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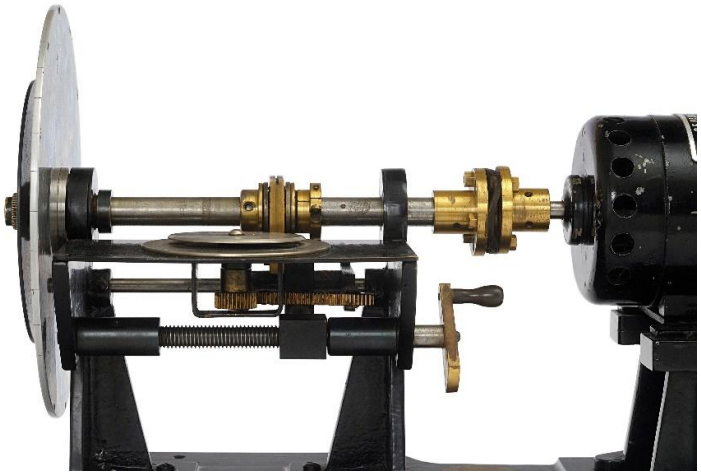

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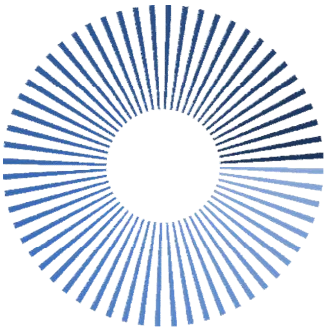

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BELGRADE, 2020

THE IMPACT OF WORD FREQUENCY ON THE SERIAL POSITION EFFECT IN THE IMMEDIATE FREE RECALL TASK

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In the free recall task, participants are shown lists of unrelated words in order to memorize as many words as possible, regardless of their ordering in a list. When recalling is immediate, participants tend to recall the first few and last few words best, and the middle items worst. The explanation is that the stimuli at the end are located in the short-term memory (STM), while the stimuli at the beginning are recalled from the long-term memory (LTM).
This is one of the strongest arguments against the unique memory domain. Based on these findings, it could be concluded that there is no interaction between STM and LTM. This hypothesis was tested with an experiment in which the frequency of the stimuli was varied. Frequency contains implicit knowledge of the world, which is stored in the LTM. If a frequency effect on remembering a stimulus from the middle and the end of the list is obtained, the fact that the impact of the LTM process is not limited to the beginning of the sequence could be confirmed.
Each word list was made up of three blocks of five low (L) or high frequency (H) nouns in the singular nominative consisting of 5 and 6 letters, whereby we obtained 8 different list types, e.g. H-H-L, L-L-H etc. In previous studies with free recall task, different frequencies words were presented in two blocks, in random order or alternately, but not in three blocks. In addition, the emphasis was on detecting word links rather than the interaction between STM and LTM.
The sample consisted of 128 students from the University of Banja Luka, divided into 8 experimental groups. Each group learned only one type of lists. Stimuli were exposed auditorily, with a 1 second ISI.
On average, H stimuli were reproduced better than L in the first four positions (minimum difference in fourth position is 29%, $p < .001$). When the first block consisted of L and the second block of H words (lists: L-H-L and L-H-H), the primacy effect was lost: H words from the middle of the list were reproduced successfully than the words from the beginning of the list. Likewise, if the second block consisted of L words, and the third of H words (lists: L-L-H and H-L-H) at position 11 and 12 higher hits were obtained than with the other lists (differences 41 and 33% respectively, $p <. 001$). In addition, the differences between these stimuli and the average values at the last three positions were not statistically significant.
The results indicate that the serial position effect is not a general effect. It depends on the frequency of the stimuli, while LTM plays a role, not only in the reproduction of the stimuli from the beginning of the list, but on all the stimuli except for the last two or three.

Keywords: serial position effect, free recall task, words frequency