



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title The Effect of Mozart on Short Term Memory	
Abstract Objectives/Goals In the present experiment, effect of the Mozart's Sonata and music chosen by individual subjects on short-term word memory is investigated. I hypothesize that more words will be remembered while listening to music than in silence and also that more words may be remembered while listening to music of choice. Methods/Materials Materials and Method Eleven subjects aging from 20 to 35 participated in the present study. The participants who carried their favorite music in personal listening devices or computers were asked to take three five-minute tests in a day. In random order, a participant took the tests while listening to nothing, Mozart's Sonata for Two Pianos in D, K448 by W.A. Mozart, and their favorite music. The participant was asked to relax and listen for two minutes then to memorize 20 easy Korean words in one minute. One of three word lists was given in a random order. In the next one minute, the participant wrote down as many words as he or she could remember. In order to maintain similar testing environments, participants, when asked to take the test in silence, were in a room alone. When listening to either the Mozart sonata or music of choice, the participants listened with headphones to minimize any background noise. Results Results The average number of words remembered for people who were in a quiet environment was 9.1; listening to the Mozart sonata 11.5; and listening to their favorite music 10.1. Conclusions/Discussion Discussions A more variety of music should be tested. And lastly, EEG or fMRI studies can be done to record brain activities of the participants and determine if the effect can be seen at the physiological level. In the present experiment, there were some limitations that may have affected the outcome. Although the experimenter tried to create a similar environment for all the test takers, the participants did not take the tests together. And the participants' musical and academic backgrounds varied. More standardized testing conditions and larger group of participants can provide more convincing results. Nonetheless, the results showing a significant improvement in word memory while listening to the Mozart K448 sonata concur with results of many previous studies and offer valuable considerations for future studies.	
Summary Statement The effect of mozart music K448 on short term memory	
Help Received	