

Chapter 6 Practice Quiz

1. Forty people were randomly chosen to participate in an experiment to determine if a new drug reduces cholesterol. Twenty people received the new drug treatment, while the remaining twenty received a placebo. Neither the patients nor the doctors administering the treatment knew if the patient was receiving the placebo or the drug treatment. This is an example of:

- A. Placebo effect
- B. Blindness
- C. Double-blindness
- D. Blocking

2. True or False: The placebo effect must operate equally on all subjects as part of equal treatment.

- A. True. If the placebo effect does not operate equally on all subjects, then it could lead to bias and confounding.
- B. False. The placebo effect only has to operate on the groups taking the placebo drug.
- C. True. In order to reduce the placebo effect, give one group the treatment and give the other group no treatment of any kind.
- D. False. The placebo effect is not a part of equal treatment.

3. In a double-blind experiment:

- A. The subjects are unaware of the experiment and the treatments they are taking part in.
- B. The people who are running the experiments are unaware of which group the subjects are in.
- C. The subjects do not know whether they are receiving the placebo or the treatment.
- D. Neither the subjects nor the people who are working with them know which treatment each subject is receiving.

4. The simplest statistical design for an experiment is a(n):

- A. Matched pairs experiment
- B. Block design experiment
- C. Completely randomized experimental design
- D. Observational study

5. A completely randomized design can have:

- A. Only one single explanatory variable
- B. Two explanatory variables
- C. At most four explanatory variables
- D. Any number of explanatory variables

6. We are designing an experiment to compare the amount of usage of single serve coffee machines to the usage of regular brew coffee machines. We will want to look separately at the usage patterns of men and women coffee drinkers. We randomly assign the men to two groups, one to use single serve coffee machines, the other to use a regular brew coffee machine. The women are assigned in the same fashion. Ultimately, we will compare the usage of coffee machines for men and women separately. This is an example of:

- A. Completely randomized experimental design
- B. Matched pairs experimental design
- C. Block experimental design
- D. An observational study

7. The key(s) to a convincing experiment is/are:

- A. Randomization
- B. Control
- C. Adequate number of subjects

D. All of the choices are correct.

8. The Coke versus Pepsi experiment—where Coke drinkers tasted both Coke and Pepsi from glasses without brand markings and said which they liked better—is an example of:

A. Blocking

B. Matched pairs

C. Randomization

D. Observational studies

9. Because the placebo effect is strong, clinical trials should be:

A. Observational studies

B. Randomized

C. Double-blinded

D. Biased

10. One common problem with experiments is:

A. They are not observational studies.

B. They do not account for the placebo effect.

C. They can't be repeated.

D. They can't produce results that can be generalized.