Random Selection vs Random Assignment

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Random Selection

- The process of choosing a sample at random from some population
- This randomization allows for us to generalize the results to said population
- Without randomizing, we have to be more careful about what larger group your sample represents

Random Selection Cont.

- ex. Trying to get GPA information about the school's senior students
  - Teacher has list of all 300 senior students in the school
  - Gives each student a number and uses a random number generator to get 100 students
  - From this sample, the teacher gets their mean GPA
  - Because of the random selection, they can generalize it to all of the seniors.

Random Assignment

- The process of assigning participants to groups at random
- Look at a how a response variable changes within the groups based on explanatory variables.
- This allows for causality to be inferred

Random Assignment Cont.

- ex. Giving treatment to try and cure a disease
  - The groups are "given treatment" and "given placebo"
  - Explanatory: whether or not they received the treatment. Response: If they got better.
  - Which participants go where is chosen randomly
  - This is done in order to see if there is more improvement in those who got the treatment than those who got the placebo.

Summary

- Random selection is used for getting the sample you will be working with
- Random assignment is used for separating your sample into groups in order to try to see cause and effect