



# CALIFORNIA STATE SCIENCE FAIR 2014 PROJECT SUMMARY

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<b>Project Title</b> Trance of Tech on Teens with Caffeine	
<b>Objectives/Goals</b> My purpose of doing this project was to find out how teenagers are responding to the drug caffeine while being immersed in the world of technology and how that affects their memory. My goal was to find out what physical effect as well as psychological effect that consumption of caffeine and the use of technology had on a teenager's memory and ability to sleep at night. <b>Abstract</b> <b>Methods/Materials</b> 1. Handout forms for the participants and their parents to fill out before the day of the experiment. 2. On the day of experiment, give a number to each participant. 3. Perform control experiment with memory game and calculated test. Collect papers. 4. Divide 60 participants into 4 groups of 15 participants each. 5. Give designated group the necessary items and let them get exposure for 1 hour. 6. After 1 hour, conduct 2nd memory game and calculated test. 7. Analyze data. 60 anonymous teenage participants; PowerPoint slides with images of items; Caffeine Source(s); Technological Equipment; Non Technological Equipment; Paper/Pens/Pencils. <b>Results</b> From my experiment, I discovered that my hypothesis of caffeine having a positive impact on teenager's memory with improved scores was proven right. However, the incorrect part of my hypothesis was that the "Non-technological and Caffeine" group fell asleep with much more ease than any other group. In actuality, the "Non-Technology and Non-Caffeine" group had a much easier time falling asleep as well as getting the necessary amount of sleep. Those who consumed caffeine seemed to have a more difficult time staying asleep all through the night. <b>Conclusions/Discussion</b> Teenagers get less and less sleep as days goes on. Due to the amount of work teenagers are given nowadays in school, they are forced to get little to no sleep majority of the school nights. My hypothesis was partially right. The right portion of my hypothesis was that caffeine actually helped the participants improve their test scores but those participants at the same time did not use technology. The wrong part of my hypothesis was which group had an easier time falling asleep. The group that actually had an easier time falling asleep and staying asleep was the "Non-Technology and No-Caffeine" group. One section that I could have improved in this project is that I could have gotten more participants.	
<b>Summary Statement</b> what the effect caffeine and technology used at the same time affects a teenager's memory and ability to sleep at night	
<b>Help Received</b> Father helped with legal action such as insurance for the hall that the research was conducted	