



# CALIFORNIA STATE SCIENCE FAIR 2014 PROJECT SUMMARY

<b>Name(s)</b> <b>Roshini N. Ravi</b>	<b>Project Number</b>  34113
<b>Project Title</b> <b>The Might of Mindset: A Study on Growth vs. Fixed Mindsets</b>	
<b>Objectives/Goals</b> The purpose was to determine whether there was a correlation between academic success and happiness levels among high school students who are fixed minded (i.e. they believe that basic abilities such as their intelligence are fixed) and those who are growth minded (i.e. they believe that with dedication and effort their basic qualities can be developed). <b>Abstract</b> <b>Methods/Materials</b> HP Math Analysis students were offered two short and confidential questionnaires. Questionnaire I, a survey based on the Oxford Happiness Questionnaire was to determine the individual's overall happiness level. Questionnaire II, a survey based on Professor Carol Dweck's work, was to determine the individual's mindset type. Both surveys consisted of 20 statements and subjects were asked to rate their level of agreement on a 1-4 scale (1: strongly disagree; 2: disagree; 3: agree; 4: strongly agree). Subjects were also asked for their age, gender, grade, GPA and Subject Number, which was assigned prior to the study. <b>Results</b> Based on the linear regression t-tests conducted on the data, there was a significant positive correlation between mindset score and happiness score as well as mindset score and GPA. That is, as mindset score increased, both GPA and happiness score increased. The composite mean happiness score of those who were growth minded was significantly higher than those who were fixed minded ( $t = -3.24$ , $df = 10.4$ , $p = 0.0085$ ). Beyond happiness, the average GPA of growth minded individuals was also significantly higher than fixed minded individuals ( $t = 3.94$ , $df = 11.06$ , $p = 0.0023$ ). Robustness tests conducted on the results verified the accuracy of the values. These results were confirmed when each gender was examined separately. <b>Conclusions/Discussion</b> The significance tests conducted exhibit a clear positive correlation between mindset score, happiness score and academic success. The next step would be to first determine the ease with which the growth mindset can be taught and to then develop an effective method to implement the basics of the growth mindset into our own educational system.	
<b>Summary Statement</b> The project is an examination of mindset type, happiness level and academic success to determine whether there is a correlation between the variables.	
<b>Help Received</b> Parents helped acquire materials. Mrs. Lisa Layshot permitted the study to be conducted during class.	