



International Young Naturalists' Tournament

Human reaction time



Presented by: maryam sajadian
School: Mehr -E -Taban school



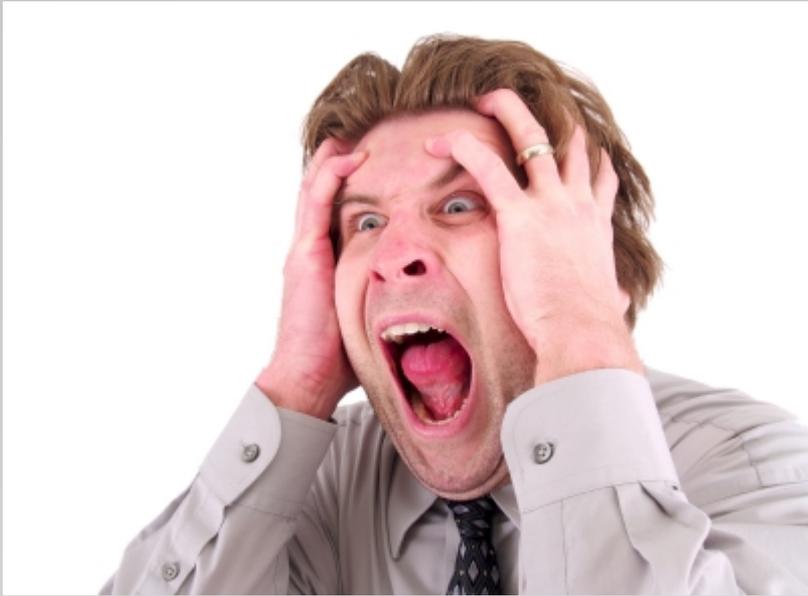
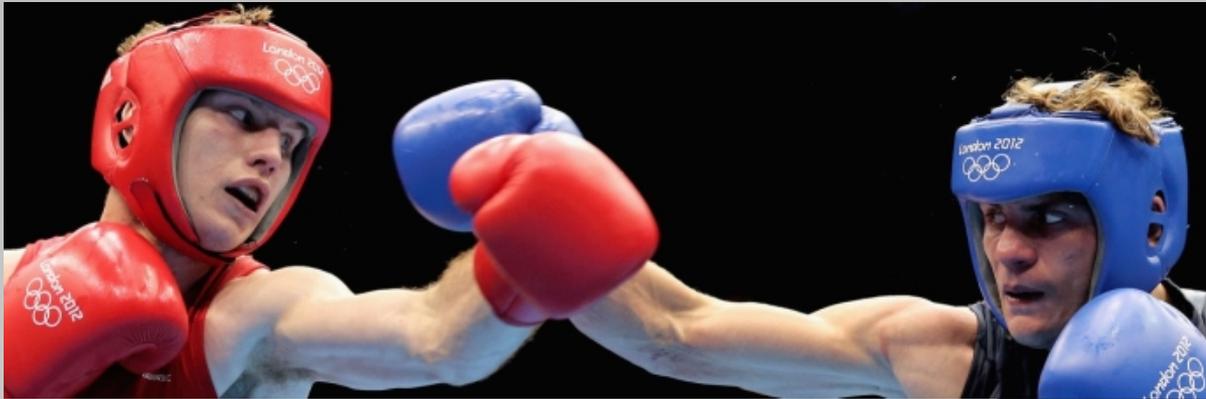


Overview



The time of human to sound, light and other stimuli is an interesting parameter. What does this time depend on? Propose an interesting experimental study that concerns the time of reaction.





- As mentioned, we react towards certain things such as : sound, light, pain, temperature changes, etc. They are known as stimuli
- These stimuli are classified into two groups.

External stimulus	Internal Stimulus
Vision	Hunger
Sound	Thirst
Taste	Temperature
Smell	

stimuli

Respond to stimuli

```
graph TD; A[Respond to stimuli] --> B[Learned behavior]; A --> C[Instinct]
```

Learned behavior

A response that had been taught



Instinct

An automatic reaction that the human had not been taught to do.



Hypothesis

- According to these websites men tend to react faster in both auditory and visual stimuli than women.
- www.ncbi.nlm.nih.gov
- www.netnanny.com
- www.fitbrains.com

Experiments

- An experiment was carried out to test human's reaction time towards light.
- An experiment was carried out to test human's reaction time towards sound.
- For both tests we used an online webpage that would carry out the test.

- Results according to vision reaction

Name	Gender	Age	First result	Second result	Third result
Sahar	Female	16	400	323	346
Sara	Female	16	461	349	356
Emad	Male	16	349	303	289
Ayshin	Female	14	314	280	238
Heliana	Female	14	343	393	349
Arian	Male	14	282	243	241
Arsalan	Male	14	333	272	270
Ms. Paryizgar	Female	-	486	407	362
Ms. Yazdgerdi	Female	-	307	286	325

- Results according to reaction to sound

Name	Gender	Age	First result	Second result	Third result
Sahar	Female	16	322	329	239
Sara	Female	16	347	292	282
Emad	Male	16	297	236	197
Ayshin	Female	14	361	272	230
Heliana	Female	14	273	263	209
Arian	Male	14	261	233	184
Arsalan	Male	14	199	203	175
Ms. Parhizgar	Female	-	429	365	302
Ms. Yazdgerdi	Female	-	390	321	293

Analysis and discussion

- According to our results, men were in fact faster than women in reacting.
- The younger grades had a lower reaction time than the older grades.
- Different subject group teachers had participated and the difference between them was shown when doing the test.
- the difference in the results of students of grade 10 girls proved that stress can affect reaction time.

Conclusion

- To sum up, men do react faster than women towards a stimuli
- Lack of sleep or energy will increase the subject's reaction time.
- Stress will increase reaction time.
- The older you get, the greater your reaction time will be

References

<https://backyardbrains.com/experiments/reactiontime>

www.slideshare.net

<http://www.personal.psu.edu>

<http://thecollegestartup.com>

<https://www.olympic.org/boxing>

Amount of time taken for showing a reaction towards a water balloon being thrown towards them.

- Test1– throw a water balloon when the person is completely aware of what you're going to do.
- Test2– throw a balloon when the person seems to be in a relaxed state.
- Test3– throw a bunch of balloons at once
- Test4– throw balloons from different positions
- Test5– throw a balloon when the person seems to be tired.
- Test6– throw a balloon when the person is engaged in a task.

To be done on different ages and on both genders.