

A reanalysis of "The generality of free recall: 1. Subjective organization as an ability factor."

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Using Fagan's revision of Bousfield's ITR measure as an indication of S's ability to subjectively organize materials for free recall, previously reported data were reanalyzed. Subjective organization was shown not to be a general individual difference ability factor. Subjective organization did not correlate significantly with free-recall performance for CCCs, though it again correlated with performance on more meaningful materials.

In order to assess whether subjective organization in free recall is a reliable ability factor, in a previous paper (Gorfein, Blair, & Rowland, 1968), we correlated subjective organization scores for differing materials using Bousfield's ITR measure (Bousfield & Bousfield, 1966). Since that time, we have become aware that the measure was confounded by S performance, i.e., if S had a higher free-recall score, the probability of a high ITR score was enhanced. Fagan (1968) has presented a variant of the Bousfield procedure that corrects this problem. We

have modified Fagan's formula in order to measure bidirectional organization:

$$CR = \frac{Obs}{2(C-1)} - \frac{C}{hK}$$

(Obs = number of sequential constancies, C = items in common between a pair of trials, h = items correct on Trial N, and K = items correct on Trial N + 1). We have reanalyzed the data presented in our original article using this new measure.

METHOD

Thirty-six New College students participated in a multisession free-recall experiment. During each session, there were seven trials of free-recall learning. Items were presented at a 1-sec rate, and Ss were permitted 4 min for written recall at the end of each trial. Over the four sessions, four different materials were used: CCCs, CVCs, categorized words (CAT), and unrelated words (see Gorfein, Blair, & Rowland, 1968, for details).

RESULTS

The estimated reliabilities of the new measures on the different materials were: .66 for CCCs, .85 for CVCs, .80 for Words, and .69 for CAT. Table 1 reports the

Table 1
Inter-Correlations of Cluster Measures¹

	CVC	WORDS	CAT
A. Obtained Correlations			
CCC	.17	-.09	-.07
CVC		.33	.51
WORDS			.34
B. Corrected for Attenuation			
CCC	.18	-.12	-.10
CVC		.40	.67
WORDS			.46

¹ For all measures $N = 36$, $r > .43$, $p < .01$; $r > .33$, $p < .05$

intercorrelations of the subjective organization (CR) scores. There is one marked change from our previous report, i.e., CCC clustering fails to correlate with any other clustering.

Tables 2 and 3 report the correlations between the overall clustering measures and trial scores for each of the materials. In Table 2, correlations are between the cluster measure appropriate to a given material and the individual trial scores on that material. For all materials but CCCs, the correlations are significant. Table 3 reports the correlations of the trial scores on the four materials with a median cluster score (MCR, the median of the four individual clustering measures for each S). For these data, the correlation of individual material CR scores with MCR are: CR(CCC), .32; CR(CVC), .78; CR(Words), .63; and CR(CAT), .73. Like the specific cluster ratios, MCR correlates with trial performance for all materials but CCCs.

In Tables 2 and 3, there are two notable changes from our previous report: (1) a failure of either the cluster measure for CCCs or the median cluster ratio to correlate with trial scores for CCCs; (2) slightly lower correlations of cluster measures with trial scores for all the other materials.

Table 2
CR (app.) as Predictor of Trial T Scores¹

	1	2	3	4	5	6	7
CCCs	.04	-.13	-.15	-.19	-.08	-.16	-.14
CVCs	.34	.51	.48	.53	.42	.47	.48
Words	.21	.35	.42	.42	.50	.49	.43
CAT	.21	.36	.37	.44	.45	.41	.35

¹ For all measures $N = 36$, $r > .43$, $p < .01$; $r > .33$, $p < .05$

Table 3
Median CR(MCR) as Predictor of Trial T Scores¹

	1	2	3	4	5	6	7
CCCs	.13	.19	.20	.09	.27	.27	.16
CVCs	.42	.46	.48	.46	.39	.45	.51
Words	.22	.33	.35	.46	.43	.49	.36
CAT	.29	.38	.33	.50	.42	.39	.45

¹ For all measures $N = 36$, $r > .43$, $p < .01$; $r > .33$, $p < .05$

REFERENCES

- BOUSFIELD, A. K., & BOUSFIELD, W. A. Measurement of clustering and of sequential constancies in repeated free-recall. *Psychological Reports*, 1966, 19, 935-942.
- FAGAN III, J. F. Measuring verbal recall: II. The ITR score expressed as a ratio. *Psychonomic Science*, 1968, 11, 6.
- GORFEIN, D. S., BLAIR, C., & ROWLAND, C. The generality of free-recall: I. Subjective organization as an ability factor. *Psychonomic Science*, 1968, 11, 279-280.
- NOBLE, C. E. Measurement of association value (a), rated associations (a'), and scaled meaningfulness (m') for the 2100 CVC combinations of the English alphabet. *Psychological Reports*, 1961, 8, 487-521.