WORD FRAGMENT TASK WITH PRIMING PARADIGM

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REPORT

Github Link: <https://github.com/twaritashah/PSY310_TwaritaShah/tree/Motor_Sequence_Task>

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Priming is a psychological technique where the introduction of one stimulus affects how people react to another following stimulus. A memory association or representation is triggered by priming right before the introduction of a subsequent stimulus or activity. This phenomenon happens without our conscious knowledge, but it has the potential to significantly affect many facets of our life.

In priming, some schemas get activated simultaneously. Some informational units become active, which in turn activates connected or related units. This happens because, in many cases, being able to access related knowledge more quickly from memory may aid people in reacting faster during certain situations.

# Method

The aim of this priming experiment is to assess the participant’s performance on the word fragment task to calculate the priming score.

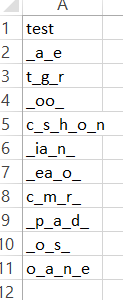
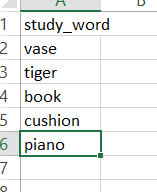
**Participant/s**

The test was performed by the experimenter as a part of the Lab in Psychology course at Ahmedabad University.

**Materials and Procedure**

The experimenter received the video explaining the study 24 hrs before it was created and performed. The material used during the creation of the experiment was the experimenter’s personal laptop equipped with the latest version of PsychoPy.

The experimenter followed along the instructions of the professor to formulate the task on PsychoPy. The experiment itself was divided into two conditions: a study phase and a test phase. For the study phase, a text stimulus which would last for 8 seconds was added with the variable $study\_words, defined in the Excel sheet uploaded in the loop trials. Furthermore, a 5-point rating scale was defined ranging from ‘familiar’ to ‘unfamiliar’.

For the second condition, another text stimulus for a duration of 10 seconds, was added along with a typing box so that the participant could tested on the words from the study phase as well as new words. These words were defined by the variable, $test, defined in the Excel sheet uploaded in the loop trials. Moreover, a mouse-click response was added to end a particular trial.

Images.

Lastly, the loop type was kept random and the number of repeats, nReps=1, and the experiment was given a test run to see whether it worked reliably before the actual trials started.

**Testing Conditions**

The participant was told to perform 15 study trials and 30 test trials in one session. Hence, she was told to ensure that she was not distracted or disturbed by her surroundings and could perform the task continuously without breaks. These conditions were met sufficiently.

**Data Collection**

PsychoPy directly stores the data it gathers during the experiment in a new Excel file within a predefined folder. Hence, the data was stored reliably and then, cleaned to retain values related to the motor sequence task. The data was categorized by the experimenter into proportions of hit rates for each condition. These values were then used to calculate the priming score for the participant.

**Results**

The hit rate of primed and non-primed words is found by calculating the probability of correct responses for each of the categories. In this case, the hit rate of primed words is, 0.93333 while the probability of non-primed words is 0.6.

The priming score is calculated by subtracting the hit rate of non-primed words from the hit-rate of primed words, which in this case is, 0.3333.

As the priming score is positive, it can be seen that there is a greater probability of guessing primed words correctly than that of guessing non-primed words. It shows how priming of certain words affected our response to them in the subsequent test round.

**Discussion**

Priming can also be used to show how recently experienced perceptions can change how a person perceives and recognizes faces. In order to create a similar study using faces, we can input pictures of faces into our data instead of words. Then, in the study phase, half of the faces can be shown to prime the participant while in the test phase, primed faces and non-primed faces would be mixed to see how familiar the participant is with the stimulus as well as evaluate the effect of facial priming. Hence, a study using faces instead of words would not be very different in design or concept from the one that we have currently designed, except for the change in stimuli.

REFERENCES

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Mueller, R., Utz, S., Carbon, C.-C., & Strobach, T. (2020). Face adaptation and face priming as tools for getting insights into the quality of face space. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.00166