



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Sydairee P. Dudley	Project Number S0406
Project Title Investigating the Best Exercise for the Brain	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment is to compare three different exercises in an effort to discovering the most effective exercise for improving memorization skills for adults 45 and older.</p> <p>Methods/Materials Questionnaire (Slum Test), Pen/Pencil, Manila folders, 12 Volunteers/Participants (45-65 years old), Timer for tests</p> <p>Results The recorded data from the Slum tests, over the time span, illustrated the effects an exercise as intense as dancing has on the older brain. As it depicted, through the graphs, the steady increase of memorization certain participants had as they continued with their exercises. To elaborate, the results of the experiment showed that there was a 75% increase in brain power for those participated in line dancing, 55% for those who did walking and 30% for those who did resistance training. While the control group showed a 5% increase.</p> <p>Conclusions/Discussion Dancing was proven to have the greatest impact on memory for older adults, as the average of the data collected helped represent the growth of the participants hippocampi, which is an organ within the limbic system (within the medial temporal lobe) that has direct relations to a person's memory. This project helps further our knowledge on how the brain functions in older ages and it illustrates ways to lessen the likelihood of obtaining brain diseases.</p>	
Summary Statement My project is about finding the exercise that will have the most impact on the human brain, in relations to improving memory skills, for adults in their mid 40's and older.	
Help Received My advisor helped proof read my report and how I should illustrate my data. She also assisted me with the timing of the Slum Tests and gave me clarifications for what an abstract and an appendix was.	