

Psychology Fair

Student Handout 13: Summarizing Project Background Research

Directions: The background research summary that you write for your psychology fair project should clearly show the relationship between published psychology studies and the research activity you plan to conduct at the fair. Your summary should be complete because you will use it to write the display summary that will be part of the visuals for your booth and to develop a visitor handout-a page of information designed to enhance the experience of those who stop at your booth.

Use the following form to organize the information you need to include in your summary. Please make sure that when the assignment is handed in that it follows this exact layout!

1. You will need 3-5 psychology studies. For each discussion of a psychology study that you want to include, note the following. Feel free to bullet point all of the following information.
 - The name of the study in correct APA style
 - The question that they study attempted to answer
 - A description of the participants
 - A brief description of the procedure used, including the time span of the study
 - The conclusions that the experimenter(s) drew after analyzing the data
 - Describe exactly how the conclusions resulting from the study relate to the experiment, demonstration, or survey that you are planning to conduct at the psychology fair. In your discussion of experiments and demonstrations, concentrate on cause-effect relationships.
2. Combine the parts to create an interesting summary. Use the following checklist to guide and evaluate your work.

Do you ever wonder why after drinking something it tastes completely different or has no taste at all? Each study we have researched will help you find out why. The first study (Schroeder, 2005) we researched was an outline of the experiment we want to perform. This study performed by Joseph A Schroeder and Ellen- Flanner Schroeder in a laboratory setting and telling students they are sampling a “reversibly affect taste sensation”. They gave students various candies salt packets and sugar packets to eat after swishing the tea in their mouths for 30 seconds then swallowing with water. Some students can experience a more dramatic effects, the scientists suggest take home questions to get a better understanding of the results. The second study we did research on (Lawless 1979) gives us facts and a broad understanding as to why the tea cancels out receptors in our taste buds within bittersweet mixtures. Their purpose was to see how bittersweet foods are altered by the tea. In our final experiment we studied (Muskopf 2017) a teacher put a simple question on the board “How does Gymnema tea affect your ability to taste sweet foods?”. She then gave them a list of materials such as sugar, sour patch kids and gummy bears allowing her students to perform their own experiments based on the question above. This experiment explored psychology by showing how cells of the nervous system send signals to the brain. This experiment also

goes along with the same basic idea of our own experiment that is to see how the tea affects our taste perception.

First paragraph should include the following:

- ☐ Starts with a statement that will make people want to read further
- ☐ Correctly identifies cited sources within the text
- ☐ Explains in broad terms the purpose, participants, procedure, time span, and conclusion of the established psychology studies mentioned from above.

Second paragraph should include the following:

- ☐ Describes my planned psychology fair project research activity and clearly states its purpose; points out the relationship of my activity to the background information studies, including similarities and differences
- ☐ Includes information that explains the importance of the psychology topic I have chosen to explore and how this information affects people's lives

Our experiment group researched a variety to studies relating to how certain foods and drinks have the ability to block sugar receptors. In our experiment we are testing that gymnema sylvestre tea impairs an individual's ability to taste sugar by blocking sugar receptors on the tongue. To execute this experiment we are having a group of high school students randomly who are willing to participate drink a dixie cup of gymnema sylvestre tea wait 30 seconds and eat a hershey kiss. The goal is that the participants will not taste the sweetness of the hershey kiss after drinking the tea and compare the taste of the hershey kiss to those who did not drink any tea . Every experiment we studied had researched how sweet and bitter tastes could be blocked by our receptors. Our topic taste perception is a quite interesting topic to uncover. The topic relates to psychology by our brains not being able to taste the sweetness in sugary foods after drinking the tea because the herbs impairment blocks taste bud receptors from even getting to the brain. This information could affect the way the common person diets based on the effects of the tea and other similar drinks that could cancel out the sweetness or bitterness of your meals.

Schroeder, J. A., & Flannery-Schroeder, E. (2005, June 15). Use of the Herb *Gymnema sylvestre* to Illustrate the Principles of Gustatory Sensation: An Undergraduate Neuroscience Laboratory Exercise. Retrieved November 12, 2018, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3592606/>

The question that the study attempted to answer:

Can *Gymnema Sylvestre* stop our ability to taste sugar by blocking sweet receptors on the tongue?

A description of the participants:

The students

A brief description:

To begin the experiment you must properly prepare the tea. Then hand out the tea among the students and inform them that their taste will be affected but do not be too specific about how their taste will be impaired. Along with the tea they provide each student with packages of salt, sugar, aspartame, sweetarts, and M&Ms. They then have the students drink the tea and eat each of those products after as well. The students will lastly rate their intensity of the taste 0-10.

Conclusions:

The students report that the salt tasted the same, the sweetarts taste especially sour and the M&Ms taste bitter. Overall the students report that sugar taste different, and “feels like melting sand on the tongue.”

How it relates to our experiment:

This is an example of the experiment we wish to run. The result of this experiment is that the *Gymnema Sylvestre* impairs the students ability to taste sweetness and that is how the outcome for our experiment should be as well.

Lawless, H. T. (n.d.). Evidence for neural inhibition in bittersweet taste mixtures. Retrieved November 13, 2018, from <http://psycnet.apa.org/record/1980-27363-001>

The question that the study attempted to answer:

Mutual suppression of bitter and sweet tastes is due to neural inhibition rather than chemical interactions

A description of the participants:

Random Middle Aged People

A brief description:

Subjects were given treatments of gymnema sylvestre to test its inhibition of sucrose. Phenylthiocarbamide was also used. After these treatments the subjects tasted sugary foods and responded how they tasted.

Conclusions:

The gymnema sylvestre was successful in inhibiting the sugar receptors and made the foods taste bitter.

How it relates to our experiment: This is similar to the experiment that we want to run. After drinking the tea, it made the foods that they were eating taste bitter which is what we predict will happen after our experiment.

Muskopf, S. (2018, June 03). Investigation: Taste Buds and Signal Transduction |. Retrieved from <https://www.biologycorner.com/2017/12/09/investigation-taste-buds-and-signal-transduction/>

The question that the study attempted to answer: How does Gymnema tea affect your ability to taste sweet foods?

A description of the participants: High school senior students

A brief description: The students were given a variety of materials in order to organize data to perform their own experiments. They accomplished this by recording how and what they tasted when eating the foods after having drank the tea.

Conclusions: The tea stopped the subjects from being able to taste sugar after drinking the tea. It made the foods taste bitter and have a weirder texture than usual.

How it relates to our experiment: This experiment is testing the same thing as ours, how the tea will stop our taste receptors from tasting sugar. However, they did this with foods including sugar, splenda, gummy bears, and sour patch kids