

# V20 - Estimation - Part 3

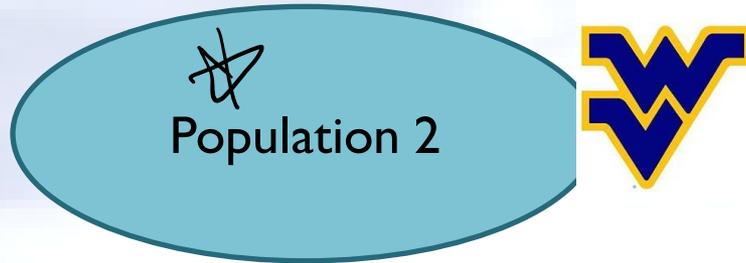
- ❑ Independent populations/groups
- ❑ Non-independent (dependent) populations/groups

Course: Statistical Testing & Regression  
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# Two Independent Populations

- ❖ Items in population 1 not same as nor directly related to items in population 2
- ❖ Items not meaningfully paired in any way



# Two Dependent Populations

❖ Opposite of independent populations

1) Same population analyzed twice OR

2) Two directly-related populations

• Dependent observations are paired



# Examples of Paired Observations from Same Population

## ❖ Before and After studies

- Weight of a person before ( $X_1$ ) & after ( $X_2$ ) new diet regimen

Person	Before ( $x_1$ )	After ( $x_2$ )	Difference
Renee	135	125	10
LORI	137	132	5
Lynda	125	121	4

- Math ability of a student before & after new teaching method

- ❖ Analyze differences, or  $d = X_1 - X_2$  for all subjects

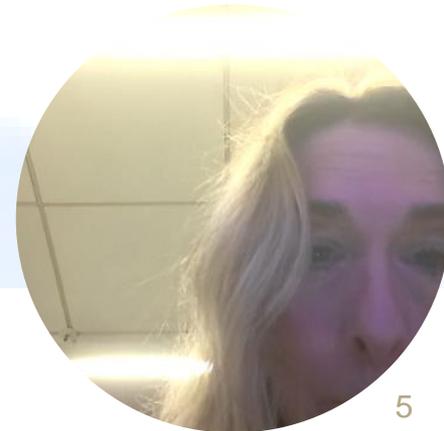


# Examples of Paired Observations from Directly Related Populations

2

*dependent  
populations*

- Brother & sister pairs
- Husband & wife pairs
- Father & son pairs
- Puppies from the same litter
- Twin pairs





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**THE END**

