THE EFFECT OF VARIOUS PATTERNS OF VERBAL INCENTIVES UPON RESPONSE REPETITION

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This report presents some preliminary, and, in a sense, unrefined data which contribute to the research program underway at the University of Oklahoma under the direction of the senior author. The present data attempt to give provisional answers to four experimental questions:

1. In a serial multiple-choice learning situation, what will be the tendency for subjects to repeat verbal responses when there is no information of the correctness or incorrectness of their responses? This condition will provide data of an empirical control from which the effects of three patterns of incentives can be calculated.
2. What is the effect of an isolated verbal punishment upon response repetition?
3. What is the effect of successive serial verbal rewards upon response repetition?
4. What is the effect of interrupting a rewarded series by an item having no information given to the subject's response?

Four experiments have been performed to answer the above questions. In each experiment human subjects were presented a long list of three-letter words, one at a time, with instructions to respond to each word with some number between one and ten. After each of the subject's responses, the experimenter would say "right", "wrong", or nothing at all. The subjects were told to get as many right responses as possible during six presentations of the list.

Without the subject's knowledge, the order of the experimenter's responses was fixed. It was thus possible to isolate a pattern series of incentive responses near the middle of the list, and to study the systematic variation of these responses from experiment to experiment. Only the data of this central series of incentive responses are analyzed.

TABLE I

Experimental Design

(N = No Response; W = Word "Wrong"; R = Word "Right")

Condition Symbol	No. of Subjects	Experimenter's Incentive Responses						
		1	2	3	4	5	6	7
NNN	78	N	N	N	N	N	N	N
NWN	30	N	N	N	W	N	N	N
RRR	120	R	R	R	R	R	R	R
RNR	60	R	R	R	N	R	R	R

Table I presents the overall design of the four experiments, indicating how the conditions differed from one group to the next and presenting the symbols to be used later in designating the conditions.

All data analyses are in terms of the percentages that the subjects repeated their responses as a function of the central incentive series of experimenter's responses (or non-responses). A repetition is defined as exactly the same response on two successive trials. With six trials, the maximum number of repetitions of one subject to one item is five. With ten possible responses for each item, the chance expectancy of repetition is ten per cent.

TABLE II

Percentage Repetition of Response as a Function of the Central Incentive Series

Condition	N		Incentive Series							Totals
			1	2	3	4	5	6	7	
NNN	78	Tot.	110	78	128	110	138	112	118	786
		%	28.2	19.2	32.8	28.2	34.1	28.7	30.2	28.8
NWN	30	Tot.	42	32	48	50	55	39	50	316
		%	28.0	21.3	33.0	33.3	36.7	26.0	33.3	29.1
RRR	120	Tot.	212	167	183	208	216	179	190	1355
		%	35.3	27.8	30.5	34.7	36.0	29.8	31.7	32.3
RNR	60	Tot.	116	89	115	99	125	104	95	743
		%	38.7	29.7	38.3	33.0	41.7	34.7	31.7	35.4

The repetition data are presented in Table II. Further analyses were made of the data as a function of practice, and the results will be included in the conclusions, although to conserve space the tabular analyses are omitted. Experiments 1-4 answer the questions asked at the beginning of the paper.

Experiment 1. The amount of repetition in the absence of information with respect to correctness (the NNN condition) is definitely greater than chance expectancy. Furthermore, this effect is an increasing function of practice.

Experiment 2. The influence of an isolated verbal punishment is to increase repetition not only above chance expectancy, but above empirical expectancy as well. This phenomenon is also an increasing function of practice.

Experiment 3. The effect of serial rewards on repetition appears to be cyclic. Early in practice (trial 2) the effect of serial rewards is apparently one of interference (i. e., total repetition at this time is below empirical expectancy). With additional practice, the overall effects definitely increase the probability of repetition over empirical expectancy.

Experiment 4. Interrupting a rewarded series with a "no response" item definitely increases the overall repetition to the series, but the action of the interruption itself is differential as a function of practice. Early and late in

practice it acts like a reward. In intermediate practice stages, it acts like a punishment.

In conclusion, it may be said that the preliminary results reported here have shown definite promise of revealing data trends and thus confirming the general method for further investigations. Further detailed or statistical analyses of the present data have not been attempted due to slight inaccuracies of procedure which would vitiate some of the data combinations that have been made.