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7th grade Science
Science Fair Logbook

Logbook

Title:

Heart beats and high scores

Objective:

- In this experiment I will find out how video games affect heart rate

Statement of the Problem:

- The problem in this experiment is How do video games affect heart rate.The purpose of this experiment is to see if people's heart rate can increase by playing video games. I want to do this experiment because I like to play video games and I think it can help others. The information gained from this experiment will help others because studies have been shown that playing video games help lower bpm due to your heart rate increasing. It is important to the real world because many people suffer, some people who are sick or old can get cardiovascular exercise without physical strain.

Dependent and Independent Variable:

- Independent- type of video game
- Dependent- the person's heart rate
- Control- The type of heart monitor used

Hypothesis:

- If I play a fast paced video game, then my heart rate should go up.

Because the body is in a stressful environment therefore the heart rate will speed up.

Materials:

- 1 heart monitor
- 1 cameras
- 1 notebook
- 1 pencil
- 1-3 electronic devices for playing video games
- Tv or Monitor if needed for an electronic device if it does not have a build in screen

Procedures:

1. Gather all materials
2. Make them put on the heart monitor
3. Ask them what games they want to play from the link game list
4. Turn on the heart monitor and camera
5. Now turn on all the electronic devices
6. Check heart rate
7. Take picture of heart monitor
8. Make them play the video game
9. When done playing check heart rate again
10. Take picture of heart monitor
11. Repeat steps 6 through 10 until they played every game that they wanted to play

Results:

The results of my study showed that when playing video games designed to be fast or hard increased heart rate. The average heart rate before the game was 81.23 bpm. After playing the fast paced video game the heart rate went up to around 89.14 bpm. After this I conclude that the heart rate does go up when playing fast paced

video games.

Conclusion:

The objective of this experiment was to find out how video games affect heart rate. The objective was accomplished by comparing the heart rate before and playing a fast paced game.

The results of my project supported my hypothesis. It was predicted that playing an intense fast paced game would increase heart rate, and the data aligned with the prediction.

Data shows that playing high intensity games can increase heart rate. Playing high intensity games could improve cardiovascular health. The brain couldn't figure out the difference between physical and virtual environments. This caused the body to enter into a fight or flight.

From this experiment I learned that the human brain thinks that virtual reality is physical reality. So when you play a fast paced game your body activates your fight or flight response. This makes your heart rate higher.

If i were to conduct this experiment again i would make it so that they would play a calm slowed down game and a fast paced intense game. I would also make sure that it's in a more controlled environment such as the lighting and the time.

Pictures:

- All pictures/captions should be added to the slide presentation only.

References:

- Website
- Date of publication
- Site name
- Title of webpage
- Date of retrieval