

EPRS8540

Review for the course

In each of the examples below select a statistical procedure that would best analyze the data. Use the key below and write the answer in the blank. There may be multiple correct answers. All the options (a-h) may not be used.

- a. Independent t-test
- b. Dependent t-test
- c. One-way ANOVA
- d. Factorial ANOVA
- e. ANCOVA
- f. Single group repeated measure ANOVA
- g. Split plot
- h. Other tests (such as Chi-square, a multivariate ANOVA)

___ 1. A researcher is interested in the effect of handwriting on grading essay papers. 20 essay papers, 10 with poor handwriting and 10 with good handwriting, are graded by graduate students. The quality of the papers were all the same. The researcher was also interested in the effect of the grader's knowledge of the students' GPA on grading essay. Each of the essay paper had a cover page indicating the student's GPA. Half of the papers had low GPA, and another half had high GPA on the cover page.

___ 2. One hundred and forty students were randomly assigned to one of four groups. Group 1 received training to enhance creativity once a week, Group 2 received twice a week, Group 3 received every day, and Group 4 received no training. Groups were then tested using the Torrance Test of Creative Thinking.

___ 3. A researcher wishes to investigate the effectiveness of a remedial program. Among the students who are in need of remediation, half of them are assigned to the program. These students are asked to come for a half hour after school three days a week. The other half of the students became the control group.

___ 4. To which light can one react most quickly, (red, yellow, and green)? To investigate this question, a researcher administer a reaction time test to a group of volunteers from GSU. Each subject received all the three colors, but the order of the colors was different from person to person.

___ 5. Suppose we want to know if light or dark enters into a preference of rats when given two alternative routes at a choice point in a maze. If 50 rats are afforded the opportunity of choosing between two routes, one light and the other dark, the obtained frequencies were as follows: frequency for light = 15, frequency for dark = 35. The researcher wants to test if illumination makes no difference.

___ 6. A researcher invented a training program to improve typing skills. Two groups were randomly assigned for 1) special typing training program and 2) traditional typing training program. Both groups had a pretest typing test. The number of errors was recorded for each student. After the training session, both group again took the typing test. The number of errors again was recorded for each student.

___ 7. An advertizement specialist created two ads for a new drink. He wanted to compare the two ads in terms of 1) pleasantness, 2) creativity, and 3)visual appeal. 100 people were asked to fill out the questionnaire which has three subsections (i.e., pleasantness, creativity, and visual appeal) in Likert scale format.

___ 8. A community center for psychotherapy is so busy that it must turn away many applicants. It decides to evaluate its therapy program and divides applicants at random into two groups: those accepted for therapy and those who are not. At the end of 10 weeks all members of both groups are evaluated, and the "mental health" of the two groups is compared.

___ 9. Can people be trained to remember things better? A group of adults (ages 18-45) first took a test of memorization (i.e., they were asked to memorize and recite the grocery list), then, received a special training in which a special method for helping memorization was introduced, and finally they took another test of memorization.

___ 10. A researcher plans to test the effectiveness of self-paced instruction vs. conventional instruction for male and female students of varying levels of ability. There are a total of 150 students; 60 boys and 90 girls. Within each of these groups (boys and girls), there are an equal number of high-, middle-, and low-ability students.