Coursera Stats Video Lectures – Observational studies and Experiments

Week 1, Video 2

1. two types of studies:Define Observational Studies and Experiments
   1. Observational Studies
      1. can only establish correlation, not causation
      2. observes the participants; makes no effort to change any variables
      3. Retrospective observational studies: uses past data only
      4. Prospective observational studies: collects data throughout the study
   2. Experiments
      1. subjects are randomly assigned to various treatment
      2. variables are manipulated
      3. can establish causation
2. Correlation vs Causation
   1. Correlation does not imply causation
3. Random Variables
4. Confounding variables
   1. extraneous variables not controlled by the researchers that affect both explanatory and response variables, making it seem like there is a relationship between the two variable