Your Name (List all student names if multiple authors.)

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Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

Reaction Time to Auditory versus Visual Stimuli

Science Fair Use Only

J1502

Division
X Junior (6-8) _ 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.

Problem: In the 2000 Summer Olympics, a deaf South African swimmer participated in the swimming competitions. Because he was not able to hear the usual buzzer used as a starting signal, a strobe light was placed below his starting block. The use of a visual strobe light as a starting stimulus vs. the usual auditory buzzer raised some questions. Do people perceive and react to auditory vs. visual stimuli differently?

Hypothesis: A greater number of subjects would respond faster to visually presented stimuli than to auditorally presented stimuli.

Procedure:
1. 50 male and 50 female middle school-aged students were used as subjects.
2. An IBM computer program was obtained which tested subjects# reaction times ○to auditory vs. visual stimuli.
3. Subjects were instructed to press the space bar as quickly as possible after ○○○hearing or seeing the stimulus.
4. The computer software calculated the average time elapsed for each stimulus. ○

Results: Subjects# response times for the visual trials averaged .569 seconds. For the auditory trials, response times averaged .244 seconds. Therefore, auditory response times were an average of .325 seconds faster than visual response times.

Conclusion: Subjects consistently reacted quicker to auditory stimuli than to visual stimuli, suggesting that people perceive auditory stimuli faster than visual stimuli. Therefore, deaf athletes are at a disadvantage when given a visual or light stimulus as a starting signal. The only way to make this fair and equal for all athletes competing would be to change all starting signals to visual signals, assuming that the athlete is not blind.

Summary Statement (In one sentence, state what your project is about.)

My project tested whether people react differently (have different reaction times) to an auditory vs. a visual stimulus.

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.

Peter Barnes, computer software engineer with Software Science, provided the computer program. Richard Baker, computer science teacher at Scripps Ranch High School, re-wrote the computer program into a usable format. Ileen Akers, counselor at Marshall Middle School (and mother), provided the computer and workspace where testing occurred.