

# Reflexes + Reactions Lab

Daria Porlin  
March 3, 2021



Reflexes - involuntary  
Reactions - voluntary.

Reaction is a voluntary response to an external stimulus with the appropriate motor response to the stimulus. - The time interval between application of the stimulus and the motor response is the reaction time, expressed in milliseconds.

It reflects the speed of flow on neurophysiological, cognitive, & information processing created by the action of stimulus on the subject's sensory system.

We test a simple reaction.  
one stimulus & one reaction.

- Other tests are: choice reaction time which can affect driving, pilots, search & rescue. ✓

In a recognition reaction with  
2 stimuli — one TO react TO +  
one NOT TO react TO.  
(Distractor)

Reaction Time is a good indicator  
of sensorimotor coordination &  
physical performance. Can  
determine the alertness of  
an individual. Important for  
security guards, nurses, dental  
hygienists, dentists, doctors, ...

What can affect Reaction  
Time?

{ - Age, gender, physical  
fitness, cognition, alcohol,  
health.

Also, the type of stimulus affects  
reaction time.  
Visual, auditory, tactile.

# Reflexes - involuntary

Patellar reflex. - it is a monosynaptic arc.

(check the spinal cord chapter - for background information on reflexes)

muscle spindles in quadriceps are stretched when the hammer hits the patellar tendon - sensory impulse to dorsal root ganglion, to posterior horn. - interneurons integrate with a response - motor neurons - reflex is to prevent overstretching.

---

The above will be in your reports.



2. Achilles

3. Plantar (Babinsky)

4. pupillary reflex.

5. nystagmus

6. ciliospinal reflex.

---

writing the report.

● ① Which is faster? Dom or non-dom.

② Which is faster, reaction to a visual cue, auditory cue or a tactile cue?

③ Which will elicit a stronger patellar reflex - the addition of fenderassik's or without?

# PARTS OF REPORT:

- Introduction  $\frac{1}{2}$  - 2 pages.
  - Background about the nervous system. Introduce Terminology. Start with general descriptive + get specific to your study.

...

an explanation of reactions + reflexes

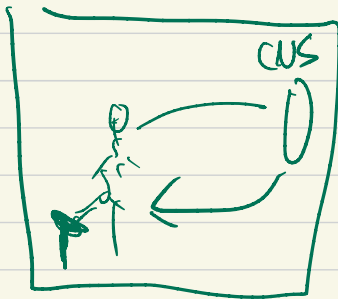


Fig. 1 title  
(Saladin 2014).

WRITE IN  
YOUR WORDS.  
+  
PARAPHRASE  
(Morton, 2021)

We tested reactions + reflexes  
using the following methods.

I hypothesized that

- 1.
- 2.
- 3.

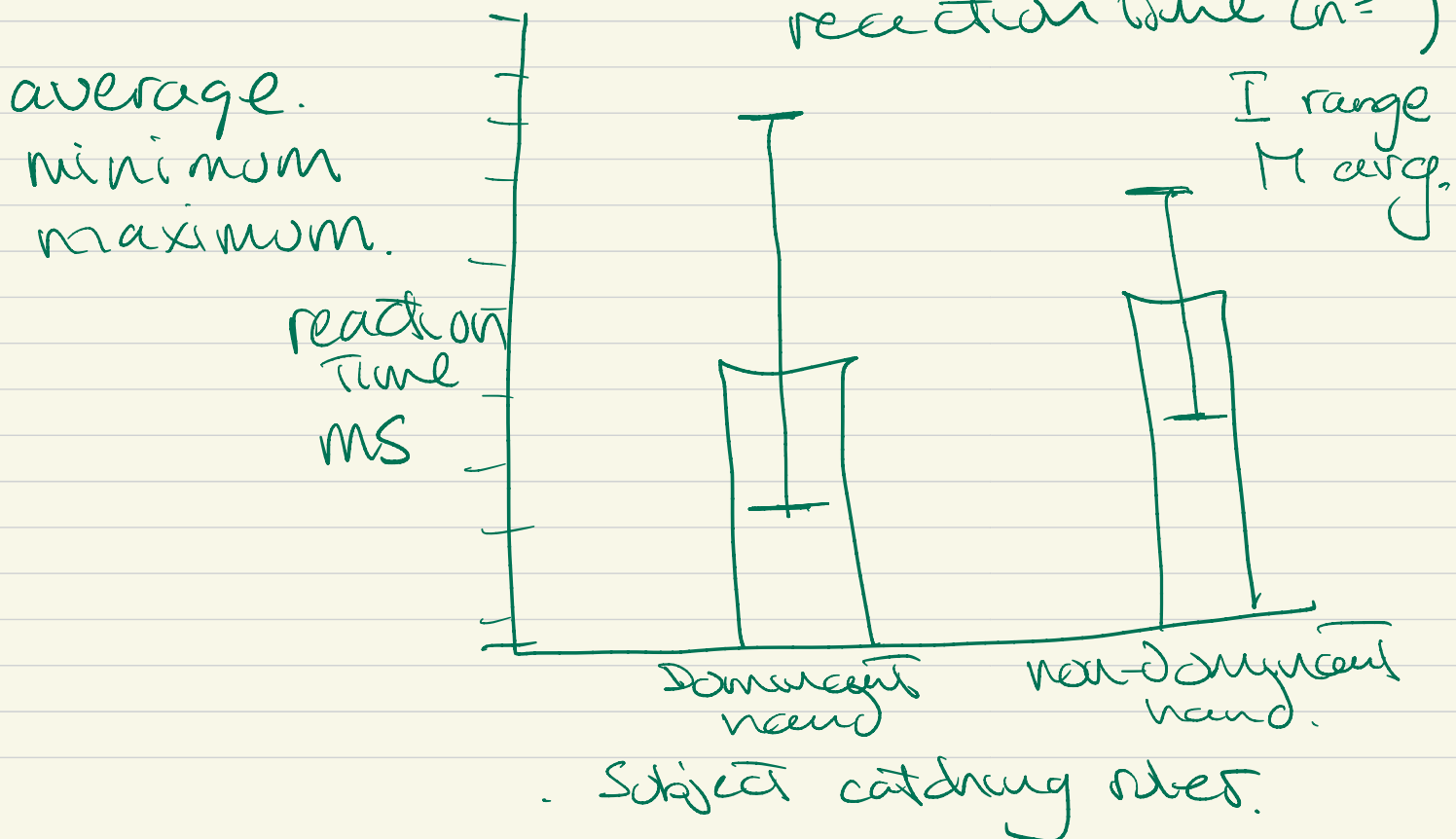
## Materials + methods

- refer to lab manual.

(write this out in a sentence or two). (Hackett 2017)

## Results

Fig. 1. The effect of hand dominance on reaction time ( $n =$ )



## Results summary.

Write in words what the graph indicates.

- cue comparison: Visual dominates auditory & Tactile.

- patellar reflex.

results: only what you found — no interpretation.

## Discussion

- Why did you get those results?  
First — was your hypothesis supported?  
Why or why not?

- look at other studies — did they find something different or something similar?

## reference section

Intyre, G 2017

Harvard style.

Abstract - goes in the beginning ( $\frac{1}{2}$  page).

- summary. - why you did the study, how you did it, what your results were, why is it important.

Lab manual pg 165 - Writing Reports - + citation style.

also: page 41.

