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BIO 125

9/12/23

LABORATORY 5: ELECTROENCEPHALOGRAPHY & REACTION TIME

PURPOSE:

The purpose of this lab was to demonstrate the concept of action potential velocity and synaptic delays in complex visual and auditory reflexes. Also to understand what electroencephalography is and how it works and why this lab allows us to gain our results and how its applied.

PROCEDURE:

- The IWX/214 unit was connected to the laptop and the program was set up following proper order of directions to make sure everything worked efficiently
- One person was in charge of the event marker and clicked the button every 5-10 seconds at irregular intervals for 10 trials while the other person hit enter twice to mark when the saw the green shape that appeared on the screen
- Each person took a turn and at the end measured the msec it took them to react to seeing the green shape and calculated the average
- The same concept was done for auditory however instead of looking at the screen the event marker was clicked near their ear and they went based off if sound
- Results of visual response times and auditory response times were compared

RESULTS:

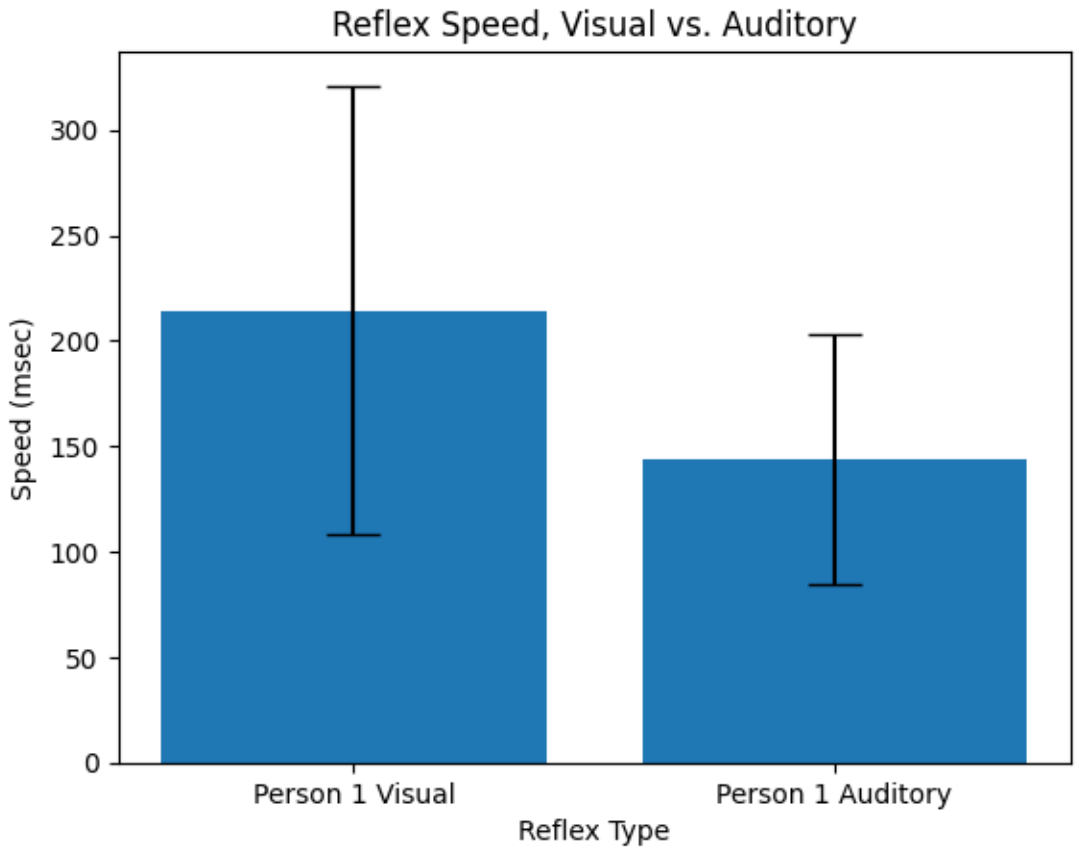
Visual:

Trial	Time (msec)
1	175
2	345
3	145
4	70
5	270
6	270
7	55
8	235
9	375
10	205
Average:	214.5

Auditory:

Trial	Time (msec)
1	195
2	195
3	25
4	210
5	195
6	85
7	115
8	130
9	125
10	165
Average:	144

Stdev:	106.5	Stdev:	59.29
Sterror:	33.69	Sterror:	18.75



DISCUSSION:

Based on the result of this experiment, it shows that my auditory response was faster than my visual response by 70.5 msec. The difference isn't drastic but I think it's still enough to show I respond faster when I hear the clicker rather than looking for the green shape. I think something that could have played a factor in my response was doing the visual first and getting used to the program and when I got to the auditory I already knew what was expected and I was used to the motion of clicking enter. However if I were to have predicted which response was going to be faster I think I would have guessed hearing the clicker because in real life scenarios I think when someone hears something they look around immediately but it could take longer to process when you see something occurring. Overall I thought this lab portrayed how visual and auditory responses were different in an accurate manner.

CONCLUSION:

In conclusion, Laboratory 5 showed how electroencephalography is a useful form of study that allows us to understand the electrical activity of the brain by using the program

to get a hands-on understanding. It also showed that there are a lot of different factors that can play into reaction time such as surrounding, age, distraction, and different stimulus.