



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Joseph S. Levenson	Project Number S1113
Project Title The Effect of Transcendental Meditation on Resting Heart Rate	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this research was to compare the difference in heart rate change between an eyes open and an eyes closed period for Transcendental Meditators and non-meditators. It was hypothesized that those who practice transcendental meditation would exhibit significant reduction in heart rate between the periods of when they were simply resting with their eyes open and when they were practicing Transcendental Meditation with their eyes closed; as compared with non meditators whose heart rate change was measured between periods of eyes open resting and eyes closed resting.</p> <p>Methods/Materials Meditators practiced the technique of Transcendental Meditation during the eyes closed period and the non-meditators simply sat with their eyes closed. Twelve Transcendental Meditators and twelve non-meditators were selected to participate. They were measured during the two periods using a Polar F11 heart monitor as they sat in a standard chair. The eyes open period lasted five minutes and the eyes closed period lasted ten minutes. Heart rate measurements were taken at minute intervals.</p> <p>Results The meditators' average heart rate change was an average decrease of 6.47% between the two periods with a median change for that group being a 6.58% decrease. The non-meditators' average heart change was an average increase of 3.54% between the two periods with a median change for that group being a 1.34% increase. Eleven out of twelve meditators' average heart rate decreased between the two periods with all eleven having a greater heart rate percent decrease than any one of the non-meditators had between the two periods.</p> <p>Conclusions/Discussion The study clearly demonstrated that Transcendental Meditators' resting heart rates will likely decline while they are meditating. When that decline is compared to a change in heart rate for non-meditators between the two periods studied, the meditators' change was profound. In fact, through statistical analysis, it was concluded that the likelihood of this data resulting from chance was less than 0.5%.</p>	
Summary Statement My project was about seeing if Transcendental Mediation had an effect on resting heart rate.	
Help Received Father helped supervise the measuring of human subjects; Dr. Hoffman helped give advice with the statistical analysis of my project; Penny Hintz helped in the networking of meditators.	