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1. Which of the following is the explanatory variable in this study?

- a. Exercise
- b. Lung capacity
- c. Smoking or not
- d. Occupation**

2. Which of the following is a confounding variable in this study?

- a. Exercise**
- b. Lung capacity
- c. Smoking or not
- d. Occupation

3. This is a randomized experiment rather than an observational study because:

- a. Blood pressure was measured at the beginning and end of the study.
- b. The two groups were compared at the end of the study.
- c. The participants were randomly assigned to either walk or read, rather than choosing their own activity.**
- d. A random sample of participants was used.

4. The two treatments in this study were:

- a. Walking for half an hour three times a week and reading a book for half an hour three times a week.**
- b. Having blood pressure measured at the beginning of the study and having blood pressure measured at the end of the study.
- c. Walking or reading a book for half an hour three times a week and having blood pressure measured.
- d. Walking or reading a book for half an hour three times a week and doing nothing.

5. If a statistically significant difference in blood pressure change at the end of a year for the two activities was found, then:

- a. It cannot be concluded that the difference in activity *caused* a difference in the change in blood pressure because in the course of a year there are lots of possible confounding variables.
- b. Whether or not the difference was caused by the difference in activity depends on what else the participants did during the year.
- c. It cannot be concluded that the difference in activity *caused* a difference in the change in blood pressure because it might be the opposite, that people with high blood pressure were more likely to read a book than to walk.
- d. It can be concluded that the difference in activity caused a difference in the change in blood pressure because of the way the study was done.**

6. What is one of the distinctions between a population parameter and a sample statistic?

a. A population parameter is only based on conceptual measurements, but a sample statistic is based on a combination of real and conceptual measurements.

b. A sample statistic changes each time you try to measure it, but a population parameter remains fixed.

c. A population parameter changes each time you try to measure it, but a sample statistic remains fixed across samples.

d. The true value of a sample statistic can never be known but the true value of a population parameter can be known.

7. A magazine printed a survey in its monthly issue and asked readers to fill it out and send it in. Over 1000 readers did so. This type of sample is called

a. a cluster sample.

b. a self-selected sample.

c. a stratified sample.

d. a simple random sample.

8. Which of the following would be most likely to produce selection bias in a survey?

a. Using questions with biased wording.

b. Only receiving responses from half of the people in the sample.

c. Conducting interviews by telephone instead of in person.

d. Using a random sample of students at a university to estimate the proportion of people who think the legal drinking age should be lowered.

9. Which one of the following variables is not categorical?

a. Age of a person.

b. Gender of a person: male or female.

c. Choice on a test item: true or false.

d. Marital status of a person (single, married, divorced, other)

10. A polling agency conducted a survey of 100 doctors on the question “Are you willing to treat

women patients with the recently approved pill RU-486”? The conservative margin of error associated with the 95% confidence interval for the percent who say 'yes' is

a. 50%

b. 10%

c. 5%

d. 2%