



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Anu K. Gupta</b>	<b>Project Number</b> <b>S0310</b>
<b>Project Title</b> <b>Living Without Stress</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective is to find a solution to stress. One of the main causes of high blood pressure today is stress. I am evaluating the effect of the Yogic Technique # Deep Relaxation Technique(DRT) and Music on one's stress level measured by three factors: Blood Pressure, Heart Rate, and Respiratory Rate. I will be using cardiac patients, regular subjects, and Yoga practitioners to test stress reduction. I hypothesized that DRT will be most effective in reducing stress because it is a conscious process that relaxes one's mind. <b>Methods/Materials</b> Three groups consisting of 201 subjects were taken over a 4-month period. I used automatic blood pressure and pulse monitors, recorded my voice into a tape recorder used for doing DRT, and bought a classical music CD. Both were done for 12 minutes. A stopwatch was used for measuring respiratory rate. For subjects, I went to the houses of people, the Heart Center, and a yoga class. In all, I took 107 Regular Subjects, 64 Cardiac Patients, and 30 Yoga Practitioners. Yoga practitioners are people who have been doing yoga for at least two years, twice a week. The yoga class was given the yogic relaxation which was compared against them just lying down for the same period of time. They were given the yogic relaxation which was compared against their is experiment on them twice over 2 weeks period. Regular Subjects were those who did not practice Yoga or have a history of high blood pressure. I conducted the two experiments along with the control on this group. The final group consisted of Hypertension Patients (Non-Yoga) who had no history of yoga who were divided into 3 groups as they could not come 3 times for the different experiments. Out of 60 patients, and equal number did the music and yoga relaxation as well as the control. <b>Results</b> Although DRT led to a reduction in the blood pressure, pulse, and respiratory rate in all groups, the degree of reduction was greater in Yoga than with other techniques. I also found that if one does Yoga regularly, this technique is likely to benefit them more than it would benefit a person who is doing it for the first time. <b>Conclusions/Discussion</b> Overall, the data supported the hypothesis. Not only does this prove to be beneficial for those currently suffering from hypertension, it also helps normal people who constantly carry the load of distress and anxiety (the root cause of high blood pressure and associated other medical problems).	
<b>Summary Statement</b> To compare the effects of Music and Yogic Relaxation Technique on Blood Pressure, Heart Rate and Respiratory Rate.	
<b>Help Received</b> Father helped me understand project and	