CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY

Name(s)

Jason Caminiti

Project Number

J1208

Project Title

The Effects of Music on the Cardiovascular System

Abstract

Objectives

The object of this study was to find out if music can change heart rate and blood pressure.

Methods

To conduct this experiment I needed an Equate Digital Blood Pressure Monitor, IJOY Bluetooth headphones, an iPhone timer, a MacBook Air computer, and music. The subjects sat down and did nothing for five minutes. And then had their blood pressure and heart rate read. After that, they listened to music for 3 minutes and then had their heart rate and blood pressure read again. The same was done with the other types of music. For my control, I used no music and then tested the subject heart rate and blood pressure.

Results

I found that Classical music decreases heart rate and blood pressure the most and rap music increases heart rate and blood pressure the most which was different from my hypothesis.

Conclusions

Classical music decreased the heart rate and blood pressure the most because it had a very slow tempo. And rap music increased the heart rate and blood pressure the most because of the fast tempo. The slower the tempo the more your heart rate and blood pressure will change, and the faster the tempo, the more your heart rate and blood pressure will increase. The classical music's tempo I used for this experiment was 38 bpm which is very slow, and for rap, the tempo was 163 bpm which is extremely fast. The information gained from my project can be used by every person who has high blood pressure or heart rate and wants to bring them down. Also if somebody is stressed out, slow music can bring down stress levels.

Summary Statement

I found that classical music decreased the heart rate and blood pressure the most, and rap music increased the heart rate and blood pressure the most.

Help Received

I designed and conducted the experiment by myself, and my mom, who is my science teacher, helped me with this project as well.