

Practice!

Identifying the independent variable, dependent variable, experimental and control conditions in an experiment.

Some tips!

- Start by identifying the dependent variable. What is actually being measured in the experiment? In the statement “a researcher is measuring the effect of chocolate on happiness”, the dependent variable is happiness, happiness is affected by chocolate, or happiness *depends* on chocolate.
- Identify the independent variable. If a researcher is measuring the effect of chocolate on happiness, the independent variable is chocolate. This is the variable that the experimenter will manipulate to see how it affects the dependent variable (in this case happiness).
- What is the experimental condition (experimental group)? What is the control condition (control group)? The control condition will be the one that is “business as usual.” If we are measuring the effect of chocolate (independent variable) on happiness (dependent variable), then the control group would get no chocolate. We say that the control group is not being exposed to the “treatment.” In this case the treatment is chocolate, so the poor people in the control group are left chocolate-less. In order to find the experimental group, look at the group (or groups) that actually receives treatment, in this case, some specified amount of chocolate (some people have all the luck...).

For the following examples, identify

- 1) The dependent variable
- 2) The independent variable
- 3) The experimental condition(s)/experimental group(s)
- 4) The control condition/control group

Example 1

A researcher is studying the effect of sleep on aggression, thinking that less sleep will lead to more aggression. She has some people sleep 6 hours per night, some people sleep 3 hours per night and some people sleep as much as they want. She then monitors aggressive behavior during basketball games among participants.

Example 2

A researcher is curious to find out what effect classical music has on people’s level of relaxation (as measured by heart rate). He suspects that listening to classical music will make people feel more calm and relaxed. He lets one group listen to classical music for one hour. He lets another group sit in a quiet room for one hour (i.e they hear no music). After one hour, he monitors the heart rate of each participant to measure their level of relaxation.

Example 3

A researcher conducts an experiment to assess the effects of alcohol on people's sense of balance. He divides his subjects into three groups: in one group the participants drink one ounce of alcohol, in another they drink two ounces of alcohol and in a third group the participants drink soda. He then watches as each participant tries to walk on a straight line from one corner of the room to the next and notes how many times they stumble outside the line.