

# Research Project 1 – Correlation Study

Names: \_\_\_\_\_

Due Date \_\_\_\_\_

## The Assignment

Develop a testable hypothesis about the relationship between two factors. Survey at least 30 people. Analyze data by making a scatter plot and finding the correlation coefficient.

## What you will turn in

You will give a 1 minute presentation on your findings. You will have a “visual” of the scatterplot you created. In your presentation, cover the following: what was your hypothesis, the method-how you sampled people, what questions did you ask, results (scatterplot chart of data), and conclusion-what did you find out.

**Choose two factors off this list (or pick some of your own) and develop a hypothesis to determine if there is a correlation. If you choose a factor of your own, make sure that it is quantifiable. Hours of TV watching per week**

Hours of sleep per week

Time spent on Internet per week

Height

Age

Weight

Number of siblings

Servings of meat per week

Servings of vegetables per week

Servings of fruit per week

Number of sodas per week

Bedtime

How many boyfriends/girlfriends they have had

Times you eat per day

Highest degree obtained by parent

How quickly they walk

Time spent exercising

Hours spent watching TV (daily)

How many times have they been sick in the past year

How many times have they been late for school in the past year

Number of haircuts per year

Collecting data:

1. Create operational definitions of your variables.
2. Make sure you can quantify your variables in some way.
3. Find a way to measure the variables. Many of you will choose to use a survey. When designing your survey, remember that people are not always honest, especially if it is a sensitive topic. How could you increase the reliability of the self reports?

Tough, but interesting research topic: The relationship between effort spent to join a group and commitment to that group. **I will give extra credit to ideas that I think are unique or more challenging.**

## Research Project-Correlation study-Teacher notes

**Introduction:** What is the hypothesis you are testing, what makes you think this is true, and why is it important?

**Method:** How did you sample people (be sure that your sampling method is not biased)? How did you get information (include the exact questions you asked your subjects. Be sure the wording is exact and does not bias the subject's responses)?

**Results:** Chart of data, scatter plot, correlation coefficient, p value

**Conclusion and Discussion:** Is your hypothesis supported (be sure to mention your p value and what this tells you about your data)? How strong is the correlation? What other factors could also be correlated? If there is a correlation, what are the three possible cause and effect relationships (good grades cause less TV watching, TV watching causes bad grades, some other factor causes both bad grades and lots of TV watching)?

**Design of controlled experiment to test cause and effect.** Don't worry about ethics or feasibility. Take into account sampling and controls.