Visual Search Experiment
PSY310: Lab in Psychology
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INTRODUCTION:
One or more of the following three factors may be responsible for set-size effects in visual search: attentional mechanisms that limit the experiences of individual stimuli, masking effects involving the laterality of stimuli presented in the sensory channels, or attentional factors interacting with other decision rules used in combining information from multiple stimuli. Tasks like looking for a more extensive line among shorter lines were used to evaluate these alternatives. Set-size effects were compared to curing settings that controlled sensory effects to investigate these sensory contributions. When considering the parameters of this experiment, parallel results for the two display and cue treatments showed that minimal processing necessitates sensory exposure. The set-size impacts were anchored with signal detection theory to gauge how healthy decision processes worked.

This experiment was done in a PsychoPy environment to investigate the participants' reaction time when the set size was 5 or 10. Hence, only 5 participants' data will be compared in the subsequent Walk Test. Consequently, in the visual search task in intervention, the participants must search for a target letter among several distractor letters with the distractor letters in 5s or 10s formats. The target is divided into two stimuli, and the individual is expected to attend to any stimulus in the middle of the screen of a computer and perform the click activity while other stimuli exist. The time taken when the response button clicks on the target stimulus will also be timed. The target stimulus is the letter 'T,' and the distractor stimuli are the letters 'L.' It will show the effectiveness of the performed task and awareness of the type of attention processes.

METHOD:
This experiment was meant to determine the efficiency, reaction time, and accuracy of visual tasks performed by the participant. In this case, the participant had to identify 'T' among the 'L' shaped distractors.

Participants and Experimental Conditions:

Four of the experimenter's peers helped her with this one. All participant conditions were made the same despite taking place in a classroom.

As previously said, PsychoPy generated the job on a laptop. After a fixation cross, the experiment's sequence showed a target stimulus (T) and distractions (L) on the screen. The number of distractions that would arise (i.e., five or ten) and the place of occurrence were random. This was coded in a few lines at the start and finish of the routine. The participants were instructed to click on the target stimuli (T) in a mouse response.
Every experiment was carried out 200 times (per participant), and data was gathered from five people. A graph was later created once that data was examined. In addition to calculating the set size versus the RT graph, the average RT was also determined.
These numbers were acquired for every participant and subsequently examined.

RESULTS

The average reaction time (RT) of the participants combined for set size 5 is 1.68219 and that for set size 10 is 0.572867

RT v/s Set size
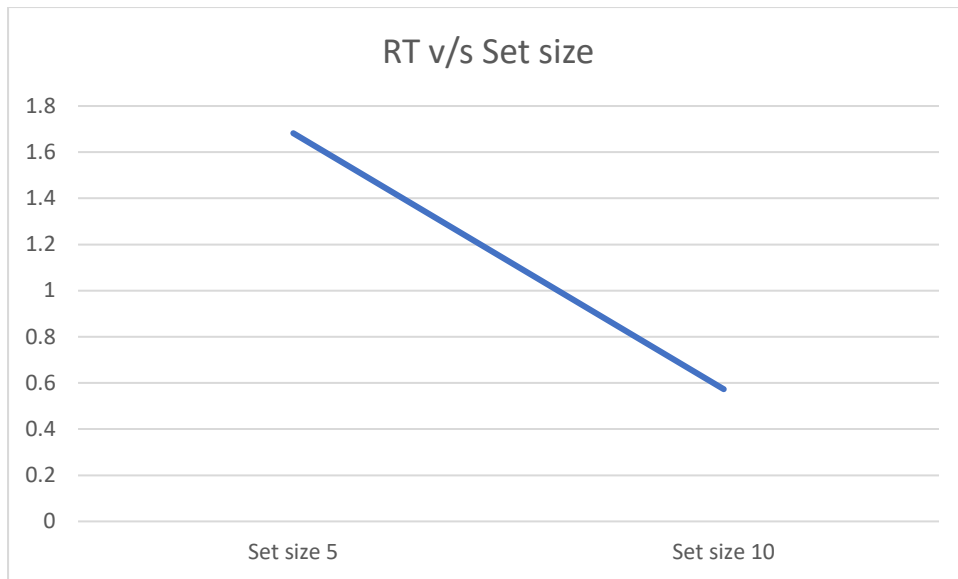
From this graph, it can be inferred that the Reaction time for a set size of 10 is less compared to that of a set size of 5. The slope is $= (Y2-Y1)/(X2-X1)$ where $Y=$ Reaction time and $X=$ Set size.

Discussion:

The graph shows a slight decrease in reaction time (RT) as the set size increased from 5 to As the set size rose from 5 to 10, the graph indicates a drop-in reaction time (RT), which is not typical of visual search tasks. Because more items are processed, an increase in the set size value generally results in a rise in RT, which indicates more effortful attention. In this instance, though, the slope is negative, suggesting that under the higher set size condition, participants are identifying the target more effectively.

This could imply that attention is being used more efficiently at set size 10, perhaps as a result of task familiarity or a particular pattern in the stimuli that facilitates searching as set size grows.

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