Testing an Alert

How psychologists design a fair and ethical experiment

SS24.P.2 "Describe methodologies, research tools, and strategies used by researchers in psychological studies.* 2a Contrast the roles of independent, dependent..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline what the team changes, circle what it measures, and number two steps that make its findings more trustworthy.

Do Alerts Disrupt Memory?

1. Could a phone alert interrupt memory? A team predicts that college students who hear alerts while studying will recall fewer words than students who study in silence. Volunteers are assigned by chance to two groups. Both groups study the same list for two minutes, but only one hears alerts. Afterward, each student writes down as many words as possible. In an experiment, the independent variable is what researchers change, and the dependent variable is what they measure. The control group provides a comparison for the experimental group.

2. The team defines an alert as a short tone played every 20 seconds and counts only correctly recalled words. These rules make the procedure repeatable. Participants use identical rooms, word lists, and study time. Random assignment helps balance differences between people, such as usual sleep habits. If one group also received extra study time, time could be a confounding variable, a second factor that might affect recall. Researchers record the steps and repeat the study with new volunteers to see whether the pattern holds.

3. The American Psychological Association (APA) publishes ethical guidelines for psychologists. In this study, researchers should explain the task and risks before adult volunteers agree to join. Participants may leave without penalty, and their scores should be kept private. If researchers concealed the study's purpose to avoid changing behavior, they would need a justified reason and a later explanation, called debriefing. APA guidelines also address research with animals: researchers must justify animal use, provide humane care, and minimize pain or distress. Independent ethics review helps protect subjects before a study begins.

2 ANSWER WITH EVIDENCE

Use the passage

1. What are the independent and dependent variables in this study?

2. Which group is the control group, and how does it help the team test its prediction?

3. Suppose only the alert group receives a harder word list. Why would this weaken the experiment, and which planned step would prevent it?

4. How do the APA guidelines described here protect human participants and animals in research?

3 YOUR TURN

Your own words

Design an experiment about a behavior other than studying with alerts. In four or five sentences, identify what you would change and measure, describe both groups, explain one way to limit a confound, and name one safeguard for human participants.

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PART 1 · READ AND MARK

Underline what the team changes, circle what it measures, and number two steps that make its findings more trustworthy. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What are the independent and dependent variables in this study?	**The independent variable is whether alerts play. The dependent variable is the number of words correctly recalled.**
2	Which group is the control group, and how does it help the team test its prediction?	**The group studying in silence is the control group. Its results provide a comparison for the group that hears alerts.**
3	Suppose only the alert group receives a harder word list. Why would this weaken the experiment, and which planned step would prevent it?	**List difficulty could affect recall, making it unclear whether alerts caused any difference. Giving both groups the same list prevents this confound.**
4	How do the APA guidelines described here protect human participants and animals in research?	**For humans, they call for informed agreement, the right to leave, and privacy. For animals, they call for justified use, humane care, and minimized pain or distress.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would test whether background music affects proofreading accuracy. The independent variable is whether instrumental music plays, and the dependent variable is the number of spelling errors correctly identified. One group proofreads with music, while the control group works in silence. I would assign adults by chance and give both groups the same passage and time limit to keep those factors from affecting the results. I would get informed consent and let participants stop without penalty.

Accept other plausible experiments that distinguish the changed factor from the measured outcome and include a meaningful comparison, confound control, and human-subject safeguard.