

Practice in Identifying Variables

1. One-half of the general psychology students complete computer simulations. The remaining half of the students spent an equal amount of time reviewing the text and their lecture notes. Both groups were then tested on the course information.
 - a. What is the hypothesis? _____
_____.
 - b. What is the control group? _____
 - c. What is the experimental group? _____
 - d. What is the independent variable? _____
 - e. What is the dependent variable? _____

2. One-half of a fraternity at NC State watched the television program, "The Day After". The program was a dramatic presentation of a nuclear holocaust. The remaining members of the fraternity watched programs on one of the other major networks during the same time period. The fraternity members were then individually interviewed regarding their attitudes toward nuclear disarmament.
 - a. What is the hypothesis? _____
_____.
 - b. What is the control group? _____
 - c. What is the experimental group? _____
 - d. What is the independent variable? _____
 - e. What is the dependent variable? _____

3. Two groups of rats are run in a maze with a food reward. The time that it takes for each rat to reach the goal box is recorded. One groups of rats is deprived of food for 24 hours before being run on the maze. The other group is fed 1 hour before the maze trials. All other conditions for the two groups are the same.
 - a. What is the hypothesis? _____
_____.
 - b. What is the control group? _____
 - c. What is the experimental group? _____
 - d. What is the independent variable? _____
 - e. What is the dependent variable? _____

Operational Definitions:

4. A group of scientists believe that women find men without earrings more attractive than men with earrings.
 - a. What is the independent variable? _____
 - b. What is the dependent variable? _____
 - c. Propose an operational definition for the dependent variable. _____

5. A team of scientists is testing the hypothesis that young women look in the mirror more than older women.
- What is the independent variable? _____
 - What is the dependent variable? _____
 - Propose an operational definition for the dependent variable. _____
- _____

Confounding Variables: For each selection, identify the one serious confounding factor that threatens the experiment's validity. Then, suggest how the confounded factor could be controlled.

6. Fred Rogers wanted to test a new sing-along method to teach math to fourth graders (e.g. "I Love to Multiply" to the tune of God Bless America). He used the sing-along method in his first period class. His sixth period students continued solving math problems with the old method. At the end of the term, Mr. Rogers found that the first period class scored significantly lower than the sixth period class on a mathematics achievement test. He concluded that his sing-along method was a total failure.

Name a confounding variable:

What is one method to unconfound the experiment?

7. An airport administrator wanted to determine how many incoming flights the average controller could coordinate at the same time. Each randomly selected controller was tested without his or her knowledge by a computer program, which fed false flight information to a computer terminal. The controller first "received" information from one plane and by the end of the hour was coordinating the flight patterns of ten planes simultaneously. The administrator analyzed the errors collected by the computer program. The analysis revealed that six was the maximum number of planes a controller could handle without making potentially fatal errors. Also, no errors occurred when only one to three planes were incoming. He concluded that a controller should never coordinate more than six incoming flights.

Name a confounding variable:

What is one method to unconfound the experiment?