



## Experimental Method Key Concepts & Terms

In class when we looked at how psychologists go about answering questions. As we discussed *Observational methods* like *Naturalistic* or *Laboratory Observation, Case Studies and Surveys* can only describe the relationships between variables. They are only showing the relationship – or in other words the *Correlation*.

We also used a *Scatterplot* (graph) to plot the visual relationship between each known value for the two variables for every student. This shows us to what degree the two variables relate to each other. If we know the value of one variable it gives us a prediction of what the other variable might be.

Calculating a *Correlation Coefficient* is a method used to predict the how strongly the two variables relate to each other or how one variable might predict a change in another. The higher the correlation coefficient the stronger the relationship between the variables. However, this is only predictive, we **can not** infer that one variable actually caused the change in the other. For this we need an *experimental design* to answer questions about *cause and effect*. In other words, only an experiment can prove whether one variable causes the effect seen in the other.

Do you understand these terms and concepts? Try to define each.

### Correlation

Strength: \_\_\_\_\_

Direction: \_\_\_\_\_

### Sampling

Random: \_\_\_\_\_

Representative: \_\_\_\_\_

### Variables

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

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

Extraneous Variable: \_\_\_\_\_

### Validity

Replication: \_\_\_\_\_