Lab 6-7 Sensory Physiology

Bio 125

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Purpose

The purpose of these series of activities was to learn and to have a better understanding of how sensory receptors work and how they respond to a specific environmental stimulus such as through touch, smell, hearing, and sight to mention some.

Specifics

A-1: Two-point discrimination. The ability to distinguish two distinct points on the skin surface will be recorded.

Procedure1.With your partner's eyes closed, apply two caliper pinpoints as closely together as possible on your partner's skin on the palm of his/her hand.

2.Remove the pins and move them 1 millimeter apart. Reapply the caliper points to your partner's skin. Repeat this procedure until your partner can discriminate two distinct points.

3.Record this distance between pins at which your partner can discriminate two separate caliper points.

4.Compare results obtained from the following areas: a. palm of hand b. back of hand c. fingertip d. outer edge of the lips. back of neck5. Have your partner repeat this experiment on your skin.

6/7-B: Olfactory adaptation. The adaptation of olfactory chemoreceptors will be timed. Procedure1.Block your left nostril. Uncork and hold the bottle of camphor oil under your nose until you can no longer detect the camphor. Do not consciously sniff the contents of the vial! Record the adaptation time.

2.Remove the camphor and place the bottles of cloves, then peppermint oil under your nose. Distinguish the smells of cloves and peppermint oil.

3.Uncork and hold the bottle of camphor under your nose again until the smell is no longer recognized. Record this second adaptation time.

4.Unblock your left nostril to determine if the camphor is detected.

5.Interpret these results

E-1: Demonstration of the blind spot

Procedure1.Cover your left eye and focus the right eye on the center of the cross below.

2.Slowlybring the page closer to your eye until the spot disappears.

3. Have your partner measure the distance from your eye to the page.

4. The image of the spot is now superimposed on the optic nerve.

E-2: The Snellen test

1.Stand 20 feet away from the Snellen chart. Cover your left eye.

2.Attempt to read the line designated “20”.

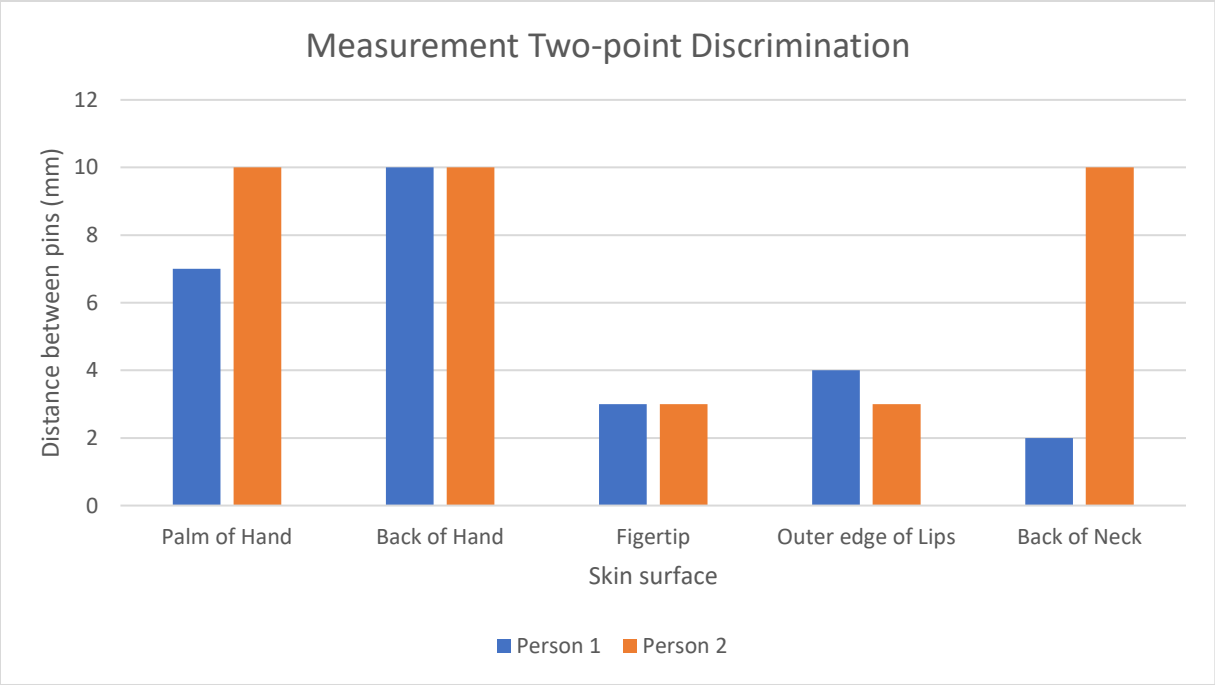
3. If you cannot read line 20, attempt line 30, 40, 50, 70, 100 or 200 until a line is legible. Perform these attempts with your left eye, covering your right eye.

4.The Snellen chart is analyzed in the following way: Visual acuity =Distance you read the letters Lowest line read clearly at 20 feet

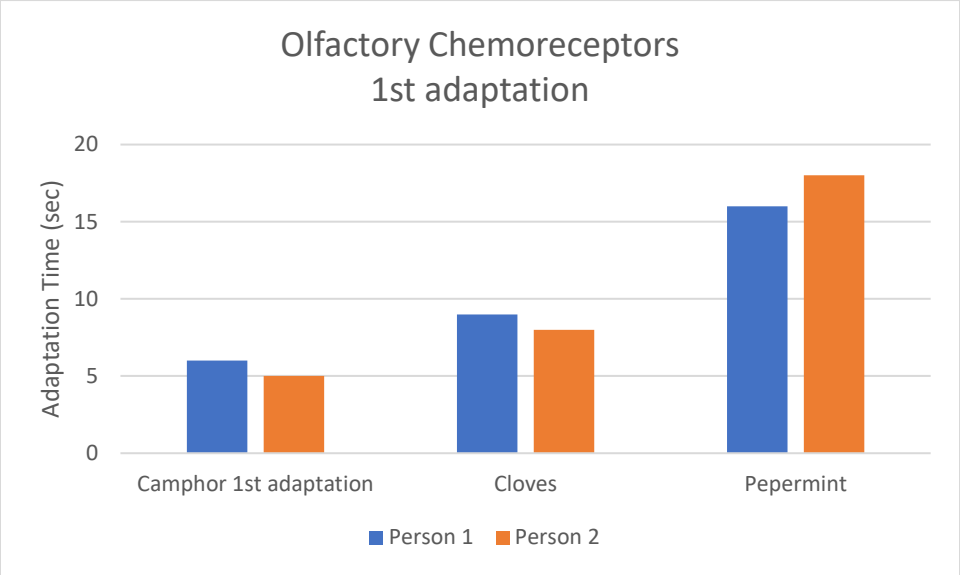
Examples: Nearsightedness (myopia) = 20/30Normal = 20/20Farsightedness (hyperopia) = 30/20

Results

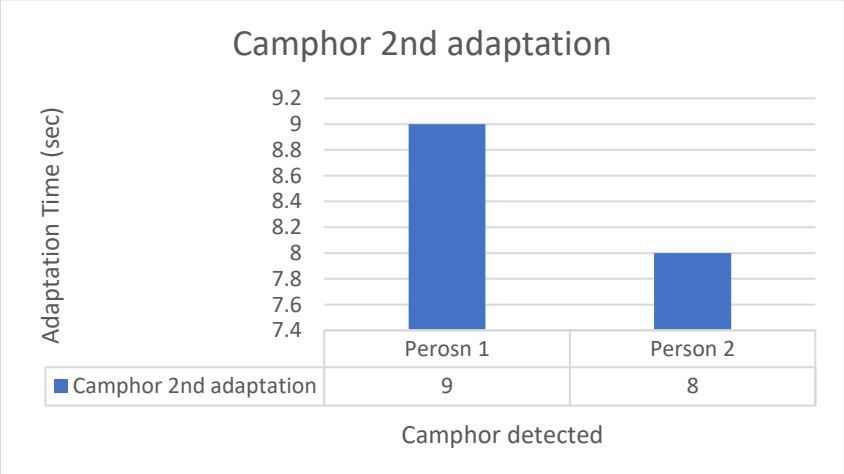
Two-point discrimination.



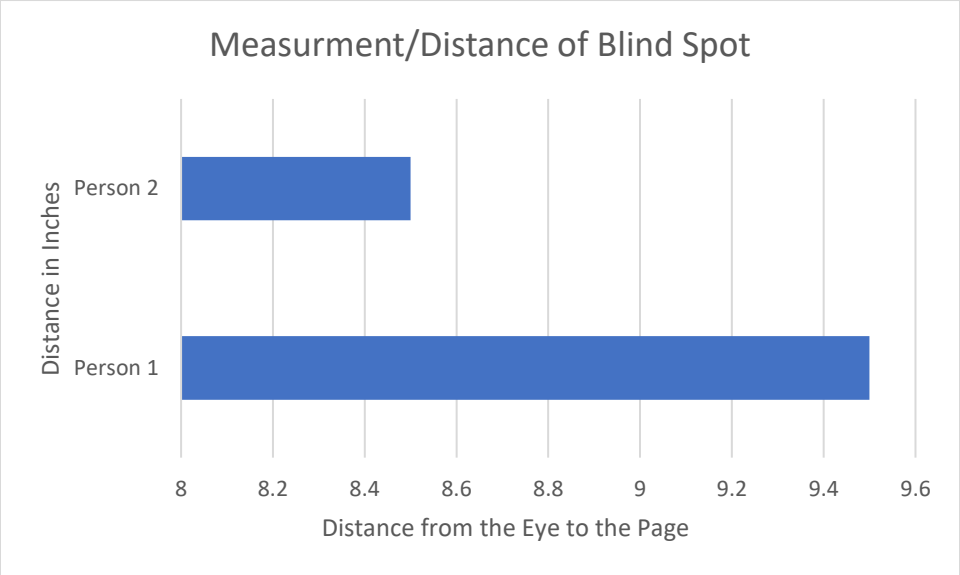
Olfactory adaptation.



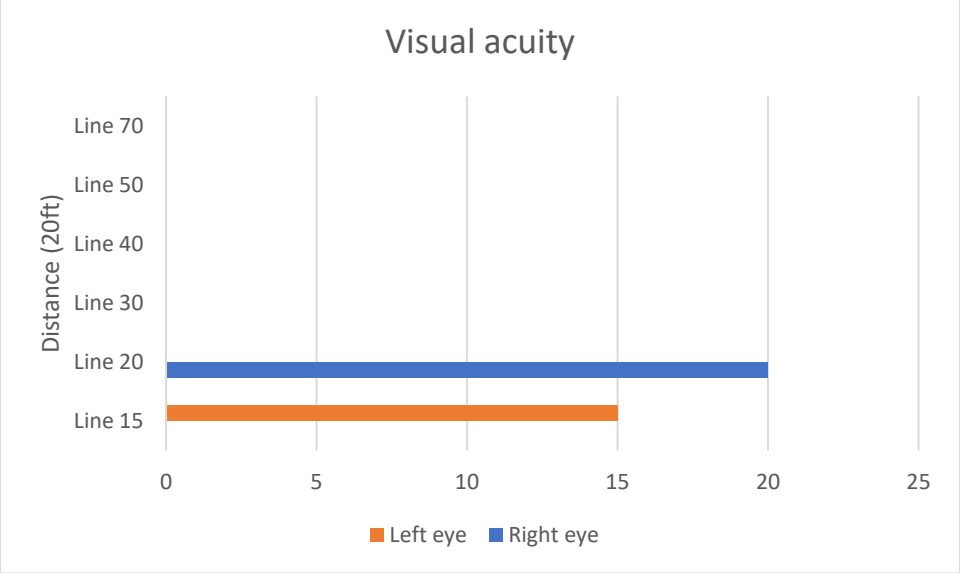
Olfactory adaptation.



Demonstration of the blind spot.



Snellen Test.



Discussion

For activity A-2 of cutaneous thermoreceptors, I did the activity and noticed how fast thermoreceptors are to adapting to cold and hot temperatures. After having the right finger in cold water and left finger in hot water for two minutes and then putting both in warm water, the one in hot water felt cold and the one that was on cold water felt a bit hot.

Conclusion

I learned the different types of receptors and how they react to a different type of stimulus. In general, all the activities that I did for this lab were very interesting.

Bio125/Audiometry.ipynb at main · RosalbaN/Bio125 (github.com)