

Name \_\_\_\_\_

### **Independent and Dependent Variables Worksheet**

An independent variable is a factor that is manipulated in an experiment. The experimenter controls whether or not subjects are exposed to the independent variable. The dependent variable is measured to determine if the manipulation of the independent variable had any effect. For example, to test a hypothesis that eating carrots improves vision, the experimenter would manipulate whether or not subjects ate carrots. Thus, eating carrots is the independent variable. Each subject's vision would be tested to see if carrot eating had any effect. Thus, vision is the dependent variable. The subjects assigned to eat carrots are in the experimental group, whereas subjects not eating carrots are in the control group.

Identify the independent variable, dependent variable, experimental and control groups in the following studies.

1. A group of college students were given a short course in speed-reading. The instructor was curious if a monetary incentive would influence performance on a reading test taken at the end of the course. Half the students were offered \$5 for obtaining a certain level of performance on the test, the other half were not offered money.

Independent variable:

Dependent variable:

Experimental group:

Control group:

2. A social psychologist thinks that people are more likely to conform to a large crowd than to a single person. To test this hypothesis, the social psychologist had either one person or five persons stand on a busy walking path on campus and look up. The psychologist stood nearby and counted the number of people passing by who also looked up.

Independent variable:

Dependent variable:

Experimental group:

Control group:

3. To test a new voice feature in a cockpit design a flight simulator was used. The simulator was programmed to give visual readings of flight information, or to give visual and auditory (voice) readings of flight information. All test pilots were put through a simulated emergency landing procedure, but were randomly assigned to the visual, or visual and auditory conditions. Flight

experts rated each pilot's performance in the simulator on a scale of 1 (very poor) to 10 (excellent).

Independent variable:

Dependent variable:

Experimental group:

Control group:

### **Some Examples of Independent and Dependent Variables**

The following is a hypothesis for a study.

1. "There will be a statistically significant difference in graduation rates of at-risk high-school seniors who participate in an intensive study program as opposed to at-risk high-school seniors who do not participate in the intensive study program."

**IV:**

**DV:**

The following is a description of a study.

2. "A director of residential living on a large university campus is concerned about the large turnover rate in resident assistants. In recent years many resident assistants have left their positions before completing even 1 year in their assignments. The director wants to identify the factors that predict commitment as a resident assistant (defined as continuing in the position a minimum of 2 years). The director decides to assess knowledge of the position, attitude toward residential policies, and ability to handle conflicts as predictors for commitment to the position."

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