

Name: \_\_\_\_\_

### Experiments: Identifying Variables

In each of the examples, identify the **independent variable** and **dependent variable** as well as which participants make up the **experimental group** and which make up the **control group**.

Remember:

**Independent Variable** = What the **investigator** manipulates; the particular treatment or condition the **investigator** is most interested in the effects of

**Dependent Variable** = What is measured or observed; the "data" collected in the experiment

**Experimental Group** = Those participants **exposed** to the independent variable

**Control Group** = Those participants treated just like the experimental group EXCEPT they are not exposed to the independent variable; the group with which the experimental group can be **compared**

- 1) Of 100 individuals with moderate depression, 50 receive 8 weeks of a new cognitive-behavioral therapy, while the other 50 are placed on a waiting list for 8 weeks. At the end of the 8 weeks all 100 are given psychological tests to assess their level of depression.

Independent Variable: \_\_\_\_\_

Dependent Variable: \_\_\_\_\_

Experimental Group: \_\_\_\_\_

Control Group: \_\_\_\_\_

- 2) A biopsychologist is studying the effects of anabolic steroids on the aggressive behavior of female rats. 24 female rats receive daily injections of a placebo (fake drug), while 24 others receive daily injections of the steroid. Round-the-clock videotapes of the communal cages of all rats allow all aggressive encounters to be counted and timed.

Independent Variable: \_\_\_\_\_

Dependent Variable: \_\_\_\_\_

Experimental Group: \_\_\_\_\_

Control Group: \_\_\_\_\_

- 3) An industrial psychologist is interested in whether lowering the temperature in a packing room will increase productivity (number of products packed). Workers in two equivalent packing rooms participate in the study. One room is maintained at 65 degrees, the other room is left at the usual company temperature of 76 degrees.

Independent Variable: \_\_\_\_\_

Dependent Variable: \_\_\_\_\_

Experimental Group: \_\_\_\_\_

Control Group: \_\_\_\_\_

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4) Big Pharma Drug Company is conducting research of their new drug Attendomax to improve the note-taking behavior of college students diagnosed with Attention Deficit Hyperactivity Disorder. Fifty of the students receive capsules contain Attendomax, another fifty receive capsules which look the same but actually contain the drug Ritalin which has been used for many years. All students attend the same series of lectures and have their notes collected afterwards. Notes are scored for completeness and accuracy.

Independent Variable: \_\_\_\_\_

Dependent Variable: \_\_\_\_\_

Experimental Group: \_\_\_\_\_

Control Group: \_\_\_\_\_

5) Here is your opportunity to describe an experiment of your own creation. Remember: Your Independent Variable must be something you can systematically present to one group but not present in the same form to the other group.

Your dependent variable must be something you can reliably measure, test or observe in each of your participants.

I would like to investigate the effects of \_\_\_\_\_

on this behavior: \_\_\_\_\_.

Half my participants would \_\_\_\_\_

while the others would \_\_\_\_\_,

Independent Variable: \_\_\_\_\_

Dependent Variable: \_\_\_\_\_

Experimental Group: \_\_\_\_\_

Control Group: \_\_\_\_\_

Remember:

**Correlational research** looks for some relation between 2 or more sets of data. Even if such a relationship is found, no cause-effect conclusions can be drawn.

**Positive correlation:** the relationship is such that high scores in one data set tend to be associated with high scores in another data set (and low scores tend to be associated with low scores)

**Negative correlation:** the relationship is inverse; that is, high scores in one data set tend to be associated with low scores in the other data set, and visa versa.

**Experiment:** under carefully controlled conditions researcher compares the responses of participants exposed to an intentionally manipulated independent variable to the responses of participants not exposed to that independent variable.

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For EACH of the following write in whether it is a correlational study or an experiment. If it is a correlational study decide what type of correlation (positive or negative) was observed. If it is an experiment identify the independent variable manipulated by the researcher

- 1) After administering a test of self-esteem to all the 6th graders in a school, the school psychologist has 6th grade teachers monitor the number of times each 6th grader voluntarily participates in class (answering questions, offering opinions) and determined the lower the self-esteem score of the child, the less they participated.

Type of study \_\_\_\_\_

Type of correlation OR Independent variable \_\_\_\_\_

- 2) A survey study conducted in England found that wealthy women between the ages of 30 and 50 reported more frequent sex, more orgasms, and more enjoyment of sex than women of the same age from poorer households.

Type of study \_\_\_\_\_

Type of correlation OR Independent variable \_\_\_\_\_

- 3) A cognitive psychologist tests students' ability to recall of textbook material studied for thirty minutes under either noisy or quiet conditions.

Type of study \_\_\_\_\_

Type of correlation OR Independent variable \_\_\_\_\_

- 4) Using photographs, a social psychologist had participants rate the attractiveness as well as the perceived competence of 50 individuals. Those individuals rated as the most attractive were also rated as the most competent.

Type of study \_\_\_\_\_

Type of correlation OR Independent variable \_\_\_\_\_

- 5) After observing and treating hundreds of patients, Dr. Bashir has come to the conclusion that the larger the ridges on a Klingon's forehead, the lower their self-control when provoked.

Type of study \_\_\_\_\_

Type of correlation OR Independent variable \_\_\_\_\_