

Friday, December 14, 2018

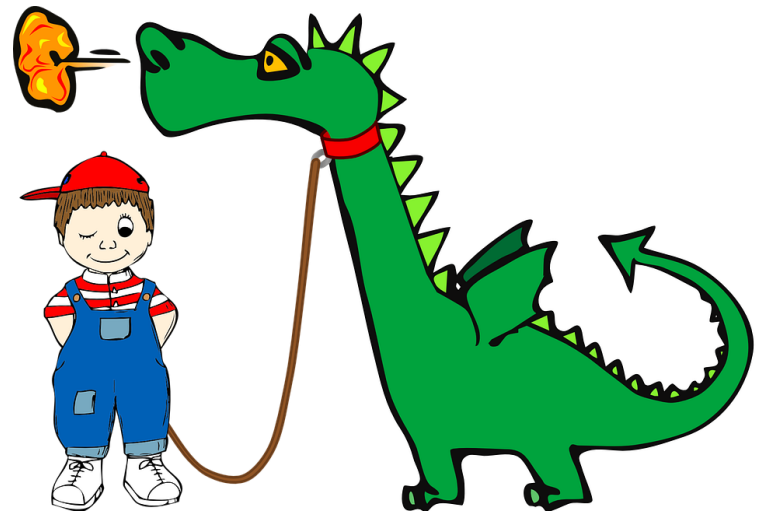
- Warm-up
 - Assume we were to survey students at Northglenn High School, describe how to implement each of the following sampling methods:
 - SRS
 - Stratified
 - Cluster
 - Systematic
 - Convenience
- Review Experimental Design



We are going to survey students about pets, design studies to implement each type of bias

- Undercoverage
- Response Bias
- Non-Response Bias
- Voluntary response bias

What kind + how many pets you would like to have.



Tire Experimental Design

A firm wishes to test the durability of four tire types: A, B, C, and D. We will examine four different study design. In each the response variable is the number of miles the car drove with the tires.



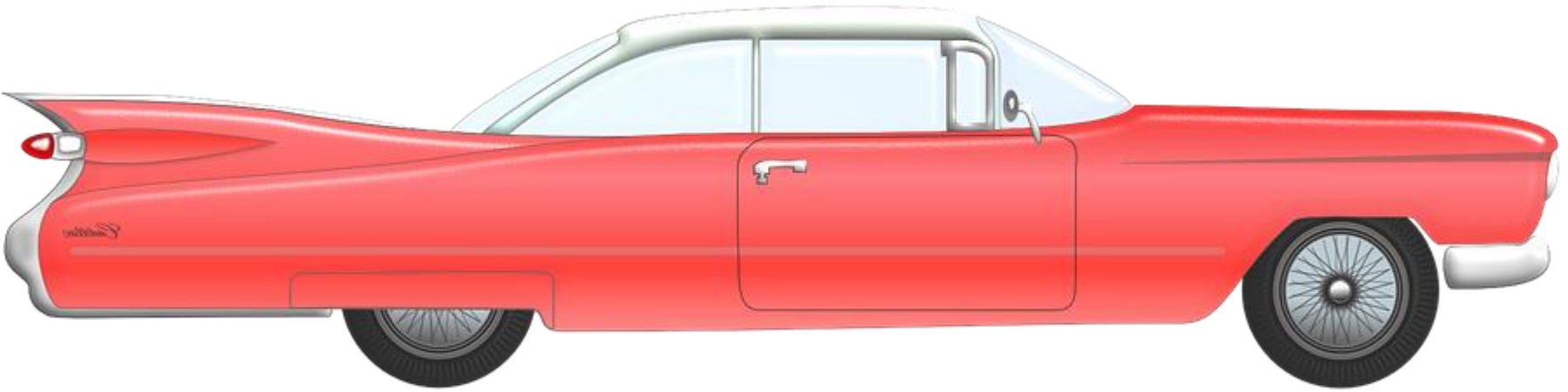
Design #1

Control
Randomization

Replication
(Blocking)

- Four Cadillacs of the same type are purchased from four dealers. One gets tire A, one gets B, one gets C, and one gets D. *they randomly chose that*

Replication



Design #2

- Twelve Cadillacs of the same type are purchased from four dealers. ^{Randy} Three get tire A, three get B, three get C and three get D.



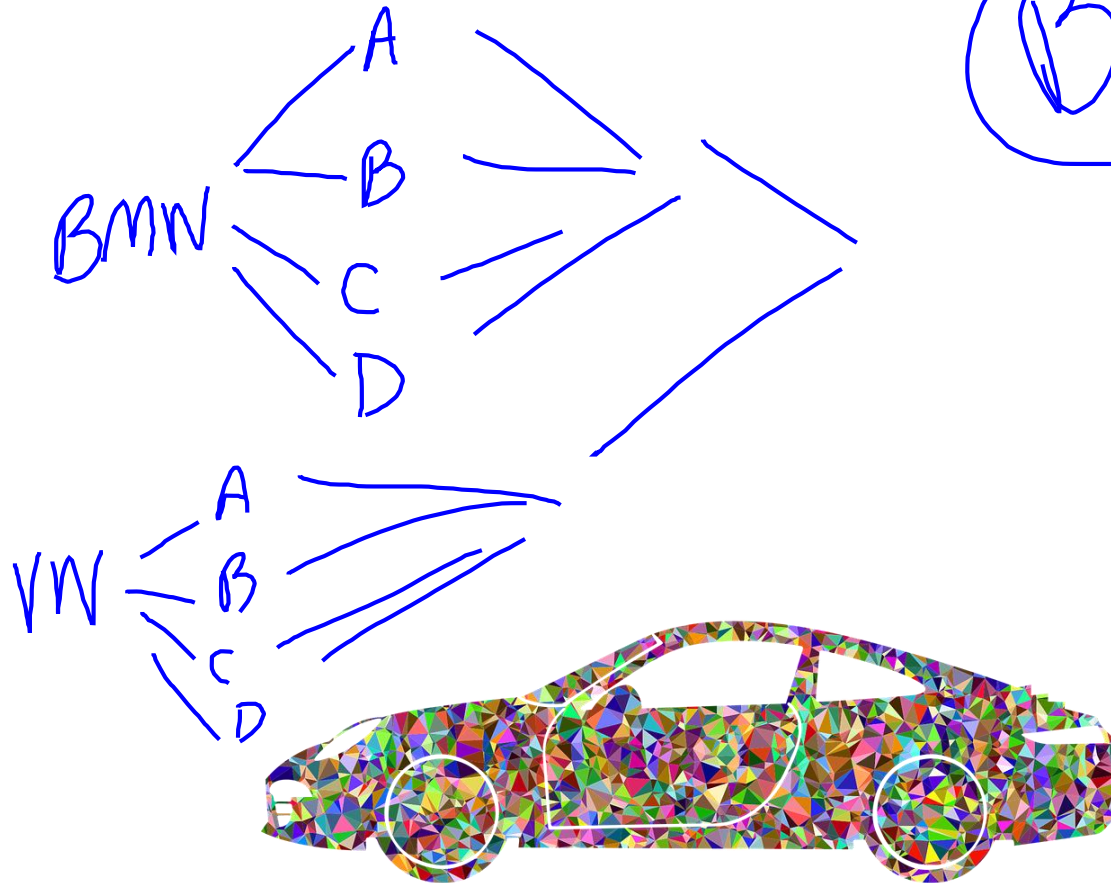
Design #3

- Twelve vehicles of different types are randomly selected from a list of many vehicle types and then are randomly allocated into four groups of three. One group gets tire A, one group gets tire B, one group gets tire C and one group gets tire D.



Design #4

- Four Cadillacs, four BMW's and four Volkswagens are purchased. One of each type of car gets tire A, one gets tire B, one gets tire C, and one gets tire D.



Blocking

Why it helps to know your stats

- <https://settlement-claims.com/ControlArm/index.aspx>

① — med 1
② — med 2
 > compare

