



CALIFORNIA STATE SCIENCE FAIR 2008 PROJECT SUMMARY

Name(s) A. M. Fiona Alfait	Project Number J0301
Project Title The Impact of Age and Socioeconomic Status on Childhood Fears	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Though studies have shown children's fears correlate with age, little is known of the influence of socioeconomic status (SES) on childhood fears. The purpose of this study was to examine the manner and extent to which socioeconomic status and age impact childhood fears.</p> <p>Methods/Materials I developed a fear survey that maintained the primary fear factors of the American Fear Survey Schedule for Children (FSSC-AM), yet had sixty less items. I chose thirty-eight common childhood fears that I thought related to a child's SES and age, and thus created my survey. The shorter survey was designed to hold the student's attention better and be more acceptable to administrators and teachers. I surveyed fifth, sixth and eighth grade students from an Independent Private School (High SES) and fifth graders from a 64% socioeconomically challenged Public School (Low SES). Data was analyzed using the Serial Attached SCSI (SAS) data analysis program. I performed a Principal Component Analysis to identify the various components, or factors, of fear measured by my fear survey and to group the data into related clusters to ease data interpretation. Multivariate Analyses of Variance, univariate analyses variance and t-tests of the 38 items of my fear survey, three principal fear factors and total fear score were conducted in a 2 (SES) X 3 (Grade) design.</p> <p>Results Low SES fifth graders' fears clustered around more common and less physically threatening scenarios, while high SES students' fears focused on threats to self-concept, social anxieties and peer acceptance. The main effects of age and socioeconomic status for the fear survey results was significant, as well as the interaction of age and socioeconomic status. Sixth graders displayed the highest total number of fears and eighth graders the lowest total number of fears. Low SES fifth graders reported a significantly greater total number of fears than high SES fifth graders.</p> <p>Conclusions/Discussion The students' top three fears were of violence. Perhaps this is a reflection on the rapidly increasing world violence. In the past decade numerous terrorist attacks worldwide occurred. More recently, there have been frequent random acts of violence, some at schools. Students' fear response to violence, along with individual differences in fear due to rapid developmental changes and socioeconomic status are important factors for government leaders, schools, and parents to consider.</p>	
Summary Statement This project examines the impacts of age and socioeconomic status on childhood fears.	
Help Received Dr. Vincent Alfait served as my mentor.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Annabelle F. Beecher	Project Number J0302
Project Title Could a Cute Package Make Kids Eat More Healthy Food?	
Abstract Objectives/Goals For my science fair I wanted to test how I could make kids eat more healthy foods. My objective was to determine if children would eat more healthy food if it were packaged in a colorful and appealing way. Methods/Materials I choose to experiment on two first grade classes, both with 36 children aged 6 or 7. I decorated 36 bags in a cute and colorful way that I thought would appeal to both boys and girls. I used 36 similar bags that were plain brown for the control class. I distributed five similar sized carrots in each of the bags. I wrote a speech telling the kids to eat as many carrots as they liked or to not eat any at all, and to save any uneaten carrots. I went to one class and my friends went to another class and we gave the children the same speech at the same time on the same day. We gave the children ten minutes to eat the carrots and then I collected the bag and counted how many carrots were eaten by each class. Results I determined that the class with the decorated bags ate 75.6 percent of the carrots and the control class ate 50.2 percent of their carrots, which means that the decorations on the bags resulted in the class eating 25.4 percent more carrots. Conclusions/Discussion I concluded that changing the packaging can have an affect on how much food a child consumes. I found that former research showed that children choose food in more appealing packages but I showed that they eat more of the food too.	
Summary Statement The focus of my project was to determine whether I could get kids to eat more healthy food by packaging it in a more visually stimulating way.	
Help Received first grade teachers allowed me to use their classes; friends helped me conduct experiment; Mother helped me find research	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Samantha M. Castanien	Project Number J0303
Project Title To Blink or Not to Blink: Does Lying Affect Blinking in Adolescents?	
Abstract Objectives/Goals The objective of this experiment was to discover whether lying affects blinking amounts in adolescents and to see if these amounts differ between genders. Methods/Materials Nineteen subjects, with informed consent slips, were attached to a polygraph and were told to lie when asked about a certain number. Three tests were conducted that consisted of picking a number and lying about that number. Subject's blinking responses were recorded by video camera and analyzed later. Results The results from this experiment showed that there was a wide range of blinking amounts for the subjects who lied or told the truth. There seemed to be a measurable gender difference, with the boys blinking less than the girls, but not only when they were lying. Another interesting result from this experiment showed girls having a lower increase in the average gender blink rate per minute between liars and truth tellers than boys. Conclusions/Discussion The results from this project showed that blinking cannot be used as an indicator for lying. The wide range of blink amounts showed that the number of times a subject blinks depends on that specific person. It was shown that there was a measurable difference between genders and in general, when the subjects lied, the boys blinked less than the girls. However, it was discovered that the average gender blink rate per minute for boys was 9% higher than the average gender blink rate for girls when comparing liars and truth tellers within genders. While this difference was measurable in this experiment, because of the wide variation of blink amounts, it has no real affect in helping to identify a liar.	
Summary Statement Blinking is not a reliable method of identifying lying, since it is unique to each person and is not affected by gender.	
Help Received Detective Tim Hall of the San Diego Police Departement administered the polygraph tests. Mother and Father informed subjects about expectations during the polygraph testing. Mrs. Gillum arranged a room to use for testing at Thurgood Marshall Middle School.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Joseph E. Colona	Project Number J0304
Project Title How Does Music Affect Typing Speed?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to determine the genre of music and the tempo of music that produces the fastest typing speeds in words per minute.</p> <p>Methods/Materials First subjects were taken, one at a time, to a computer to type. The subjects typed predetermined lines while listening to different predetermined songs, which fit into different musical genre/tempo categories. The genre/tempo categories used were fast rock, slow rock, fast blues, slow blues, fast rap, slow rap and no music. The number of words per minute for each subject was recorded. The recorded information was then averaged, graphed and compared. Three trials were run. Materials: 1 101 standard keyboard; 1 PC computer; 1 Mavis Beacon Teaches, Typing Version 15, program for PC; 1 pair of Califone 2924AV-PS headphones; 6 songs; "Tell Me How Do You Feel" by Ray Charles (Fast Blues); "A Dream" by Jay-Z featuring Faith Evans and Notorious Big (Fast Rap); "The Pretender" by Foo Fighters (Fast Rock); "That Evil Child" by B.B. King (Slow Blues); "I Made It" by Jay-Z (Slow Rap); "Californication" by Red Hot Chili Peppers (Slow Rock); 1 Permission slip per test subject; 100 subjects ages 8-14.</p> <p>Results The results of this of this experiment showed that fast rap produced the fastest typing speeds at 13.54 words per minute. Slow rock produced the second fastest typing speed at 12.21 words per minute. Slow blues, fast blues and no music all got the same, slow blues at 11.83 words per minute, fast blues at 11.94 words per minute and no music at 11.39 words per minute. Fast rock and slow rap both produced the slowest results at around 10 words per minute. According to tempo alone fast music produced the most words per minute, but this number is somewhat misleading considering how poorly fast rock performed.</p> <p>Conclusions/Discussion The hypothesis that fast rock would produced the most words per minute was disproved. The most likely reason is that fast rock may have been too fast to keep up with along with keeping up with the words that had to be typed, while fast rap was fast enough but not too fast.</p>	
Summary Statement The central focus of this project was to determine the genre and the tempo of music, that produces the fastest typing speeds in words per minute.	
Help Received none	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Charlie K. Crane, III	Project Number J0305
Project Title Shut Up and Drive: Testing a Driver's Reaction Time While on a Cell Phone	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To test subjects, both while talking on a cell phone and not; to see which way their reflexes are better and thus minimize the risk of an accident while driving.</p> <p>Methods/Materials Three tests given, each with and without cell phone</p> <ol style="list-style-type: none">1. Ruler test: to measure reaction time2. Tetris test: to measure eye-hand coordination3. Timed Task test: to measure mental cognitive <p>Results The subject's combined scores while on a cell phone for the following categories: Part One: Ruler Test, was 5 centimeters slower. Part Two: Tetris Test, their score decreased by 6,262.75 points, and Part Three: Timed Test, was performed 13 seconds slower.</p> <p>Conclusions/Discussion If a subject is talking on a cell phone while driving, their reflex reaction time is significantly slower and thus putting themselves and/or others in danger. Drivers need to give 100% of their attention to driving, so they can avoid dangerous situations with their fastest reflexes. Talking on a cell phone while driving is an irresponsible behavior and puts many lives at risk. *As a bonus, but not included in my results was the additional testing of the subjects using a hands-free cell phone. The scores for this option were better than the hand-held cell phone, but not as good as their scores using their undivided attention!</p>	
Summary Statement How talking on a cell phone will affect a driver's reflexes.	
Help Received Summer school classes for research and testing subjects; mom helped with the board layout, securing the testing site and subjects; dad purchased all supplies.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Sophie E. D'Arcy	Project Number J0306
Project Title Music and Charitable Giving	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to see if playing pre-recorded upbeat music, pre-recorded soft music, and no music affected the number and size of donations made to a non-profit organization (Direct Relief International).</p> <p>Methods/Materials I set up a table for Direct Relief International in front of VONS Supermarket, complete with brochures, stickers, and other promotional items from the non-profit organization.</p> <p>Results When playing upbeat music, I received 11 donations of about \$6.45 each. When I played soft music, I found that 12 people donated an average of \$4.47 each. And, when no music was played, 12 people donated an average of \$9.03.</p> <p>Conclusions/Discussion After performing an ANOVA test, I found that my results were not statistically significant.</p>	
Summary Statement Testing to see if different types or no music increase the number and size of donations to a charitable organization.	
Help Received	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Tatyana L. Diaz	Project Number J0307
Project Title Delicious or Malicious?	
Abstract Objectives/Goals The objective is to find out if age, gender, or occupation matter in distinguishing a candy from a non-edible (medication, rock, Lego, mothball). I hypothesized that the older you are, and if you are a health-professional, the more likely you are able to tell the difference between a candy and non-edible. Methods/Materials Eleven pairs of candy and non-edibles were packaged in a bubble pack. They were assorted randomly and each subject of the pre-k class, 7th grade class, teachers, and health professionals were tested to see if they could pick out the candy in each pair. I averaged each group's correct percentage of the overall test. Results The female health professional group did the best, followed by the female teachers, male health professionals, male 7th Graders, male teachers, and female 7th Graders. The female Pre-K, and the male Pre-K were in last, the females 1% better than the males, showing how difficult it is for young children to distinguish between candies and non-edibles. The results revealed that Gummy Bear Question (#3) was the most missed question, and labeled medication (Tylenol, Sudafed) is no less dangerous than a blank medication for young children. Conclusions/Discussion I concluded that age, occupation, and gender does matter. The total adults (91%) had the higher percentage of accuracy, followed by the 7th Graders (80%), then the Pre-k (60%). It appeared labeling did not protect the young children at all, because some of them thought the labeled tablets were candy. Everyone made the most mistakes on the gummy bear question because they are the most similar. The health professionals (93%) did better than the teachers (89%). This is because health professionals dispense medications all the time. Referring to gender, the adult women were more accurate than the men. Perhaps it is because women dispense more medicine to their children. So in conclusion, age matters as well as one's profession and the women did better than the men.	
Summary Statement I tested to see if age, occupation, or gender matters in telling the difference between a candy or a non-edible (medication, rock, Lego, mothball).	
Help Received Mother bought supplies; Father provided book; Pharmacist packaged items and supplied pills	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Alexandria G. Fuertes	Project Number J0308
Project Title Honesty Is in the Eye of the Beholder	
Objectives/Goals Certain facial features will affect the way people perceive one's honesty and I believe Race, Demeanor, Expression, Smile, and Eyes will be shown as the top five most affected categories.	
Abstract # Between 70-100 portrait headshots from the following website: http://www.gettyimages.com/Creative/RoyaltyFree.aspx (The pictures must look about the same with no extremely flashy backgrounds or any such objects that might affect the subjects' answers.) Try to keep the pictures consistent. Aim to have the same number of males as females as well as the same number of people for each age group and race (see page 13). # About 20-70 test subjects from ages 12 to 14 with an even amount of boys as girls also see page 13 (7th grade to 8th grade students). # A CD to put into a computer. Should be set up as a simple, randomly ordered slideshow to show the tested subjects. Make sure the pictures are put into a random order that does not allow too many racial repetitions which might affect the results of the test. # Small 1-3 question quiz (Test) *This is the format that the questions should be for every picture; they should all be the same to confirm a no mistakes.	
Methods/Materials	
Results The main intent of my project was to observe the top reasons why the models were or were not trusted and which gender was trusted more. My results concluded the top reasons models WERE trusted were Smile, Unknown, Demeanor, Eyes, Happiness, Age, and Expression. The top reasons models WERE NOT trusted were Unknown, Demeanor, Smile, Expression, Eyes, Oddness, and Hair Appearance. Females were more trusted than males.	
Conclusions/Discussion I originally predicted that the features Race, Demeanor, Expression, Smile, and Eyes would show the greatest result as individual characteristics. I was correct about all my deductions except for one very important one: Race. So, my hypothesis was partly proven by stating that Demeanor, Expression, Smile, and Eyes were going to show large results and would be greatly affected by the answers of the subject. I found out the main reason the models WERE trusted was because of their smile followed by their demeanor, expression and eyes. The main reason the models WERE NOT trusted was firstly because of their demeanor, followed by smile, expression, and eyes.	
Summary Statement Which specific facial features and characteristics affect the way people perceive one's honesty?	
Help Received My step dad helped me with pivot charts and tables. My uncle helped me to access the getty image directory.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Sharon M. Grinwald	Project Number J0309
Project Title Is Yawning Contagious?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My experiment was to find out whether or not fake and real yawns are contagious.</p> <p>Methods/Materials In my project I will see if more people can copy yawns when they are real or fake. I will go to four classes at school with a friend and I will also get a poem by Langston Hughes. The first time I go to the classes I will read the poem and open my mouth wide and make the yawning noise right in the middle and my friend will tally how many people yawn after five minutes. After two weeks I will go to the same four classes and while I am reading the poem to them I will yawn. I will wait five minutes again to see how many people yawn and my friend will tally it. In the end I will compare the difference between people's reaction to the real and fake yawns.</p> <p>Results In my results I found out that it doesn't matter if my yawn was real or fake. Each class I went to had a different outcome to my experiment. Sometimes it was even, sometimes when I fake yawned more people yawned, and sometimes when I real yawned more people yawned.</p> <p>Conclusions/Discussion In the beginning of my experiment before I started, my hypothesis was that it would not matter if I real or fake yawned. I was right; all of my results were different. I learned that if someone sees someone else opening his or her mouth big even if it's not a real yawn, that person will yawn at least five minutes after. In my experiment one class yawned more to the real yawn, two classes yawned less to the real yawn, and one class yawned exactly the same. My limitations are that I only studied the reactions of middle school students while I read a Langston Hughes poem. Some of the errors in my project were that while I was reading my poem not everyone was looking at me or I didn't yawn clearly enough. In the future I can make sure that everyone is looking at me the whole time and maybe talk about something interesting so that they will want to look up.</p>	
Summary Statement My project is about how fake and real yawns are contagious.	
Help Received One of my class mates, Gabi, tallied the number of yawns	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Leah J. Gunn	Project Number J0310
Project Title Fear FACTor: Why Are Kids So Scared?	
Objectives/Goals The objective was to determine if children's fears of on-line predators, child abductions, and school shootings would decrease when the children were presented with the statistical likelihood of those events occurring. My hypothesis states that when faced with the statistical facts about these events, the children's fears would decrease.	
Abstract Methods/Materials The statistical likelihood of death through a child abduction, school shooting and interaction with on-line predators in the United States was researched and documented. Approximately 900 respondents, male and female, ranging in ages from 11 to 14 were asked to rate their level of concern regarding these events on a scale from 1 (no concern) to 5 (terrified). Subjects rated these events by completing two surveys. The first survey was done with no statistical information given. The second survey was taken after the subjects had read the statistical likelihood of these events occurring. The results were derived by showing the average percentage increase in the "no concern" ratings and decrease in the "terrified" ratings between the first and second survey. These findings were presented by separating the male and female results.	
Results The results show that after presenting the children with the statistical likelihood of these events occurring, their overall fear level regarding these events decreased. The results also indicate that females are more easily influenced by such information because the difference between their first and second surveys had greater ranges and than that of the males.	
Conclusions/Discussion My hypothesis was proven correct. When presented with the statistical likelihood of these events; child abductions, interaction with on-line predators, and school shootings, childrens' fear levels regarding these events decreased. The applications of these findings are significant. Clearly, they show that children are inappropriately frightened of these rare events. Research shows that fearful or stressed kids don't focus well in school. They typically have health issues, less energy and feel isolated and sad. Most importantly, unless the cycle is broken, the fear we instill in our children will be passed down from generation to generation.	
Summary Statement Fear FACTor experiment was designed to decrease childrens' fears of school shootings, on-line predators and child abductions.	
Help Received Dad helped with photos for display board; Brother came up with the title; Mom helped proofread	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Catherine Haber	Project Number J0311
Project Title Blonde Today, Brunette Tomorrow II: Is the Stereotype of Dumb Blonde Universal?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals As technology advances, intercultural communication is increasing in importance. Human beings have a natural tendency to stereotype foreigners and their cultures, but these stereotypes are usually not very accurate. Blondes, for example, are stereotyped as incompetent yet likeable; brunettes are intelligent and classy. The "dumb blonde" stereotype clearly exists in the United States, but is this stereotype of blondes universal? The purpose of this study is to verify if a woman's hair color makes a significant difference in social perception of a woman's intelligence in five different countries: Brazil, Italy, Nigeria, Poland, and Sweden.</p> <p>Methods/Materials Using Adobe Photoshop, four subjects, two blonde teenage girls and two blonde middle age women, were each given four different hair colors: silver blonde, blonde, light brown, and dark brown. Four surveys with four pictures each were arranged so that there would not be two pictures of the same person with a different hair color in the same survey. Survey software was used to design and post the surveys on the internet. Google sponsored Links/Ads was used to post a link limited to these five different countries, Brazil, Italy, Nigeria, Poland, and Sweden. Participants took one survey each and rated each person on a scale of one to seven for friendliness, sociability, intelligence, attractiveness, and confidence; this way the subject would not know that only the intelligence factor would be analyzed. A comparison of the average intelligence ratings of those subjects was made for each different hair color.</p> <p>Results Results from Brazil, Italy, Nigeria, and Sweden were not conclusive because responses were very limited and the cost of the ads was very high. Sixty respondents took the four surveys in Poland. All subjects with silver blonde hair received the lowest average intelligence ratings, followed by subjects with blonde hair. There was an age interaction between subjects and respondents. Younger subjects were favored by all respondents. There was a gender interaction with the subjects; male respondents gave a lower intelligence rating to the subjects when they had silver blonde and blonde hair compared to the female respondents.</p> <p>Conclusions/Discussion My results were similar to the results of previous studies and findings showing that the "dumb blonde" stereotype continues to live on.</p>	
Summary Statement The dumb blonde stereotype continues to live on in the United States and in Poland.	
Help Received My cousins in Poland helped distribute the surveys.	



CALIFORNIA STATE SCIENCE FAIR 2008 PROJECT SUMMARY

Name(s) Leah A. Hatayama	Project Number J0312
Project Title What Would You Do? A Behavioral Study	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To study whether or not people in a small town would be more likely to help a stranger by mailing an envelope than people in a large city. To study whether or not people would respond to a letter addressed to someone they thought would be more familiar like a grandma or pastor instead of something more impersonal like a business letter or a letter to the Republican Party.</p> <p>Methods/Materials I wrote 4 different types of letters (Grandma Jones, Pastor Gilmore, Simpson and Sons to sound like a business and the Republican Party). Each letter was written in a way that looked like the person sending it was giving a dollar to the person it was addressed to. I placed a dollar bill in each envelope. I put the letters randomly on cars in each of 4 cities (40 per city total). Two were small towns (Sanger and Selma) and two were big cities (Fresno and Clovis). Each letter had a note attached that stated "I found this by your car. Thought you might have dropped it". As the letters came back I recorded whether or not they were returned unopened or opened, with or without the money. I noted the type of letter and the number and type not returned.</p> <p>Results Sanger had the most envelopes returned, 70%. Selma had 65%, Fresno had 60%, and Clovis had 52.5%. There was a note on a Grandma envelope. There were 2 letters opened; both returned with the money. The Grandma letters were the most returned at 70%. The pastor letters were second at 60%. The business letters were the third at 53%, and the Republican party letters were the least returned at 38%.</p> <p>Conclusions/Discussion My hypothesis stated that the most letters would be returned from a small town. My study results confirmed what I found in my research, that people in a small town would be kind and help a stranger. My hypothesis stated that the Grandma letters would be returned the most. From my research I learned that people would be more willing to mail a letter addressed to Grandma because everyone has a Grandma. One of the letters had a note on the back from a guy with a smiley face drawn on it. That letter was addressed to Grandma. Compared to the Republican Party letters, there were almost twice as many Grandma letters returned. I learned that there are a lot of kind people willing to help strangers, but there are more in Sanger. I learned that people will respond to something more familiar (like a Grandma) rather than something more impersonal (like a business).</p>	
Summary Statement This project is a study of the behavior of people who find a letter either familiar or impersonal and what they do with it.	
Help Received My mom and sister drove me around and my mom helped with typing	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Jacob Joens-Poulton	Project Number J0313
Project Title Violentus Media et Phobos (Violent Media and Fears)	
Abstract Objectives/Goals My project was to determine if watching violent movies or playing violent video games has an affect on sixth grade students' fears. I believe that watching violent movies and/or playing violent video games desensitizes children and makes them fear more for themselves than others. Additionally, I speculate that it dulls one's sense of empathy. Methods/Materials I created a three question anonymous survey asking sixth grade students to mark their gender, the amount of time they spend watching violent movies or playing violent video games, and then select their greatest fear from a list of four options. I surveyed a total of 106 sixth grade students at three schools. There were approximately an equal number of boys and girls who completed the survey. Results Students who spent less than three hours per day watching violent movies or playing violent video games most often feared the loss of family and friends. Less than 10% of students surveyed feared a life-changing illness, regardless of the amount of time spent with violent media. Students who spent four hours or more per day with violent media had equal fears of random acts of violence and loss of family and friends. Conclusions/Discussion My conclusion is that 6th grade students who are exposed to more than 4 hours of violent media fear more for themselves (combining the fear of accidental death or injury and random act of violence), than they fear for others as identified by the loss of family or friends. I found that only when students spent many hours with violent media did my results support my hypothesis.	
Summary Statement My project attempted to find out if there is a correlation between the amount of time people spend watching violent movies or playing violent video games, and their greatest fears.	
Help Received My dad showed me how to make the graphs and my mother helped me glue my work to the backboard and proof read my work.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Nicholas J. Kelly	Project Number J0314
Project Title Middle School Decision-Making: When Not Thinking Makes More Sense	
Objectives/Goals This Middle School Decision Making Project investigates the following hypothesis: in situations where decision-makers must consider large amounts of information in drawing conclusions, it is best if they rely upon their unconscious analysis (gut instincts). However, when decision-makers must consider a limited number of factors, conscious analysis is a superior thought process.	
Abstract Methods/Materials I prepared two tests: a simple test containing four attributes of four houses and a complex test containing twelve attributes of four houses. On each test, one house was superior, with 75% of its attributes being positive. Other houses had fewer positive attributes. I administered the tests to 62 middle school students, whom I divided into four groups: conscious analysis thinkers taking a simple test; conscious analysis thinkers taking a complex test; unconscious analysis thinkers taking a simple test; and unconscious analysis thinkers taking a complex test. Conscious analysis groups had four minutes to select the best house, while unconscious groups were distracted for four minutes and then asked to choose the best house in a few seconds using their instincts.	
Results My data analysis revealed that gut instinct is a better thought process in both complex and simple situations. The unconscious analysis students chose the best house 44% of the time on the simple test and 67% of the time on the complex test. The conscious groups scored correctly 40% of the time on the simple test and 50% of the time on the complex test.	
Conclusions/Discussion My hypothesis was correct in that students using unconscious analysis scored considerably better than those using conscious analysis when making complex decisions. My hypothesis was only partly correct. The slightly higher scores of students using unconscious analysis on the simple test suggest that this may be the superior thought process for simple decisions as well.	
Summary Statement Project examines how middle school students use conscious analysis and gut instinct to make decisions.	
Help Received Mother helped type/mount; Prof. Ap Dijksterhuis answered questions by e-mail about his prior research.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Harmony L. Latham	Project Number J0315
Project Title Sporty Students	
Abstract Objectives/Goals Determine if students will benefit from playing sports and their GPA#s will be higher than students who do not play sports. I will also determine if boys or girls will have higher GPA#s. Methods/Materials 1.Approx 300 students ages 9-14 2.Survey (300 copies) with relevant questions.3.Computer 4.Printer 5.Camera 6.Pens 8.Display board Methods 1.Determine the question & hypothesis. 2.Research using internet,books, discussion w/ parents & teachers. 3.Develope survey. 4. 300 students. 5.Administer & collect surveys. 6.Sort surveys. 7.Create a database, enter results. 8.Graphs survey outcome. 9.Build a display that highlights the important & interesting results. 10. Present the project in an interesting,informative manor. Results My hypothesis was correct, students who play sports had an ave. GPA of 3.22, those who do not play sports had an ave. GPA of 3.14. I found that fem. atheletes had higher GPA's than male atheletes. I used basic sports that are organized & available in my area. (football, basketball, soccer,baseball) I did have 4 surveys that were un-useable; there is a small margin of error due to the unusable surveys, & the possibility of untruthful answers. Conclusions/Discussion I attempted to figure out if sports affected GPA for better or worse. My hypothesis proved correct. Students who play sports had an ave. GPA of 3.22, students who do not play sports had an ave. GPA of 3.14. I found that students who play sports work harder to stay involved in their sport, maintain good grades & not become behavioral issues. This project showed that youth involved in sports maintain good GPA's & good disciplinary records, this may help them in future endeavours. When involved in sports youth are getting physically fit, staying healthier, that in itself is a positive effect. Hopefully the outcome of my project can motivate young adults to get out of the house, become involved in sports & concentrate on grades. I think that if many people considered how positive the outcome of this project is, we can make a difference, & improve children's grades & health. I enjoyed this project & its outcomes. I play sports, am active in ASB, busy w/ horses & pageants requiring community service. I uphold a 4.0 GPA, if I can change one life, motivate one person, to keep their grades up, get involved with school & community a make something of themselves, then this project is a success.	
Summary Statement Do students who are involved in after school sports programs have better grades than students who do not participate in after school sports, and are boys or girls grades higher if involved in sports.	
Help Received I recieved the coopertation of several nteachers who allowed me to survey thier class, my dad taught me how to use Excel, and my mom helped me with printing photos.	



CALIFORNIA STATE SCIENCE FAIR 2008 PROJECT SUMMARY

Name(s) Kyle J. Moscaret	Project Number J0316
Project Title Influences on the Speed of Cars	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my project is to see if a cars speed would be affected by the presence of a childs bike in the street. My hypothesis is, I believe that the presence of a childs bike in the street would affect the speed of cars and make them slow down.</p> <p>Methods/Materials A neighborhood street with good traffic flow and no stop signs was identified. A spot on the street was chosen to record each cars speed with a radar gun at the same place on the street every time. With the radar gun, a position was secured about 50-75 yards from the recording spot to track the speeds of the cars coming down the street. Without anything in the street the radar gun was used to record the speed of 40 consecutive cars traveling down the street. A childs bike was then placed on the side of the street about 25-50 yards in front of the recording spot. With the radar gun, the speeds of the next 40 consecutive cars with the bike in the street were recorded. The speeds of the cars from both groups (bike, no bike) were then averaged. The results were compared to determine if the presence of the bike had any influence on the drivers speed. For additional information, it was recorded whether the driver was male or female. These speeds were averaged out and compared as well.</p> <p>Results The average speed of 40 cars without the childs bike in the street was 28.5 mph. The male drivers average speed without the bike was 28.6 mph. The female drivers average speed without the bike was 28.4 mph. The average speed of 40 cars with the childs bike in the street was reduced to 24.8 mph. This represented a 13% reduction of speed when compared to the drivers without the bike in the street. The males total average speed with the bike was 24.6 mph. The females total average speed with the bike was 25.1 mph.</p> <p>Conclusions/Discussion In conclusion, when the childs bike was in the street, the average speed of the cars was reduced by 13% as compared to the average speed of the cars when the child#s bike was not in the street. It is my belief that the speed of the cars went down because when the drivers saw the bike they compared it to a child in the street and they did not want to hit it. When the bike was not in the street, the cars speed went up. I believe that this is a result of the drivers not seeing any thing in the street that would influence them to slow down.</p>	
Summary Statement Observing how the presence of a childs bike influences the speed of cars on a neighborhood street.	
Help Received Dad helped with teaching me how to make the charts in powerpoint. Mom helped with cutting out the title on the display board	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Kayla R. Nichols	Project Number J0317
Project Title Do Junior High Girls Choose a Specific Stall when Entering a Bathroom?	
Objectives/Goals The objective of this project is to see if junior high girls generally choose a specific stall when entering a bathroom.	
Abstract	
Methods/Materials Observe and tally the number of junior high girls who enter each bathroom stall. Gather all the data and see if there is a common stall that is used. This information must be gathered for at least five days. Next, place an out of order sign on the most popular stall. Observe and tally the stalls that students enter.	
Results While observing the data from the 10:00am break during the first phase, most junior high girls chose stalls 2, 5, and 7. The data did not change much during the time the out of order sign was placed on stall 2. It only caused the junior high girls to go into stalls they normally would not use. Stall 5 and 7 remained the favorites when the the out of order sign was placed on Stall 2, the most popular stall. Stall 1, 6, and 9 were rarely used.	
Conclusions/Discussion From the experiment, results showed that when junior high girls entered the bathroom, the majority went to the left. They all had a specific choice of the stalls, and if the stall they wanted was in use, they would go to the right side or randomly choose a stall. When the out of order sign was placed on the most commonly used stall, the results were still the same as the original results. They did not choose the first stalls on either side nor the last stall on the right next to the back door, because they didn't have as much privacy. They chose the handicap stall many times because it was close to the wall and was more spacious.	
Summary Statement This project is to see if junior high girls choose a specific stall when entering a bathroom.	
Help Received I was able to do this project on my own. My teacher helped with the layout of the board.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Vaishnavi L. Rao	Project Number J0318
Project Title R U a Scaredy Cat? A Scientific Study of Fear	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The recent wildfires in Southern California generated a lot of fear in everyone. The purpose of this experiment was to understand the nature of physiological (external) responses resulting from a fearful situation and to correlate such expressions of fear to the internal processing that must occur within the body during such an event. I hypothesized that the brain and nervous system were particularly involved in processing fear.</p> <p>Methods/Materials This was a three-part experiment. Part 1: Informed consent was obtained from human subjects participating in the activity and questionnaires were developed. The fear activities on display at the California Science Center in Los Angeles were used to quantify fear through changes in pulse rate, blood pressure and sweat. A BP monitor and skin conductance apparatus were used to collect data. Questionnaires were filled out in between activities. Part 2: An Anonymous survey was carried out with 20 participants for qualitative data regarding common fearful situations and popular calming techniques. Part 3: Interviews with 3 doctors (incl. specialists), and a researcher in this area provided necessary data wrt internal body processing of fearful situation.</p> <p>Results From Part 1, clear indication of impact. Average increase in BP: 8-15 mmHg of diastolic and systolic pressure respectively, pulse rate increased by 16 beats/min, and 70% of subjects showed higher moisture level. Interesting observation: when subjects were informed of activities, blood pressure and pulse shot up. When subjects experienced activities, fear levels stabilized because the some activities weren't very scary. After the falling activity, fear levels shot up again because that was the activity most feared. In Part 2, I discovered that most people are scared of robbery. Mostly deep breaths help calm fear. Part 3 shed light on the details of fear acquisition, consolidation and expression within the amygdala of the brain. There are 2 pathways of fear: the short route produces an immediate but instinctive response. The longer route is slower but more accurate. It sends out response to activate the body's defenses.</p> <p>Conclusions/Discussion The Amygdala in the brain acquires, consolidates, and expresses fear. The Hypothalamus triggers the body's defense. Together they are responsible for internal processing of fear and activating external response. Research also indicates similar behaviors in animals.</p>	
Summary Statement A scientific study of FEAR - Using quantitative and qualitative data gathered from activities, surveys and interviews to correlate body's internal processing of fear situation to external defense response.	
Help Received Used California Science Center exhibit for Part 1 experiment; human subjects helped by participating in activities and surveys; Dr. Pant, Dr. Mandyam, Dr. Sastry and Dr. Patel shared expertise via interviews; parents provided transportation and BP monitor.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Emma J. Rennick	Project Number J0319
Project Title Color Theory	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals In this project, my objective was to discover whether or not color affects appetite.</p> <p>Methods/Materials In order to meet this objective, I conducted my experiment in a way that would give a numerical value to the person's attraction to different colors. I tested each individual person and asked them to tell me how much they would pay for the dessert placed in front of them when the color was changed using colored light filters. The dessert was the same each time, but the person viewed it under six different light filters.</p> <p>Results My results show that color does affect our appetite, whether it's in a positive or negative way.</p> <p>Conclusions/Discussion I used the data I collected to come up with the conclusion that the cool colors such as green, blue and purple tend to be less appetizing than warmer colors such as red, orange, and yellow.</p>	
Summary Statement This project is to determine whether or not color affects our appetite.	
Help Received	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Nathanael J. Ruble	Project Number J0320
Project Title Rubik's Cube: Does Age Affect Performance?	
Abstract Objectives/Goals The goal of my project was to determine if age has an affect on people's performance on the Rubik's cube. I hypothesize that the oldest age group would perform at the highest level on one side of a Rubik's cube. Methods/Materials My method was simple. I set a Rubik's cube to a prescribed pattern and then tested members of three age groups as they attempted to complete one side of the cube in a one minute period. I tested three age groups. The youngest was ages 6-16. The middle group was 21-33. The oldest was 38-54. The oldest of these groups was alive during the time when Rubik's cube became a popular hit. Most people had cubes. The middle group came around during the time when Rubik's cube was not popular and the youngest is growing up during this time when Rubik has regained very much popularity. My project required only a Rubik's cube and a timer. Results I found that the youngest age group, 6-16, had the best performance on the cube. They had an average of 6.5 spaces out of 9 on a side. The other groups were tied at an average of 5.6 pieces out of 9 on a side. Conclusions/Discussion When testing different age groups on one side of a Rubik's cube, I learned that age does affect performance. Younger people are generally able to perform better on this test. I suspected that experience might have been a factor as the oldest group has been around the cube for the most time. This was incorrect. I would like to test other variables, such as testing different cubes or levels of experience.	
Summary Statement My project tests the ability to complete the Rubik's cube as a function of age.	
Help Received My teacher and parents helped edit writing. Teacher helped with board design.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Keith P. Shaller	Project Number J0321
Project Title Refrigerator "Blindness:" What Factors Affect Search Time?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Problem: What group of people, based on a number of variables (age, gender, city of residence, etc.) can find a given object in a refrigerator in the least time? Hypothesis: I believe the women will find the objective the fastest.</p> <p>Methods/Materials Materials: People (varied template); a refrigerator, strategically stocked with #window dressing# in a standardized pattern to hide the objective; strawberry yogurt, the objective that subjects will search for; flyers advertising for subjects; a personal questionnaire for data gathering; pens (for questionnaire); clipboards (for questionnaire); stopwatch (to time subjects); space for 50 to 75 people to keep subjects separated before and after testing; food and drink for said people; quiet environment in which to test the subjects. Procedure: A. Invite 100 to 200 people of various ages, genders, states of marriage, and areas of residence. Each test subject fills out a questionnaire that asks about certain personal characteristics, to categorize each subject into different groups, and to see what factors affect the ability to find objects. Create a standardized refrigerator layout, that will hide the standard objective. Time the test subjects. Repeat for each subject. B. The manipulated variable was the type of person C. There were 44 different test subjects, and tested each one time. D. I measured the amount of time each subject needed.</p> <p>Results Results: The average female time was 17 seconds, seven seconds less than the average male time of 24 seconds. Married persons# average time, 19 seconds, was three seconds faster than the singles# average time of 22 seconds. Those who lived in Tustin were faster than people from other areas. People with many (more than 3) others in a household were faster than those with few (less than 3).</p> <p>Conclusions/Discussion Conclusions: The females, on average, were faster than the males. This supports my original hypothesis. Middle-aged women were the fastest and elder men were slowest. Married persons were faster than singles. The overall fastest group was the middle-aged, married females from Tustin with more than 3 people in their household. The slowest group was the elder, single males not from Tustin with less than three people in their household.</p>	
Summary Statement The focus of this project was to see what variables affected the ability of different groups of humans to "forage" in a refrigerator.	
Help Received Parents assisted with keeping refrigerator properly stocked for each group of test subjects and helped me to locate potential test subjects; Mother took photos while I was conducting testing.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Harrison J. Trubitt	Project Number J0322
Project Title Can Performance Be Improved with Words of Encouragement and Goal Setting Moments before a Competitive Swim Race?	
Abstract Objectives/Goals The objective is to see if and how goal setting and encouragement affect a competitive swimmers race. Methods/Materials 266 swimmers were randomly selected at two swim meets. The swimmers were sorted into three different groups, control, encouragement, and goal setting. The control group was #ignored# as they approached the starting blocks, while the encouragement group was told by the timer, #good luck you#re going to do great!# In the goal setting group, the swimmer was given a goal; set dependent on what length event the swimmer was swimming (100 yards= 3 second goal, 200 yards= 4 second goal, etc.). The average percentage of time dropped by each test group was determined and compared. Results The fastest overall group was the control group with a 2.4% time improvement. When outliers (time with a percent drop of more or less than 9 percent) were removed, the fastest test group was the control, with a 1.5% improvement. The next fastest group was the goal setting group, with a 1.6% improvement, and the encouragement group had a 1.5% improvement. However, if outliers are removed, the second-fastest group was the encouragement group (1.1% improvement) and the goal setting group was slowest (0.7% improvement). Conclusions/Discussion In the sport of swimming, one of the best tools is concentration. As the results showed, the control group was the fastest group, in which the swimmers were #ignored#, where their concentration was not broken and the subjects were focusing on their race. The hypothesis in this experiment was that swimmers would improve their time by at least 2-3 seconds if there was no goal set, and if there was, the swimmers would meet that goal. Goal setting may only be helpful over a period of time or when set by a coach.	
Summary Statement The experiment tested if goal setting and encouragement moments before a competitive swim race affects a swimmers time positively or negatively.	
Help Received Mother helped write down trials; Photography from Cole Knight; timing lane arrangements from Patton McClung and Sue Parnes	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Sally L. Wilson	Project Number J0323
Project Title It's Not What the Government Knows about You, It's What You Know about the Government	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I believe that the 7th and 8th grade students know more about the up coming election and government more than random people off the street.</p> <p>Methods/Materials I made up 15 questions and took them to two different places. The first being my school and tested the 7th and 8th graders. The second I took and stood out in front of my local savemart and asked shoppers to take the test.</p> <p>Results My results where that the random people off the street remember more then they think, and 7th and 8th graders don't know as much as they think.</p> <p>Conclusions/Discussion Even after 10 years or more, most adults still know more about goeverment than the 8th grade students who are studying it today. Most 7th grade students I tested said, yes I know about government, but ended up not really knowing as much as they thought.</p> <p>I discovered I knew less about what adults would remember, and that junior high students still have more to learn.</p>	
Summary Statement Finding out who knows more about government and the upcoming election 7th and 8th graders or random people off the street.	
Help Received Mom proof read my report and drove me around.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Jessica M. Winter	Project Number J0324
Project Title The Fear Factor: What Do You Fear the Most?	
Objectives/Goals My project was to identify the types of fears people have depending upon their gender and their age less than 21 years or over 21 years. A goal for my project was to demonstrate the wide range of threats people perceive in our world today.	
Abstract Methods/Materials To gather information about the fears people really have, groups of my peers were asked to write their top five fears. Talks with adults added input about their fears. Literature and online internet research produced facts about: 1) the human fight vs flight response 2) how phobias and fears differ 3) how hazard scientists have identified threats humans face as shown in The Universe of Hazards diagram. A questionnaire of 86 items was designed, distributed to 70 people (35 non-adults ages < 21 & 35 adults ages > 21), and collected personally and by e-mail.	
Results Questionnaire responses were tallied by both a Simple Tally Count and by a weighted rating of 1 to 5 which respondents gave each item. Top five fears of those under 21 were: 1) Getting Cancer, 2) Dying and Airline Accidents, 3) Parent Dying and Shark Attacks, 4) Terrorists, Murder, Kidnapping, Friend Dying, Losing Hair, 5) Car Accidents. Those over 21 feared: 1) Getting Cancer, 2) Car Accidents, 3) Earthquakes, 4) Terrorism 5) Becoming Old. Only adult men feared not having enough money. Males over 21 were not as fearful of war and earthquakes and other natural disasters as females over 21. Both males and females under 21 had intense fears about death and dying. Global warming did not come through as a strong fear.	
Conclusions/Discussion Valid, balanced and clearly worded questionnaires are very difficult to design. In both age samples, cancer was the number one fear with terrorism also a top fear. Despite the actual earthquake threat in California, there were indications that daily television weather reporting with few photos of earthquakes but many of hurricane and tornado damages affected those under 21 who feared them more than earthquakes compared to those over 21 who had experienced earthquakes and feared them more. Only adult men feared a drought; in their work life in California, men probably see more problems from lack of water. Though the U.S.A. is at war, only adult women feared war. All age groups are very fearful of many of the same things, yet clear gender differences seem to exist.	
Summary Statement My project was to identify the types of fears people have depending upon their gender and their age.	
Help Received My mother helped me by purchasing the art materials for my board.	



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Jamie L. Wipf	Project Number J0325
Project Title Yawn Theory: The Effects of Contagious Yawns on Males and Females	
Abstract Objectives/Goals The purpose of this study was to determine whether yawns were more contagious to males or females. The hypotheses were that yawns would be more contagious to females, and that females would yawn more than males even when no stimulus yawn was present. Methods/Materials Six visits were made to each of three eighth-grade homeroom classes at Flintridge Preparatory School (eighteen tests, total). Stimulus yawns were emitted by the observer while standing at the front of the class, and male and female yawn responses were counted within the five minute period immediately following. A control group also existed, in which no stimulus was released and independent yawns were counted. Results It was found that yawns were indeed more contagious to females than to males; females also yawned more independently. Conclusions/Discussion It was thought that females yawned more after seeing a yawn because females are more adept at picking up social cues than males are. It was also guessed that the person who gave the stimulus yawn was a factor in who responded and who did not.	
Summary Statement The purpose of this study was to determine whether a) yawns are more contagious to males or females, and b) which gender yawns more independent of a stimulus.	
Help Received Mom helped glue text/pictures to poster board	