

# Scientific Journal Assignment

# Hypothesis

Hypothesis – An educated guess

Nope – waaayyyy too simplistic

Hypothesis – A proposed, scientifically testable explanation for an observed phenomenon

Nahh – waaayyyy too complicated

Hypothesis – A tentative explanation for an observed phenomenon

I like this one

Hypothesis – A testable prediction that explains something

This one is ok too



# Sample Hypothesis

1. Chocolate may cause pimples

Formal hypothesis: If you eat chocolate, then you will get pimples because chocolate increases the amount of oil in your skin.

2. Salt in soil may affect plant growth.

Formal hypothesis: Plants growing near the ocean will grow slower because the salt damages the roots.

3. Plant growth may be affected by the color of the light.

Formal hypothesis:

4. Bacterial growth may be affected by temperature.

Formal hypothesis:

5. Ultraviolet light may cause skin cancer.

Formal hypothesis:



# Variables

Independent (manipulated) Variable – The variable that YOU assign

Dependent (experimental) Variable – The variable that responds to what you do

Does Mountain Dew wake you up faster than coffee?

how fast you wake up depends on type of drink

1. Does ice melt faster in the sun or shade
2. Will 5 mg or 10 mg of medicine make your headache go away faster
3. Are diesel or gas engines more fuel efficient
4. Will salt water boil faster than fresh water



# Variables

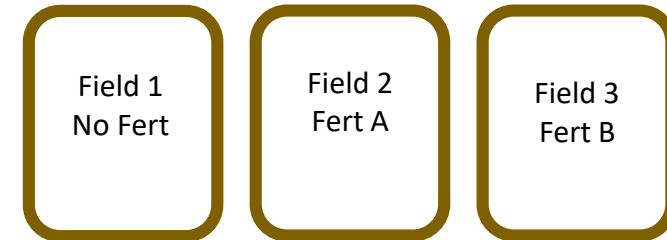
Independent (manipulated) Variable – The variable that YOU assign

Dependent (experimental) Variable – The variable that responds to what you do

Control Group – the group that does not get changed for comparison

Controlled Variables – everything else that you keep the same

Farmer Amos wants to start using fertilizer on his tomato garden but is not sure whether to use Fertilizer A or Fertilizer B. He sets up an experiment to test.



1. Write a Hypothesis
2. Identify Independent Variable
3. Identify Dependent Variable
4. Identify the Control Group
5. Identify variables to control for



# Sample Variables

1. Chocolate may cause pimples
  - Independent variable: Eating Chocolate
  - Dependent variable: You will get pimples
2. Salt in soil may affect plant growth.
  - Independent variable:
  - Dependent variable:
3. Plant growth may be affected by the color of the light.
  - Independent variable:
  - Dependent variable:
4. Bacterial growth may be affected by temperature.
  - Independent variable:
  - Dependent variable:
5. Ultraviolet light may cause skin cancer.
  - Independent variable:
  - Dependent variable:



# Cyberbullying on Social Media Among College Students

**Johnson, Lakitta D., Alfonso Haralson, Sierra Batts, Ebonie Brown, Cedric Collins, Adrian Van Buren-Travis, and Melissa Spencer**

- This article is 8 pages long. Short for a journal article but maybe long for what you are used to reading
- What information can be found on Page 1 of this article?
- What information can be found on Pages 7 & 8 of this article?
- How many pages are left?
  - Pages 2-3 is the Introduction – this is usually important and should be read
  - Pages 3-4 is the Methods – not as important and should be skimmed
  - Pages 4-5 are the Results – also skimmable
  - Pages 5-6 is the Discussion – this is usually important and should be read
  - Page 6 is the Conclusion – definitely needs to be read



## Scientific Journal Assignment

Choose an article (at least one page in length) that describes a scientific experiment. This article needs to be from a SCIENTIFIC journal and no more than three years old. This should be a primary source (written by the experimenters) describing one experiment and not a summary or review article (written by others).

Journal Examples: Science  
New England Journal of Medicine  
Journal of the American Medical Association  
(Common everyday magazines are NOT allowed)

You will have to complete a 1-2 page typed report with the following information included.

1. Introductory Material (2 points)
  - A. Your name
  - B. Name of Journal
  - C. Journal Volume, Date, Year
  - D. Copy of Journal Article Provided
2. Experiment Information (2 points)
  - A. Title of Experiment
  - B. Author (s)
3. Hypothesis (2 points)
  - A. State the relationship between the dependent and independent variables in one sentence.
  - B. Underline the INDEPENDENT variable
  - C. **BOLDFACE the DEPENDENT variable**
4. Experiment Summary (10 points)
  - A. One or two paragraph description of the design of the experiment
  - B. Identify the control group
  - C. Describe the sample size, length of the experiment, and materials used.
  - D. Determine if a placebo was used in the experiment
  - E. How does it relate to homelessness
5. Results Summary (5 points)
  - A. One paragraph description of the results that were obtained in the experiment.
  - B. State whether the results support the hypothesis.
  - C. What insights do the results offer into overcoming or treating homelessness?
6. Personal View (4 points)
  - A. One paragraph opinion of this experiment. Be sure to cover:
    - i. Your opinion of the experiment - Was it a good experiment, was there anything you would change about the experimental design
    - ii. Your opinion of the results - Were you surprised at the results,
    - iii. Your personal view of the article as a whole

Note: Save a tree, email a paper. You can email me both your journal review and the article or hand in the review and email the article if that is easier. But there is no reason to print and turn in the paper, particularly if it is a long one, which some of them are...



1. Introductory Material (2 points)
  - A. Your name
  - B. Name of Journal
  - C. Journal Volume, Date, Year
  - D. Copy of Journal Article Provided

**Ross Ruschman**

**VISTAS Online**

**Volume 2016**

**N.D. 2016**



2. Experiment Information (2 points)
  - A. Title of Experiment
  - B. Author (s)

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3. Hypothesis (2 points)

- A. State the relationship between the dependent and independent variables in one sentence.
- B. Underline the INDEPENDENT variable
- C. **BOLDFACE the DEPENDENT variable**

### **Hypothesis:**

In their paper, the authors set about studying the overall feelings, beliefs, and behaviors about cyberbullying. However, the authors did not develop a hypothesis about what they expected to discover and therefore the dependent and independent variables cannot be identified.



4. Experiment Summary (10 points)

- A. One or two paragraph description of the design of the experiment
- B. Identify the control group
- C. Describe the sample size, length of the experiment, and materials used.
- D. Determine if a placebo was used in the experiment
- E. How does it relate to homelessness

### **Experimental Design:**

Cyberbullying, also known as bullying using technology, is common on college campuses. Using an online survey, the authors examined students experience on either end of bullying. A total of 170 students volunteered to participate in the study at Jackson State University. The sample population was just under 2% of the university's population and was roughly divided among the four different grades, with sophomores being less represented than the other classes.

The survey asked 17 questions related to feelings and beliefs about cyberbullying, feelings and beliefs about witnessing cyberbullying, being the victim of cyberbullying, behaviors resulting from cyberbullying, how often cyberbullying occurs, and preferred social media.





5. Results Summary (5 points)

- A. One paragraph description of the results that were obtained in the experiment.
- B. State whether the results support the hypothesis.
- C. What insights do the results offer into overcoming or treating homelessness?

### **Results:**

The majority of the participants said that cyberbullying is wrong and they don't like to witness. While cyberbullying was not often encountered, when it did happen, many of the students addressed it by blocking the bully and reporting the bullying to appropriate college administrators. Facebook was the social media site of choice for these students.



6. Personal View (4 points)

A. One paragraph opinion of this experiment. Be sure to cover:

- i. Your opinion of the experiment - Was it a good experiment, was there anything you would change about the experimental design
- ii. Your opinion of the results - Were you surprised at the results,
- iii. Your personal view of the article as a whole

### **My Opinion:**

While I was encouraged by the survey responses offered, overall I was disappointed with the study itself in many ways. The sample population was very small considering the size of the University, the study was very simple in that it simply surveyed existing ideas as opposed to ~~developing~~ developing a testable hypothesis, and the conclusions oversimplified the results (i.e. 61% collectively represented the students). I also believe that certain social media lends itself more to cyberbullying (i.e. Snapchat) and therefore the study should have focused more on one or two social media sites.



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