

Name:

Partners:

Statistics

Date:

Review 1 Version A

[A] Sam hypothesizes that soldiers are more likely than civilians to support gun rights because being in the military gives people an appreciation for guns. In a survey of 120 Americans, 41 out of 50 soldiers and 28 out of 70 civilians say they would like to see stronger national gun rights. Circle whether each statement is true or false.

T F 1. $p_2 = 40\%$

T F 2. Sam's data are nominal.

T F 3. Sam's study is an experiment.

T F 4. Sam used random assignment.

T F 5. Nationality is a confounding variable in Sam's study.

T F 6. One level of Sam's independent variable is civilians.

T F 7. Sam's independent variable is the 50 soldiers and the 70 civilians.

T F 8. In the phrase "military service affects attitudes about gun rights," *affects* should be *effects*.

T F 9. Sam has demonstrated a causal relationship between military service and support of gun rights.

T F 10. Sam's sample is the 41 soldiers and 28 civilians who say they support stronger national gun rights.

T F 11. Sam can conclude that being in the military tends to make people more likely to support gun rights.

T F 12. A possible confound is that the type of person who joins the military is more likely to be a supporter of gun rights in the first place.

[B] Jake hypothesizes that a college degree causes people to get higher salaries. He surveys 80 adults, half of whom graduated college.

1. State the levels of the independent variable.

2. State exactly how you would suggest he measure his dependent variable.

3. Check the appropriate box for each item.

a) random assignment no random assignment

b) experiment quasi-experiment

c) nominal dependent variable ordinal dependent variable interval dependent variable ratio dependent variable

4. Make up reasonable results for his study that match his hypothesis. Label the results as \bar{x}_1 and \bar{x}_2 or as \hat{p}_1 and \hat{p}_2 .

5. Using complete sentences, state a possible mediator variable, and use it to explain how college degrees may result in higher salaries.

6. Using complete sentences, state a possible confounding variable, and use it to explain why people with college degrees may have higher salaries on average even if college degrees do not actually affect salaries.

[C] Select an issue of *Monitor on Psychology* (apa.org/monitor) and scroll down to the “In Brief” section. For each of the following, choose an appropriate study summary from “In Brief”. Choose different studies than your group members.

1. Choose a summary of a true experiment, and state the following.

- a) the title of the summary.
- b) the date of the *Monitor on Psychology* issue and the page number
- c) the independent variable or its levels
- d) the dependent variable
- e) in complete sentences, what the researchers did to make it a true experiment

2. Identify a summary of a quasi-experiment, and explain a possible confounding variable and exactly how this could weaken or invalidate the conclusion given.

- a) the title of the summary.
- b) the date of the *Monitor on Psychology* issue and the page number
- c) the independent variable or its levels
- d) the dependent variable
- e) in complete sentences, an explanation of a possible confound

[D] Optional

1. Do another version (B, C, or D) of this review.

Name:

Statistics

Date:

Review 1 Version B

[A] Sam hypothesizes that soldiers are more likely than civilians to support gun rights because being in the military gives people an appreciation for guns. In a survey of 120 Americans, 41 out of 50 soldiers and 28 out of 70 civilians say they would like to see stronger national gun rights. Circle whether each statement is true or false.

T F 1. $p_2 = 40\%$

T F 2. Sam's data are nominal.

T F 3. Sam's study is an experiment.

T F 4. Sam used random assignment.

T F 5. Nationality is a confounding variable in Sam's study.

T F 6. One level of Sam's independent variable is civilians.

T F 7. Sam's independent variable is the 50 soldiers and the 70 civilians.

T F 8. In the phrase "military service affects attitudes about gun rights," *affects* should be *effects*.

T F 9. Sam has demonstrated a causal relationship between military service and support of gun rights.

T F 10. Sam's sample is the 41 soldiers and 28 civilians who say they support stronger national gun rights.

T F 11. Sam can conclude that being in the military tends to make people more likely to support gun rights.

T F 12. A possible confound is that the type of person who joins the military is more likely to be a supporter of gun rights in the first place.

[B] Arizona hypothesizes that taking Statistics in high school causes people to do better in college. He surveys 40 SVHS graduates who are now in college, half of whom have taken this class.

1. State the levels of the independent variable.

2. State exactly how you would suggest he measure his dependent variable.

3. Check the appropriate box for each item.

a) random assignment no random assignment

b) experiment quasi-experiment

c) nominal dependent variable ordinal dependent variable interval dependent variable ratio dependent variable

4. Make up reasonable results for his study that match his hypothesis. Label the results as \bar{x}_1 and \bar{x}_2 or as \hat{p}_1 and \hat{p}_2 .

Name:

Statistics

Date:

Review 1 Version C

[A] Sam hypothesizes that soldiers are more likely than civilians to support gun rights because being in the military gives people an appreciation for guns. In a survey of 120 Americans, 41 out of 50 soldiers and 28 out of 70 civilians say they would like to see stronger national gun rights. Circle whether each statement is true or false.

T F 1. $p_2 = 40\%$

T F 2. Sam's data are nominal.

T F 3. Sam's study is an experiment.

T F 4. Sam used random assignment.

T F 5. Nationality is a confounding variable in Sam's study.

T F 6. One level of Sam's independent variable is civilians.

T F 7. Sam's independent variable is the 50 soldiers and the 70 civilians.

T F 8. In the phrase "military service affects attitudes about gun rights," *affects* should be *effects*.

T F 9. Sam has demonstrated a causal relationship between military service and support of gun rights.

T F 10. Sam's sample is the 41 soldiers and 28 civilians who say they support stronger national gun rights.

T F 11. Sam can conclude that being in the military tends to make people more likely to support gun rights.

T F 12. A possible confound is that the type of person who joins the military is more likely to be a supporter of gun rights in the first place.

[B] Josh hypothesizes that attending preschool causes children to have higher academic success in elementary school. He gets 70 fifth graders, half of who had attended preschool, as participants.

1. State the levels of the independent variable.

2. State exactly how you would suggest he measure his dependent variable.

3. Check the appropriate box for each item.

a) random assignment no random assignment

b) experiment quasi-experiment

c) nominal dependent variable ordinal dependent variable interval dependent variable ratio dependent variable

4. Make up reasonable results for his study that match his hypothesis. Label the results as \bar{x}_1 and \bar{x}_2 or as \hat{p}_1 and \hat{p}_2 .

Name:

Statistics

Date:

Review 1 Version D

[A] Sam hypothesizes that soldiers are more likely than civilians to support gun rights because being in the military gives people an appreciation for guns. In a survey of 120 Americans, 41 out of 50 soldiers and 28 out of 70 civilians say they would like to see stronger national gun rights. Circle whether each statement is true or false.

T F 1. $p_2 = 40\%$

T F 2. Sam's data are nominal.

T F 3. Sam's study is an experiment.

T F 4. Sam used random assignment.

T F 5. Nationality is a confounding variable in Sam's study.

T F 6. One level of Sam's independent variable is civilians.

T F 7. Sam's independent variable is the 50 soldiers and the 70 civilians.

T F 8. In the phrase "military service affects attitudes about gun rights," *affects* should be *effects*.

T F 9. Sam has demonstrated a causal relationship between military service and support of gun rights.

T F 10. Sam's sample is the 41 soldiers and 28 civilians who say they support stronger national gun rights.

T F 11. Sam can conclude that being in the military tends to make people more likely to support gun rights.

T F 12. A possible confound is that the type of person who joins the military is more likely to be a supporter of gun rights in the first place.

[B] Alex hypothesizes that iOS allows people to text faster than Android does. He gets 24 iPhone users and 19 Android users as participants.

1. State the levels of the independent variable.

2. State exactly how you would suggest he measure his dependent variable.

3. Check the appropriate box for each item.

a) random assignment no random assignment

b) experiment quasi-experiment

c) nominal dependent variable ordinal dependent variable interval dependent variable ratio dependent variable

4. Make up reasonable results for his study that match his hypothesis. Label the results as \bar{x}_1 and \bar{x}_2 or as \hat{p}_1 and \hat{p}_2 .

5. Using complete sentences, state a possible mediator variable, and use it to explain how iOS may provide better texting speed than Android.

6. Using complete sentences, state a possible confounding variable, and use it to explain why people using iOS may text faster on average than people using Android, even if the OS does not affect texting speed.

[C] Select an issue of *Monitor on Psychology* (apa.org/monitor) and scroll down to the “In Brief” section. For each of the following, choose an appropriate study summary from “In Brief”. Choose different studies than your group members.

1. Choose a summary of a true experiment, and state the following.

- a) the title of the summary.
- b) the date of the *Monitor on Psychology* issue and the page number
- c) the independent variable or its levels
- d) the dependent variable
- e) in complete sentences, what the researchers did to make it a true experiment

2. Identify a summary of a quasi-experiment, and explain a possible confounding variable and exactly how this could weaken or invalidate the conclusion given.

- a) the title of the summary.
- b) the date of the *Monitor on Psychology* issue and the page number
- c) the independent variable or its levels
- d) the dependent variable
- e) in complete sentences, an explanation of a possible confound

[D] Optional

1. State a possible moderator variable for part [B], and explain how it could be used to test your answer to B #5.