



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

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<b>Project Title</b> Stress Buster	
<b>Objectives/Goals</b> To investigate if Transcendental Meditation will have an effect on blood pressure, heart rate, respiratory rate, and skin temperature. <b>Abstract</b> <b>Methods/Materials</b> Materials: Biodots, an automatic blood pressure machine, a pen, a notebook, and a timer Method: The first step was to identify 10 meditators, who have been meditating for last 6 months at least 5 times per a week, and 10 non-meditators as my subjects and get their consents. I labelled them M1-M10 for meditators and NM1-NM10 for non-meditators. I met with my subjects individually and measured the blood pressure, heart rate, respiratory rate, and skin temperature at 0 minutes. Next, I asked the subject to either do transcendental meditation for the meditator group or rest with their eyes open for the non-meditator group for 15 minutes and then measured all the vital signs again. I repeated these steps with every subject two more times. <b>Results</b> The average systolic blood pressure change in non meditators for all trials was -4.93 compared to -6.90 for the meditator group. The average change in diastolic blood pressure in non meditators for all trials was -3.53 compared to -3.5 for meditator group. The average change in heart rate in non meditators for all trials was -2.8 compared to -4.43 in meditator group. The average change in respiratory rate in non meditators for all trials was 1.37 compared to -1.90 in the meditator group. The average skin temperature change in non meditator for all trials was 0.47 compared to 3.43 in the meditator group. <b>Conclusions/Discussion</b> My hypothesis that Transcendental Meditation will have a greater effect on blood pressure, heart rate, respiratory rate, and skin temperature was correct. I also observed that even resting without doing the TM changes the vital signs, but the difference in the blood pressure, heart rate, respiratory rate, and skin temperature was greater for the meditator group then the non meditator. The strongest evidence of TM being more effective in increasing relaxation was found in the skin temperature. The vital sign that had the least difference between the two groups was the diastolic blood pressure. Overall, the Transcendental Meditation technique would reduce the harmful effects of stress and improve your overall health.	
<b>Summary Statement</b> Effect of Transcendental Meditation on vital signs	
<b>Help Received</b> Mother helped in taking me to the subjects for reading, shopping for the materials and display board	