Undercoverage
Missing part of the population
Nonresponse
People do not respond when chosen.
Response Bias
Participant is influenced by something like interviewer.

Main Idea
Inference

Random Sample allows...
Generalization
Random Assignment allows...
Cause & effect
Statistical Significance
When the difference in means is too large to have occurred by chance.
* less than 5% chance
67% + Not Stat. sign.