



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Marisa Blume; Brianne Latthitham</b>	<b>Project Number</b> <b>S0303</b>
<b>Project Title</b> <b>ADD/Hyperactivity Disorder Treatment via Hemispheric Synchronization</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> In our experiment we tested the effectiveness of Hemispheric Synchronization in the treatment of ADD/ADHD. The treatment should result in a decrease of slow brainwave activity, a stabilization of brainwave variability, and an increase of concentration.</p> <p><b>Methods/Materials</b></p> <ul style="list-style-type: none"><li>·2 ADD/ADHD afflicted children</li><li>·NeuroCarePro (version 1.86) Software</li><li>·Hemi-sync CD</li><li>·Active electrodes</li><li>·2 reference electrodes</li><li>·EEG equipment</li><li>·Headphones</li><li>·Reading Materials</li></ul> <p>Subject 1 is a 13 year-old male, and Subject 2 is 15 yr old male. They were required to discontinue taking any psychostimulant medication that may alter the results. Electrodes were then attached to the C3 and C4 electrode sites. Two reference electrodes were also used. The electrodes were attached to EEG equipment that processes brain activity and relays it onto the computer screen. A baseline was recorded of each subject's brainwave activity. Brainwave activity was recorded while he focused on the image. Each subject was asked to read a novel while listening the a Hemi-Sync CD, #Concentration#, for 30 minutes. This CD is designed to improve concentration and stimulate 18-24Hz activity in the brain. Then a second 40-second baseline was performed to gather EEG data post the experiment. Finally, the pre- and post-test data were compared and analyzed by NeuroCarePro.</p> <p><b>Results</b> Our hypothesis was supported by the results of the experiment. Both patients showed a significant decrease in inefficient slow brainwave activity. In addition, the variability of their brainwaves was stabilized.</p> <p><b>Conclusions/Discussion</b> Our data shows that after listening to the Hemi-Sync CD both cases showed improvements in the mean scores of brainwave activity for Subject 1 and reduced variability of inefficient EEG activity for Subject 2. There was a decrease in slow brainwave activity and a decrease in inefficient activity in both the higher and lower frequencies. This results in increased concentration and more efficient brain functioning. This</p>	
<b>Summary Statement</b> This project represents a non-psychopharmacological treatment for ADD afflicted people.	
<b>Help Received</b> The procedures were administered under the direct supervision of Dr. Dan Staso, Ph.D., Clinical Psychologist	