

RATS: Dr. Imanut is studying whether a new drug increases the maze running performance of rats. Dr. Imanut teaches two groups of rats to find a piece of tasty rat chow in the maze. One group of rats is given the new drug while they are learning the maze. The second group is not given the drug. One week after having learned the maze he retests the rats and records how long it takes them to find the rat chow.

Independent variable:

- a) age of the rats.
- b) type of maze.
- c) length of time it took the rats to run the maze.
- d) presence or absence of the new drug.

Dependent variable:

- a) age of the rats.
- b) type of maze.
- c) length of time it took the rats to run the maze.
- d) presence or absence of the new drug.

**Controlled Variables?
Control Group?
Experimental Group?**

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COORDINATION: A researcher wanted to study the effects of sleep deprivation on physical coordination. The researcher selected 25 year-old male college students and deprived some of the subjects to either 24, 36, or 45 hours of sleep. The test subjects were then given a simple agility test.

Independent variable:

- a) the length of time the subjects were deprived of sleep.
- b) the age of the subjects.
- c) the gender of the subjects.
- d) the physical coordination skills.

Dependent variable:

- a) the length of time the subjects were deprived of sleep.
- b) the age of the subjects.
- c) the gender of the subjects.
- d) the physical coordination skills.

**Controlled Variables?
Control Group?
Experimental Group?**

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DECISIONS: A researcher wanted to know whether the number of people present would influence subjects' judgments on a simple perceptual task. In each case the other members of the group gave an incorrect answer. The researcher then noted whether the subject conformed to the group decision.

Independent variable:

- a) the number of people in the group.
- b) whether the group members gave the correct or incorrect answer.
- c) whether the subjects conformed with the group.
- d) the type of perceptual task.

Dependent variable:

- a) the number of people in the group.
- b) whether the group members gave the correct or incorrect answer.
- c) whether the subjects conformed with the group.
- d) the type of perceptual task.

**Controlled Variables?
Control Group?
Experimental Group?**

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BANK ROBBERY: An investigator had 60 subjects watch a videotaped re-enactment of a bank robbery. Half of the subjects were asked by a police investigator to recall the event, while the remaining subjects were interviewed by a police investigator while they were hypnotized.

Independent variable:

- a) whether a police investigator was used.
- b) whether subjects were hypnotized.
- c) how much subjects recalled.
- d) what subjects watched.

Dependent variable:

- a) whether a police investigator was used.
- b) whether subjects were hypnotized.
- c) how much subjects recalled.
- d) what subjects watched.

**Controlled Variables?
Control Group?
Experimental Group?**

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DRAWING: A researcher was interested in the effects of reward on intrinsic motivation. Some children were told that they would be given a special award for drawing with magic markers (an activity they already enjoyed). Other children were simply asked to draw with the magic markers. One week later, the children were unobtrusively observed for how much time they spent drawing with the markers. The children who expected and received a reward for drawing with the markers were less likely to draw with them later.

Independent Variable?

Dependent Variable?

Controlled Variables?

Experimental Group?

Control Group?

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INSTRUCTOR RATINGS: Within a classroom setting, subjects were asked to listen to a guest instructor. All subjects were given a description of the instructor. Some subjects read a description containing the phrase "People who know him consider him to be a rather cold person...", while other people read a description where the word "warm" was substituted for the word cold (otherwise, the descriptions were identical). After the lecture, subjects were asked to rate the instructor. Subjects who were told the instructor was warm gave him more favorable ratings compared to subjects who were told that the instructor was cold.

Independent Variable?

Dependent Variable?

Controlled Variables?

Experimental Group?

Control Group?

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OZONE: A class of students wants to test for atmospheric ozone concentration. All students use the same chemical testing materials (filter paper coated with chemicals that react in the presence of ozone to create a blue color). Some students test for ozone concentration outdoors in the parking lot, and some students test inside in the copier room. After 24 hours, students collect the test papers and measure the amount of color change.

Independent Variable?

Dependent Variable?

Controlled Variables?

Experimental Group?

Control Group?

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ACID RAIN: Joe is curious about how acid rain affects the growth of radish seeds. He gets radish seeds, water, and solutions of varying pH: pH 6, 5, 4, 3, 2, and 1. He soaks a paper towel in the distilled water, wraps 10 seeds in the paper towel, and places them in a ziploc bag to germinate. He does the same for each of the other solutions. After 4 days, he measures the root growth and finds the average length of the roots.

Independent Variable?

Dependent Variable?

Controlled Variables?

Experimental Group?

Control Group?

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