



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Anshu R Abhat	Science Fair Use Only <h1 style="margin: 0;">S0201</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Autism and Fragile X: Where Are the Missing Links?	Division _ Junior (6-8) <u>X</u> Senior (9-12)
Preferred Category (See page 5 for descriptions.) 2 - Behavioral Sciences	
Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p>OBJECTIVE: The objective is to investigate autistic behavior and fragile X syndrome in children and to determine whether there is a link between the two conditions.</p> <p>MATERIALS AND METHODS: A literature review on autism and fragile X was conducted covering published papers and books. A three-step interactive investigation was carried out: (1) a pediatrician questionnaire was developed and pediatrician interviews were conducted, (2) case studies with a school psychologist were undertaken, and (3) personal observations of children's behavior in a special education class providing training to young children diagnosed with autism and fragile X were made and assessment of their behavior patterns was done. Genotype information was provided to me for cases under #(2) and (3).</p> <p>RESULTS: Results from literature review indicate a genetic basis for autism and fragile X syndrome. The interactive investigations done in this study showed that the phenotypic behavior in fragile X syndrome is similar to the #spectrum# in autism.</p> <p>CONCLUSION: My observations of phenotypic behavior and review of the literature support my view that there is a possibility of a missing gene or genes by linkage or association between fragile X syndrome and autism responsible for augmentation of the phenotypic behavior with a spectrum of severity often seen.</p>	
Summary Statement (In one sentence, state what your project is about.) Interactive investigations were performed based on phenotypic observations reflecting behavior patterns in children to determine possible linkage between autism and fragile X.	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Mentor Dr. Shalini Kumar, University of California at Los Angeles, helped with literature, answered questions and provided scientific advise on Autism and Fragile X syndrome. Mother helped in coordination with external contacts. Father helped arrange project board.	