



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Anisha Kumar	Project Number J0313
Project Title Does Encouragement Really Help?	
Abstract Objectives/Goals For my experiment I tested how different types of reinforcement, namely positive, neutral and negative affects performnace. My test revealed that positive reinforcement affects performance the best. Encouragement and positive comments led to better and higher scores. This topic is pertinent to society in general. Methods/Materials For the materials I used a task worksheet, stopwatch, pens, observation sheet and post-task questionnaire. My subjects were 11-14 year olds and 25-55 year olds unknown to me. My sample size was 84. After handing the subjects the test and instructing them what to do, I told the subject to start. I timed them without their knowledge. While they were taking the test, I observed them and filled in the data chart. Also, every 45 seconds I said a comment to them, according to the type of reinforcement they were given. After they were done, I handed them the post-task quesitonnaire depending on the type of reinforcement given. After they were finished, I debriefed them about my topic and I recorded the results. Results My hypothesis was if positive, neutral and negative reinforcement is given to subjects, then subjects given positive reinforcement will perform better than subjects given neutral or negative reinforcement. It proved to be true. Both adults and kids given positive reinforcement scored higher than those given neutral or negative reinforcement. I took a T-Test to discover if the means of the groups were statistically significant. In order to do this I had to calculate the standard deviation. The only means that came out significant at the confidence level of 99% were: children with positive or negative reinforcement; children with neutral or negative reinforcement; adults and children with positive or negative reinforcement. Conclusions/Discussion The post-task quesitonnaire revealed that: 50% of the subjects given positive reinforcement were affected by the experimenter's comments; 50% of the subjects given neutral reinforcement said they would have performed worse if they had been given negative comments; 64% of the subjects given negative reinforcement said they were affected by the experimenter's comments. In general, I found that the adults did better than children. Adults have higher self-esteems. Children,are still in their formative years and are easily influenced by other's comments.	
Summary Statement My project tests how positive, neutral and negative reinforcement affects performance.	
Help Received Dr. Rastogi was my mentor.	