

Ch 8-Experimental Design Activity

1. *Design an experiment to test the hypothesis that single-gender math classes help increase adolescent females' test scores. Construct operational definitions of both the independent and dependent variables. Your experiment should have two groups and use the matched pairs procedure. Make a good case for your selection of the matching variable. In addition, defend your choice of either a posttest-only design or a pretest-posttest design.*
 - **IV operational definition:**
 - **DV operational definition:**
 - **Describe participant selection (Where did you get them?)**
 - **Describe participant placement (How did you place them in the groups?):**
 - **Describe research procedures for your posttest-only or pretest-posttest design:**
2. *Design a repeated measures experiment that investigates the effect of report presentation style on the grade received for the report. Use two levels of the independent variable: a "professional style" presentation (high-quality paper, consistent use of margins and fonts, carefully constructed tables and charts) and a "nonprofessional style" (average-quality paper, frequent changes in the margins and fonts, tables and charts lacking proper labels). Discuss the necessity for using counterbalancing. Create a table illustrating the experimental design.*
 - **Levels of the IV:**
 - **DV:**
 - **Table:**
 - **Argument for using counterbalancing design:**
3. *Professor Foley conducted a cola taste test. Each participant in the experiment first tasted 2 ounces of Coca-Cola, then 2 ounces of Pepsi, and finally 2 ounces of Sam's Choice Cola. A rating of the cola's flavor was made after each taste. What are the potential problems with this experimental design and the procedures used? Revise the design and procedures to address these problems. You may wish to consider several alternatives and think about the advantages and disadvantages of each.*
 - **Disadvantages:**
 - **Alternative Design:**

