



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Samantha J. Owada</b>	<b>Project Number</b> <b>J0420</b>
<b>Project Title</b> <b>The Power of Music</b>	
<b>Abstract</b> <b>Objectives/Goals</b> To show that different genres of music will affect the boys' heart rate and blood pressures differently than the girls'. <b>Methods/Materials</b> Study materials include: headphones, iPod, automated heart rate and blood pressure monitor, and timer. Take boy subject 'A' to neutral sound room and hook subject up to monitor. Activate monitor. Record resting heart rate and the systolic and diastolic blood pressure. Play jazz music for 2 minutes, then record heart rate and blood pressure in journal. Set timer for 1 minute and wait for subject's heart rate and blood pressure to become steady. Repeat this for the next 3 genres of music. Repeat the above steps for the rest of the subjects. There was a total of 4 boy subjects and 4 girl subjects. <b>Results</b> The boys' heart rate and blood pressures fell while listening to jazz music; whereas the girls' heart rate did not decrease but their blood pressure did. For classical music, the boys' and girls' heart rate and blood pressure increased. When listening to alternative music, the girls' and boys' blood pressure did not drop. However, the boys' heart rate decreased when the girls' heart rate did not change. For rock music, the girls' had a higher heart rate and systolic blood pressure. But the boys' and girls' diastolic blood pressure had no change. <b>Conclusions/Discussion</b> The boys' heart rate and blood pressure did react differently than the girls' when listening to 4 genres of music. An important finding was that out of the majority of the subjects, jazz decreased their heart rate and blood pressure. In the research on hospitals using music to help cardiovascular patients recover from surgery, classical music made the heart rate and blood pressure decrease but in the experiment it increased. This could be helpful in everyday life because kids with cardiovascular failure could listen to jazz music to help them recover from surgery.	
<b>Summary Statement</b> Different genres of music affects the boy and girl subjects' heart rate and blood pressure differently.	
<b>Help Received</b> Used automated heart rate and blood pressure monitor borrowed from the cardiology unit at Valley Children's Hospital and supervision of Dr. Carl Owada	