



CALIFORNIA STATE SCIENCE FAIR 2012 PROJECT SUMMARY

Name(s) Matthew T. Piegza	Project Number J1219
Project Title The Hearing Abilities of Men and Women Ages 15-52	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to see if hearing declines as people age (are there ringtones children can hear that parents cannot hear) and if there was any correlation between ear infections as a child or listening to music through earbuds/headphones or attending loud music concerts and the hearing abilities of men and women.</p> <p>Methods/Materials The materials I used include: an I-pad; Nixon headphones; mosquito sounds (ranging from 8Khz-21.4Khz); paper; pen; notebook; graphs; internet connection (www.freemosquitoringtones.org). I asked 40 subjects(males and females between the age range of 15-52yrs.)to participate in my study. I recorded their age and gender and asked them to put on the earphones and adjust them for comfort and fit. I prepared them for the first sound and asked them to respond with yes/no. I repeated the 13 sounds and recorded their responses. Once testing was finished, I asked them the three questions and recorded their answers.</p> <p>Results I found that while hearing declines over age, there were differences between the hearing abilities of men versus women. Male hearing is better at its peak, but has a steeper decline than female hearing which had a more gradual decline with age. My data showed that at age twenty-nine the male hearing abilities started to decline. According to my data, hearing ability is best in mid-to late teens and after age forty there was a large drop in hearing abilities. I also found that the most damaging factor to hearing loss is not listening to loud music with headphones/earphones (my hypothesis), but was going to four or more loud music concerts as reported by my subjects.</p> <p>Conclusions/Discussion Based on my data, I found there are differences between hearing abilities of men and women as they age. I also found that people who had protected their hearing ability (by not attending loud music concerts or listening to music through headphones/earphones), had better hearing ability than their counterparts. As for discussion of the topic: I believe hearing ability is an important topic that is often overlooked as people age. It is a common practice for people to get reading glasses as they age, but it is less common/accepted that people may need hearing aids or assistance. My data suggests that men and women need to protect their hearing and continue to monitor their hearing ability.</p>	
Summary Statement The differences between the hearing abilities of men and women as they age and possible factors that contribute to hearing loss..	
Help Received My Mom helped me with graphs. My Teacher provided overall supervision. My test subjects agreed to participate.	