UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title
Recency judgments and list context

Permalink
https://escholarship.org/uc/item/4n0326sc

Journal
Proceedings of the Annual Meeting of the Cognitive Science Society, 26(26)

ISSN
1069-7977

Authors
Klein, Krystal A.
Criss, Amy
Shiffrin, Richard

Publication Date
2004

Peer reviewed

Recency judgments and list context

Krystal A. Klein (krklein@indiana.edu)
Amy Criss (acriss@indiana.edu)
Richard Shiffrin (shiffrin@indiana.edu)
Department of Psychology, Indiana University
1101 E. 10th St., Bloomington, IN 47401 USA

Most memory experiments require participants to remember *what* events occurred, indirectly providing a measure of context availability. A more direct approach requires participants to remember *when* events occur. In Judgment of Recency (JOR) paradigms, participants study a list of stimuli and are asked to judge the recency of items from the list. In life, recency judgments can be made by associations to dates or autobiographical timelines. Although such cues are probably absent in list studies, participants can nonetheless make such judgments (Yntema & Trask, 1963), and the results can be used to make inferences about temporal context and its changes.

The current experiments utilize a study-test variant of the forced-choice judgment of comparative recency paradigm (Flexser & Bower, 1974). In each experiment, participants viewed lists of words on a computer monitor, and were subsequently tested in the following manner: two words from the list were presented, and participants indicated with a keystroke which word they had seen most recently.

A pilot study was completed in an attempt to obtain baseline data for JORs. Study lists were 90 items in length. Following the study phase, participants completed the forced-choice JOR for each of 20 pairs of words from the study list. Factors were lag (number of words studied between the two test items) and list type (fast or slow presentation time; each participant received one list of each type). Both factors were manipulated within-subjects. To our surprise, we found performance did not differ significantly from chance (50% accuracy) overall or in any of the individual experimental conditions.

Given that above chance performance had been found in earlier studies using a continuous study-test paradigm, we generated two hypotheses that might help explain this null result. First, the longest lag used in the study was 24 items, and context may change too slowly in a random word list without breaks for tests to allow above chance performance at short lags. Second, we had excluded the first ten and last ten study items from testing, in order to avoid any contamination by special strategies or effects due to primacy or recency. It could be that it is only during these parts of the list that context changes rapidly enough to allow for temporal discrimination.

Experiment 1 used longer lags (36) and compared performance between pairs in three conditions: those that contained one primacy item (primacy-middle), one recency item (middle-recency), or neither (middle-middle). Primacy and recency regions were set at length 12. The testing procedure was the same as in the pilot study. The longer lags did facilitate recency discrimination, illustrated by above-chance performance in the three conditions.

However, the three conditions did not differ, even when the primacy and recency regions were limited to include only four items on each end of the list. These results suggest that while primacy and recency items receive a benefit in item encoding (as seen in recall), they do not receive better temporal encoding than other list items.

Because longer lags produced above chance performance, the hypothesis that context changes quite slowly during list presentation received some support. Nonetheless, the results seemed weaker than in earlier continuous study-test paradigms, leading us to ask what factors induce context change. In Experiment 2, participants studied a long list of items that was broken in half by the insertion of a 90-second task. There were four such tasks: 1) study of a list of faces; 2) a math task; 3), an old-new recognition test (on a subset of first-half items that would not be later tested for recency); 4) answering the following question (aimed to change internal context): "What would you do if you were invisible?" (Sahakyan & Kelley, 2002). For pairs containing one item from the first half (before the break) and one item from the second half (after the break), participants who received the recognition test performed best, followed by the 'invisible' answer condition. Performance in the face study and math problem conditions was not different from chance. These results are consistent with the idea that different tasks cause differential context change, and the pattern of results is consistent with certain puzzling results from standard memory paradigms (e.g., Shiffrin, 1970).

Acknowledgments

References

Flexser, A.J., & Bower, G.H. (1974). How frequency affects recency justments: A model for recency discrimination. *Journal of Experimental Psychology, 103,* 706-716.

Sahakyan, L. & Kelley, C.M. (2002). A contextual change account of the directed forgetting effect. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 28*(6), 1064-1072.

Shiffrin, R.M. (1970). Forgetting: Trace erosion or retrieval failure? *Science, 168,* 1601-1603.

Yntema, D.B., & Trask, F.P. (1963). Recall as a search process. *Journal of Verbal Learning and Verbal Behavior, 2,* 65-74.