

Why Use Randomization?

Controlled trials allow participants to be split into either a control group or a treatment group.

Randomization is incredibly beneficial as part of this process, but can you recall why?

Some reasons are listed below; your task is to select the one that best describes why randomization is useful when running a controlled trial.

The screenshot shows a quiz interface from a learning platform. At the top, there is a navigation bar with a logo, the text 'Learn / Courses / Introduction to Statistics', a 'Course Outline' button, and a 'Daily XP 2500' indicator. The main content area contains a question titled 'Why use randomization?'. The question text states: 'Controlled trials allow participants to be split into either a control group or a treatment group. Randomization is incredibly beneficial as part of this process, but can you recall why? Some reasons are listed below; your task is to select the one that **best describes** why randomization is useful when running a controlled trial.' Below the question is a section titled 'Possible Answers' with the instruction 'Select one answer'. There are five radio button options, each with a 'PRESS' button and a number: 1. 'To reduce bias caused by assigning to groups based on specific characteristics.' (PRESS 1) 2. 'To ensure groups are comparable.' (PRESS 2) 3. 'To maximize the chance of the results being normally distributed.' (PRESS 3) 4. 'To reduce bias, ensure groups are comparable, and increase the chances that results will be representative of the target population.' (PRESS 4) 5. 'To prevent participants from knowing whether they are in the treatment or control group.' (PRESS 5) At the bottom of the answer section, there is a 'Take Hint (-15 XP)' button and a green 'Submit Answer' button.

Learn / Courses / Introduction to Statistics

Course Outline

Daily XP 2500

Why use randomization?

Controlled trials allow participants to be split into either a control group or a treatment group.

Randomization is incredibly beneficial as part of this process, but can you recall why?

Some reasons are listed below; your task is to select the one that **best describes** why randomization is useful when running a controlled trial.

Answer the question **50XP**

Possible Answers

Select one answer

☒ To reduce bias caused by assigning to groups based on specific characteristics. **PRESS 1**

☐ To ensure groups are comparable. **PRESS 2**

☐ To maximize the chance of the results being normally distributed. **PRESS 3**

☐ To reduce bias, ensure groups are comparable, and increase the chances that results will be representative of the target population. **PRESS 4**

☐ To prevent participants from knowing whether they are in the treatment or control group. **PRESS 5**

Take Hint (-15 XP) **Submit Answer**

Answer

Answer: To reduce bias, ensure groups are comparable, and increase the chances that results will be representative of the target population.

Explanation: Randomization minimizes bias by ensuring that participants are assigned to groups purely by chance. This helps make the groups comparable in terms of characteristics and increases the generalizability of the results to the target population.

Explanation of the Answer

1. **Reducing Bias:**

- Randomization prevents systematic differences between groups by ensuring participants are assigned randomly.

2. **Comparable Groups:**

- It ensures that groups are similar in terms of confounding variables, which helps isolate the effect of the treatment.

3. **Representative Results:**

- Randomization increases the likelihood that the sample is representative of the broader population, improving the external validity of the study.

This combination of benefits makes randomization a critical component of controlled trials.