

"No-show" phenomena in free recall*

RICHARD M. WEIST

University of Nebraska, Lincoln, Nebr. 68508

In a multitrial free-recall experiment, free-recall Ss were compared with a group of Ss who were instructed that all of the words would not be presented on each trial and that they must recall only the words that were presented. While, in fact, all of the words were consistently presented in both groups, recall performance was depressed in the specially instructed group.

In multitrial free-recall experiments, the order of presentation changes on each trial. It has been observed that this procedure often leaves the S with the impression that all of the words have not been presented on all of the trials. This perception of words not consistently showing up in presentation may affect S's recall in a number of ways. The S may assume that all the words have occurred and his recall will not be affected. This might occur if S was instructed that all the words would occur and S believed the instructions. On the other hand, the S may feel that he should not recall words that he felt did not occur on a particular trial and, thus, recall is depressed. The purpose of this experiment was to determine the extent to which recall in a multitrial free-recall experiment is depressed when Ss recall only the words that they remember occurred on each trial.

SUBJECTS

The Ss were 24 University of Nebraska students of both sexes enrolled in introductory psychology classes. Fourteen Ss were assigned to a free-recall (FR) group and 10 Ss to a restricted-recall (RR) group.

PROCEDURE

The stimulus words were taken from the 5-200 frequency range of the Cohen, Bousfield, & Whitmarsh (1957) norms. The 24-word list was made up of four categories, with six items per category. Five randomizations of the list were prepared for presentation.

In the FR group, Ss were told that the same list of words would be presented a number of times, in a different order each time. Their task was to try to remember as many of the words as they could in any order. When the experiment was completed, Ss were asked (1) if they felt that all of the words had occurred on all of

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the trials; (2) if not, was their recall hindered; and (3) if so, how much was their recall hindered.

In the RR group, Ss were instructed that they would be presented with a different subset of words on each trial. The words to be presented came from the same set, but on any given trial all of the words from the set were not presented. The Ss were not told how many words would occur on a trial or whether this number would be consistent. The Ss were further instructed that they could recall the presented words in any order. In fact, all of the same words were presented on all of the trials. The Ss were not questioned after the experiment.

In other details, the groups were treated similarly. The Ss were run in groups of five to seven. The words were presented at a 3-sec rate with a modified Kodak Carousel projector. The recall interval was 80 sec. All Ss received eight recall trials. Five different randomizations of the list were presented, and then the first three were repeated.

RESULTS AND DISCUSSION

Of the 14 Ss in the FR group, 8 did not feel that all the words occurred on all the trials, and of these, 2 Ss reported that their recall was considerably hindered. These 2 Ss were not included in the statistical analysis. Two more Ss were dropped at random in order to have an equal N of 10 in both groups.

The mean number of words recalled for both groups and eight trials are shown in Table 1. The analysis of variance with one independent factor and one correlated factor was used to evaluate the results of the two groups. The differential instructions caused an overall decrement in the recall of the RR group ($F = 9.56$, $df = 1/18$, $p < .01$). There was a significant increase in recall over trials ($F = 125.0$, $df = 7/126$, $p < .001$), and recall in the two groups diverged over trials ($F = 19.9$, $df = 7/126$, $p < .001$).

The recall scores for the two Ss in the FR group who were considerably hindered have also been included in Table 1. These Ss have been included because they are typical of Ss found in a variety of free-recall experiments that have reported the "no-show" phenomenon and hindered recall. The most salient feature of these Ss is the variability in recall. These Ss do not exhibit the fairly consistent increases in recall that are typical of nonhindered free-recall Ss.

The Ss' impression that all of the words do not show up on all of the trials can cause a decrement in performance that becomes more obvious as trials progress. The "no-show" phenomenon is not limited to categorized word lists. In a multitrial free-recall experiment now in progress, it was found that 12 of 22 Ss learning a list of unrelated words felt that all of the words did not consistently show up. Only 1 of these Ss reported any extensive hindrance in the free recall.

If it is assumed that the retrieval of information from memory is mediated by a subjective organization process similar to the one proposed by Tulving (1964), it is possible that in a series of free-recall trials Ss attend more and more to the developing S units and less and less to the E units presented. In the RR group, Ss must maintain attention to the E units presented. The S must not only retrieve the words but must also mark them as having been presented on the last trial.

One way of handling this methodological problem is, briefly, as follows: (1) Instruct Ss that the same words will occur on all of the trials and that the total number of words will be constant; (2) after the completion of the experiment, ask Ss if they felt that all of the words were consistently presented; (3) ask Ss if the apparent "no-show" hindered their recall; and (4) give Ss a 5-point scale on which to rate the extent to which recall was hindered.

It appears that about half of the Ss in the study experience the "no-show" phenomenon, but only a few Ss are hindered to a considerable degree. The number of Ss involved will vary, depending on experimental conditions. Failure to delete the Ss who are considerably hindered adds variability to the multitrial free-recall design about which E should be cognizant.

REFERENCES

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Table 1

Mean Number of Words Recalled for FR and RR Groups and Individual Recall Scores for Two Ss

	Trials							
	1	2	3	4	5	6	7	8
Free Recall (FR)	13.9	17.3	18.3	20.0	21.7	22.6	22.7	23.3
Restricted Recall (RR)	14.7	14.3	17.6	17.1	16.3	18.6	18.6	19.8
Hindered S 1	14	14	18	15	14	18	17	15
Hindered S 2	14	12	17	16	20	19	17	17