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LAB REPORT

Q . What is a staircase procedure? When is it used? What are the alternative methods to find the stimulus threshold?

Also called up-down method ,used from last few years, Variation of methods of limits in which stimuli are mentioned in ascending to descending order, when the responses changes of the observer, sequenced is checked and reversed , it increase the intensity when the stimulus is not detected and decrease will detected which is called reversal. This method has several advantages also disadvantages, staircase has some characteristics like, where to start the series, how large the steps would be and where to stop, staircase method is used to measure discrimination and detection threshold, also they can be used in experiment which has different numerical value where 2 choice option are given, analytic approach can be used to measure stimuli, method of limits to calculate absolute threshold, adjustment method also used to calculate threshold, method of constant stimuli ,simple way is to compute the value mean of given stimuli.

Q. Method: Details of procedure and design of the experiment you designed in the lab.

Need a laptop or a computer to design an experiment, we inserted routine first,then in custom introduced static component , which start with 0 and stays there for 1 sec and change the stop duration to time

Added fixation polygon, and shape was added cross, time was kept after 1 sec, we cange size too pix, and kept in centre, and size was 10 by 10.

After fixation now comes the grating, and stated at 2.0 sec as fixation was till 1 sec, and duration we kept till 0.3 sec, here we didn’t change to pix but we had kept the same which was from exp settings, and size we kept .1, position is going to be variable, left hand side or right hand side, which is $location, in texture we added values like circle in mask, and in spatial frequency we added 5 , and put on set every repeat,

Now we need responses, we need left key press or right key press on standard keyboard, and set time for 2 sec when grating appears, allowed keys are left, right. and store the correct answer , and added $correct response, so now we have our fixation, grating and key response,

We took code from custom tab, and we decided when we want code, like in begging, or end , in this case we want in every trail, beginning of every trial, in begin routine we added our code, and added random, location and correct answer, if negative then left and positive then right, and copy paste the code in beginning of experiment,

Now we are adding staircase procedure, by adding a loop, in loop tab we change random to interleaved staircase,

Now open the excel file and add data which we need in psychopy, we added label, startval, step sizes marvel and minval, and saved excel file,

And in loop we added our excel file in conditions, and trials were added as 100 trails,

And then we did our experiment 100 time to get a result,

During experiment we saw first cross sign which was a fixation and then grating started randomly from left and right or right and left and then we have to click left key for grating appearing on left side and right key for grating appearing on right side, and after 100 trails we got data which was automatically stored in folder.

Q. Report the threshold value you obtained after the experiment run. Add plots and give a

brief summary of the results.

We took the results of experiment and then after opening data we choose trials intensity and trails number and formed a table which is value table as you can see above and second is value 2 table where we took trials response and trails number and then we compare it , in table 2 we can see trails number is a little bit more upwards from 0 in comparison to value table tilt.

Q . What are the limitations of the staircase procedure?

When the staircase method is used , the S is very aware of the way in which the stimuli is going to be ordered , even if it going to begin with , It doesn’t take him long to be aware of the procedure, , if the judgement are gonna be easy the awareness isn’t disturbing , but when it becomes difficult then it becomes distressing,

Refrences.

https://www.jstor.org/stable/1419876#metadata\_info\_tab\_contents