CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
J0304

Project Title
Musical Stimulation for the Brain

Abstract

Objectives/Goals
My objective was to determine if playing a musical instrument is more correlated with higher IQ than listening to music by comparing test scores between a group that performs a musical piece and a group that listens to a musical piece.

Methods/Materials
Materials:
1. Canon and D on Ipod
2. Canon and D for various instruments
3. IQ and Memory Test
4. Three groups of 4 people

Results
In interpreting my results, it is apparent that the group that performed the musical piece had higher test averages. This leads me to believe that musicians have more active brains than non-musicians. Over time, their brains develop more and give them the capability to become smarter. Studies have shown that the brain#s temporal regions show more stimulation. Musicians have a larger CC that carries information between the motor centers of the hemispheres of the brain. Furthermore, musicians have a more responsive cerebral cortex, which receives sensory input from the fingers. This has all happened after years of playing music. It appeared that the overall educational aptitude of the individual is improved.

Conclusions/Discussion
When performing music, does your brain receive more stimulation than when listening to music? My test results have proven this to be the case. I entered the test scores into a T-test to determine the statistical significance between the groups. On the Memory Test, there was only a 60% difference between groups one and two, a 90% difference between groups two and three, and a 99% difference between groups one and three. Furthermore, on the IQ test, there was a 94% difference between groups one and two, a small 54% difference between groups two and three, and a 99% difference between groups one and three. This proves that there is a correlation between playing a musical instrument and better IQ scoring.

Summary Statement
My project is looking at how music affects the stimulation of the brain.

Help Received