



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

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Project Title Age vs. BMI: A Two Year Study	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of the project was to figure out whether age or BMI played a greater role in a child's heart rate's response to exercise. This year we wanted to see if controlling the food intake would affect the results. We also controlled other aspects of the experiment too, to see what affect it had.</p> <p>Methods/Materials Methods: Find Children that are willing to have their BMI measured and are willing to run; Measure distance for each age group (6 yr. olds- 25 yards, 12 yr. olds- 50 yards and 15 yr. olds- 100 yards); Measure each child's height and weight to calculate BMI; Measure heart rate before run and have children run, then measure heart rate after the run; Record results and continue procedure for each child.</p> <p>Materials: 36 children (Three Age Groups: 6, 12, 15 yr. olds, 3 abnormal BMI kids for each group, 3 normal BMI kids for each age group, female and male); Heart Rate Monitor; Weight Scale; Measuring Tape; Masking Tape; Note Cards.</p> <p>Results This year's results greatly differed from last year's results. This year our data was supported by proven research. Our data showed that normal weight people had lower heart rate's than overweight and underweight people. This was true through all age groups. Because of this we concluded that BMI had a greater affect on heart rate than age. Last year's result were the exact opposite and were not supported by research.</p> <p>Conclusions/Discussion We believe that last year's data was incorrect because the experiment was not as controlled, and all the students could have been from different cultures. Because of that some of them could have had too much food and others too little. This year we controlled the food intake in the morning. We also controlled the pace at the students ran to make the project better. This year our data was more accurate than last year's because of the elimination of all the variables. Also for next year's project, we plan to apply our knowledge from the last two years. We plan to test kids again and then we will sit down and make a health plan for all the studets. Then we would come back and test them again to see if the plans worked. That way we could help people live healthier lives and slowly raise awareness about health problems.</p>	
Summary Statement The project was about whether age or BMI played a greater role in a child's heart rate's response to exercise and if controlling the variables, such as food intake, would affect the outcome of the results.	
Help Received	