

Introduction serial
greater probability,
compared to the
intermediate
section[11]....



IntroductionSerial position effect refers to tendency of the human brain to recall items present in the beginning/ending of a list with a greater probability, compared to the intermediate section¹¹. It is regarded as evidence for Atkinson and Shiffrin's¹⁴ multi-store model explaining that items in beginning of the list are retained in the long-term memory store, owing to primacy effect, and items in ending of the list are retained in the short-term memory store, owing to recency effect. Peterson and Peterson (1959)¹⁵ aimed to determine and distinguish between duration of short-term and long-term memory store to present experimental proof for multi-store.

Participants were asked to recall trigrams after different intervals. To evade rehearsal, Brown-Peterson technique¹² was used. Results showed, longer the interval, lesser the trigrams were recalled supporting the multi-store model as it states that short-term memory store has a limited duration when rehearsal is prevented. Multi-store model of memory by Atkinson and Shiffrin¹ describes a distinction between three memory stores; sensory, short-term and long-term memory stores⁸. Sensory memory stores information retained long enough by our senses to be utilized, supported by studies Peterson and Peterson (1959)¹⁵ and Miller(1956), regarding duration and amount of information that can be stored. The model stated that information stored in Short-term memory¹⁵ could be transferred to Long-term memory if repetition occurs. I partially replicated the experiment by Glanzer and Cunitz(1966) which aimed to determine whether the serial position curve consisted of two curves representing output from distinct short-term and long-term storage mechanism³⁴.

I attempted to prove this by altering variables such as presentation rate, interval and repetition that were hypothesized to affect one storage mechanism and have no effect on the other¹¹¹³. The original study found out that rate at which words were presented, and interval between words presented and recalling of terms, affected short-term memory, affecting recency effect or end of curve produced³⁴. Manipulations made in the experiment conducted is choice of variables from original variables: Interval, No. of words, Rate and Repetition, with the focus primarily on Recency effect resulting in the choice of variables ' Rate' and ' Interval'.

Primacy effect is mentioned in the hypothesis and investigated as a supporting factor, as it could easily be conducted using results, and would support conclusions made. Aim: To investigate how position of words affects recall and how alteration of variables affects the Primacy-Recency effect Null Hypothesis: Curve produced will not represent two different curves or distinct storage mechanisms. Variables altered would not affect recency effect curve and would affect primacy effect curve. Research Hypothesis: Bimodal serial position curve produced from the results will represent the distinct short-term and long-term storage mechanism. Variables ' rate' and ' interval' affect recency effect curve and will not have an effect on primacy effect curve.

Hypothesis states that increase in variable ' rate' would display increase in recency effect and increase in variable ' Interval' would decrease it. Change in either variable wouldn't affect primacy effect. Method Design Research method is experimental. Independent measures design was used.

Type of data collected is nominal and will be converted to ordinal to be presented in the form of descriptive and inferential data. During preparation of the list of 20 words, it was ensured that words with obvious connections to surroundings weren't used. Each word consisted of 5 letters ensuring that words presented to participants weren't difficult to be recalled. Words used were commonly used making them familiar to participants, diminishing confounding variables. Participants viewed words on a Laptop screen in the same order.

Variables altered were rate at which words were presented, referring to the time each word was shown for, and interval, referring to the time a participant views a blank screen before producing recollected words on a paper. The controls were no. of words participants were presented with, repetition of each word; referring to number of times each word was presented; and time frame of 2 minutes for noting down words recalled. Independent variable was position of words in the list of 20 words.

First part of the list consisting of 7 words is referred to Primacy section and last 7 words to Recency section. The intermediate section comprises of 6 words. Variables, 'Rate' and 'Interval' were also an independent variable.

Dependent variable refers to frequency of words remembered from Primacy-Recency section. Informed consent and parental consent was given to participants to ensure ethical considerations were made during conduct of the experiment. Debriefing was conducted by providing an explanation of aim of study and results, after experiment and data analysis was completed.

Ethical considerations such as protection from harm, confidentiality and right to withdraw were followed. Participants 24 participants were derived from opportunity sampling as it was easier, faster and more efficient to employ participants. Target population was 15-18 year old, multicultural high school students from collectivistic cultures. Participants were randomly separated into two groups, each consisting of 12 participants, exposed to different conditions. All participants were fluent in English and consisted of 19 females and 5 males.

Materials Standardized instructions for participants (appendix i) Informed letter of consent (appendix ii) Informed letter of parental consent (appendix iii) Debriefing notes (appendix iv) List of 20 words for participants (appendix v) Paper and pen Stopwatch Quiet and well-lit room Tabulated record sheet to record results Procedure Participants were informed of the experiment's aim. They were provided with standardized directions (appendix i) and an informed letter of consent (appendix ii) that they had to sign to be able to take part in the experiment. Parents of participants under the age of 18 were provided with an informed letter of parental consent (appendix iii) to show approval of their child's involvement. Participants were asked about their age and fluency in English. Both groups were shown a list of 20 words on a laptop screen using a presentation.

For group 1, Rate was kept constant and Interval was altered. Rate was kept as 1S, where S consisted of 3 seconds. Intervals were kept at 0, 15 and 30 seconds. 4 participants were given the same condition for both groups. For group 2, Interval was kept constant and Rate was altered. Interval was kept

as 15 seconds. Rate was kept at 1S(3seconds), 2S(6seconds) and 3S(9seconds).

During the Interval, participants were shown a timed blank-white screen. As the screen turned black, participants were asked to write down words they could recollect on paper within a 2-minute time frame. After the experiment was conducted, participants were debriefed. After data analysis was conducted, they were informed of findings and implications of findings.