**Experiment & Survey**

# **Materials**

1. Books and research on stress
2. Survey to hand out during the Final
3. Two Rubik’s cubes
4. Candy ☺
5. Two heart rate monitors
6. Survey for those taking the experiment to fill out
7. Instructions page for those taking the experiment
8. Hints page on how to solve the Rubik’s cube
9. Notebook to record data in
10. A watch with a timer or stop-watch to time the two minutes
11. Volunteers to take the experiment!

# **Experiment**

For the first half of my project, I distributed a survey to the students in my classes during finals week. I also gave the surveys to two teachers, one for a Freshmen English class and one for the A.P. French class, to hand out to their students to obtain a wide range of student age levels. When creating the survey, I wanted to make sure I took into account their gender, academic profile and their susceptibility to stress. I had them fill out their general information BEFORE taking the final exam, asking them how confident they felt before the test. I had them fill out the second portion of the survey after taking the exam to see how they felt afterwards and also to see how they reacted to the test. From the data collected I hoped to find out if boys or girls has stress more often and which gender was able to deal with it more efficiently.

**Survey #1**

Please answer all questions as correctly as you can. Thank You!!! ☺

**BEFORE taking the Final Exam, please fill out this portion ONLY.**

Age: \_\_\_\_\_\_\_ Grade: \_\_\_\_\_\_\_ Gender: \_\_\_\_\_\_\_ GPA this past semester: \_\_\_\_\_\_\_

Do you feel prepared to take this final?: (y/n)\_\_\_\_\_\_\_

How long did you study for this final?: \_\_\_\_\_\_\_

Will this final make a big impact on your grade?: (y/n)\_\_\_\_\_\_\_

Are you concerned about this final?: (y/n)\_\_\_\_\_\_\_

If you are concerned, do you feel stressed out over the final or confident in your abilities?: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**STOP here!!! AFTER taking the Final Exam, please fill out this portion ONLY.**

Now that the final is over, do you feel you tried your hardest?: (y/n)\_\_\_\_\_\_\_\_

Do you feel you took the test to your best capabilities?: (y/n)\_\_\_\_\_\_\_

Do you feel you did good, bad or ok on the final?: \_\_\_\_\_\_\_\_\_\_\_\_

Do you think you did better on the final than normal tests?: (y/n)\_\_\_\_\_\_\_

If you studied, do you feel the studying helped you?: (y/n)\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Always | Often | Sometimes | Never |
| How often do you worry about big tests? |  |  |  |  |
| If you stress out over tests, how often does it make you score higher on tests? |  |  |  |  |
| How often does stressing over tests make you score lower on tests? |  |  |  |  |
| Do your classes (that you’re currently taking) feel challenging? |  |  |  |  |
| Do you feel pressured to do well in school? |  |  |  |  |
| How often do you fight with your friends? |  |  |  |  |
| Do you feel pressured by your friends? |  |  |  |  |
| How often do you get sick? |  |  |  |  |
| How often do you feel tired or worn out? |  |  |  |  |
| How often do you feel depressed? |  |  |  |  |

How many AP/ Honors classes are you currently taking?: \_\_\_\_\_\_\_

On average, how long do you spend on your homework each night?: \_\_\_\_\_\_\_

On average, how many hours of sleep do you get each night?: \_\_\_\_\_\_\_

**Experiment Continued…**

For the second half of my experiment, I measured the heart rates of various people while they performed an activity that was intended to induce stress upon them. The experiment was for a person to solve a Rubik’s cube under a limited amount of time (two minutes). To make the experiment appealing, I had prizes for those who solved the cube and candy for those who at least tried. I also had a page of hints for them to use to solve the cube so and I also told them the record for solving the cube (26 seconds!) so it wouldn’t seem impossible to do. While I was timing them, I measured their heart rates on Logger Pro. I also gave them a one-minute warning before time was up. When the two minutes was over, I recorded their initial heart rate, their heart rate after one minute, and their ending heart rate.

**Survey #2**

Please answer all the questions as correctly as you can. Thank you!!! 

Age:\_\_\_\_\_ Grade:\_\_\_\_\_ Gender:\_\_\_\_\_\_ Current GPA:\_\_\_\_\_ # AP/Honors:\_\_\_\_\_

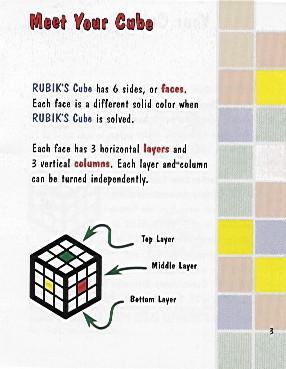
On average, how many hours do you spend on homework each night?:\_\_\_\_\_

On average, how many hours of sleep do you get each night?:\_\_\_\_\_

*For questions #2 & #3, if they do not apply, leave blank.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Always | Often | Sometimes | Never |
| 1. How often do you worry about your grades? |  |  |  |  |
| 2. If you participate in sports, how often do you stress about them? |  |  |  |  |
| 3. If you participate in extra-curricular activities, how often do you stress about them? |  |  |  |  |
| 4. Do you feel pressured to do well in school? |  |  |  |  |
| 5. How often do you feel tired or worn out? |  |  |  |  |
| 6. How often do you feel depressed? |  |  |  |  |
| 7. How often do you have mood swings? |  |  |  |  |
| 8. How often do you fight with your friends? |  |  |  |  |
| 9. Do you feel pressured by your friends? |  |  |  |  |
| 10. How often do you fight with your parents? |  |  |  |  |
| 11. How often do you feel physically or emotionally exhausted? |  |  |  |  |

**Hints Page**



# **Procedures**

1. Looked through books on stress and old experiments on the web to see what I needed to have in my survey
2. Created survey
3. Handed out survey during Finals week
4. Thought about ways to induce stress upon people and decided that solving a puzzle would work
5. Bought Rubik’s cubes & candy
6. Created hints and instructions page
7. Created another survey for those taking the experiment to fill out beforehand
8. Learned how to set up the heart rate monitors and use Logger Pro
9. Created a time table for people who volunteered to be tested
10. Also created reminders for those who signed up so they would remember when to come in
11. Tested people for three weeks during lunch and after school
12. Analyzed data and graphed my results

**Procedures for Testing**

1. Set up the equipment and Logger Pro – made sure Logger Pro was set to collect data for two minutes
2. Had two people fill out the survey
3. Explained the instructions while they read the instructions in front of them
4. Put the heart rate monitors on them while pointing out the hints page
5. Timed them for two minutes
6. Gave the one minute warning
7. After time was up, collected the data and gave them candy!