**TUESDAY, 1.28.25**

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| **Chapter 10:** Observational Studies and Experiments |

**OBJECTIVES:**

* Know the differences between an observational study, a sample survey, and an experiment. (These methods collect data in different ways and lead us to different conclusions.)
* Know that only well-designed experiments can let us reach cause-and-effect conclusions.
* Manipulate levels of treatment in an experiment to see if a factor that is being investigated produces differences in our response variable.
* Know and apply the principles of experimental design: control, randomize, and replicate.
* Establish the value of having a control group and of using blinding and placebo controls.
* Recognize the problems posed by the confounding variables in experiments and the lurking variables in obsevational studies.
* Design an observational study.
* Design an experiment.

**Vocabulary*:*** *observational studies, retrospective study, prospective study, experiment, random assignment, response variable, subjects or participants, experimental units, levels, treatment, control, randomize, replicate, The 3 Principles of Experimental Design*

**Class Work:**

* Define the words in the vocabulary list above.
* Write your own examples of the following: retrospective study, prospective study, and experiment.

**Homework**: #6 – 8 on page 280.

**THURSDAY, 1.30.25**

* Be an active participant in the discussion of the vocabulary and concepts described in pages 257 – 263.
* **Homework check!!** Page 280 (#6 – 8). Any questions about this homework?
* Read and take notes on pages 264 and 265.
1. *statistically significant*. Please define.
2. *What is the difference between an experiment and a sample survey*?

**\*\*\*Homework:** Page 280 (#10, 11).

**FRIDAY, 1.31.25**

 **Pep Rally Planned during this class period.**

**Turn in your homework:** Page 280 (#10, 11).

**New Homework:**

* **Read and take notes on pages 266 – 278.**
* **Comment on the following:**
1. Control group
2. Blinding
3. Single-blind
4. Double-blind
5. Placebo
6. Placebo effect
7. The 4 characteristics of the best experiments
8. Blocking
9. Confounding
10. The ethics of experimentation