

## Research Methods in Psychology

### Slide One:

Psychologists conduct research to accomplish three goals in psychology: describe, predict and explain human behavior.

### Slide Two:

One method psychologists (and other social scientists) use to describe behavior is naturalistic observation. This type of observation takes place in the natural environment where the behavior occurs. Psychologists often use this research method to gain insight into human behavior. But psychologists also observe human behavior in its natural setting. For example, one study calculated the walking speed of postal clerks in post offices around the world to determine the pace of life in different countries.

Another method of research that is used to describe behavior is the case study method. In this method either one or a very small number of subjects is studied in depth in the hope of revealing universal principles. Often case study research is conducted in situations where there are only a few such examples. Much of our early knowledge of the brain came from studying patients with damage to particular areas of the brain.

A third descriptive method used by psychologists in their research is to prepare and conduct surveys. Because the survey method relies on self-reporting attitudes or behaviors, psychologists have to be careful when using them. The wording of the questions and the sampling of the participants must be done in such a way that those factors aren't influencing the results you receive.

### Slide Three:

Another goal of psychology is to predict behavior. Psychologists use correlational research to determine if there is a predictive relationship between two factors. For example, we know that children who watch a lot of television are more likely to be overweight than those that don't. One factor is predictive of the other and so we say they are correlated.

Correlations can be tricky because while two factors may be statistically related, it doesn't mean that they are causal. We can't say for certain that it's the act of watching television that causes children to gain weight. It could be that children who watch a lot of television do not like to exercise or that they see many ads for unhealthy food on television commercials and that is what is causing them to gain weight.

Another set of factors that are correlated is the length of marriage with hair loss in men. Does that mean if men want to have a full head of hair they should never marry? No. It's a third factor, age, which accounts for the correlation. Always be careful when thinking about correlations. Two factors that are related do not necessarily mean they are causal.

**Slide Four:**

The only method psychologists can use to establish cause and effect is experimentation. Only by holding all other variables constant can we know that one factor causes another.

Correlations often provide psychologists the hint that there is a possible relationship between two factors and often points the way toward experimentation. Experiments are expensive and often take place in a lab like the one in this picture. The value of the experimental method is that the psychologist can manipulate one factor (called an independent variable) while holding constant or controlling for all other factors. The psychologist is then able to see if changing that one variable affected the outcome (or dependent variable) of the experiment.

We can then know that the factor (or independent variable) is having an effect. By manipulating a factor we are able to determine the effect.

**Slide Five:**

This diagram lays out for you the features of an experiment to test the hypothesis that if infants are fed breast milk then their intelligence score will be higher. You can see that the researcher is going to manipulate the independent variable – breast milk – with the experimental group to determine if there is an effect on the dependent variable – intelligence scores.

How can we know that there aren't differences in the mothers that might affect the outcome? The subjects should be randomly assigned to either the experimental or the control condition to be sure they are equal in all other factors.

**Slide Six:**

This table compares the research methods used by psychologists and summarizes what you have learned in this presentation. Each method is used to achieve a particular goal of psychology.