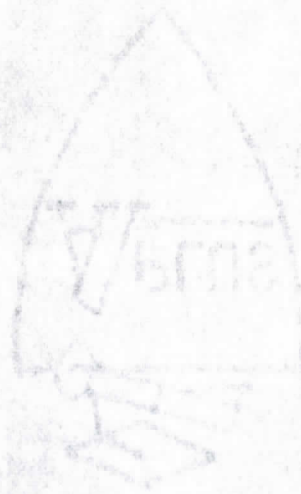THE EFFECT OF ERROR-PRODUCED FRUSTRATION

ON SUBSEQUENT ERROR

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LIST OF TABLES

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—Stephen R. Buchanan

INTRODUCTION

Ronald R. Schmeck(1970) reported a study in which error produced frustration influenced the probability of error on subsequent tasks. Schmeck found significantly less errors occurred following low error frustration than after high error frustration. Although fewer errors were made on simple matching tasks than on complex tasks, the interaction between error frustration and complextiy failed to yield significant results.

As reported by Schmeck, these results were contrary to predictions made on the basis of the Hull(1943) and Spence(1956,1960) view of task performance in that Hull and Spence found that increased frustration adversely affected complex tasks more than it did simple tasks.

The results of the Schmeck study also seemed to contradict the Yerkes-Dodson law, based on the results of their experiments(1908). The Yerkes-Dodson law says that lesser motive strengths produce better scores on subsequent complex tasks whereas a strong motive strength facilitates the successful completion of simple tasks.

On the basis of these seeming contradictions, the question was posed: Would a study similar to the Schmeck study, employing more simple, simple tasks and more complex, complex tasks, also fail to yield an induced Error Rate X Complexity interaction? The prediction was that the results of such a study would support both the Hull, Spence predictions and the Yerkes-Dodson law. That is, high error frustration would significantly affect correct responses on a complex task more than it would on a simple task.

switch which would illuminate a red or a green light mounted above the switch. The red light informed S that he had chosen an incorrect path through the linear maze. The green light informed S that he had chosen a correct path through the linear maze. The matching portion of the task was located above the colored lights and consisted of a row of six toggle switches spaced 14mm apart, with each having a yellow stimulus light 18mm above it (Fig. 1).

On each trial, S depressed one of the two toggle switches at each choice point in the linear maze proceeding from the first row (at the bottom of the panel) through the fifth. The S then flipped the toggle switch above the linear maze. This switch informed S whether or not he had chosen a correct path through the linear maze. The illumination of the green light meant that S had chosen a correct path through the linear maze. It was assumed that the illumination of the green or red light, signalling correct or incorrect attempts, would emphasize errors made on this portion of the task. After S turned off the switch between the green and red lights, one of the yellow lights at the top of the panel illuminated automatically. The S was given one chance to turn off the yellow light with one of the toggle switches located below the row of six yellow lights. After S had attempted to turn off the yellow light, he returned to the lower part of the panel to prepare for the next linear maze trial. Errors on the matching portion of the task were recorded by E.

The complexity of the matching portion of the task was manipulated by arranging the connection between stimulus lights and response switches

Spence predictions as well as the Yerkes-Dodson law. Schmeck seemed to feel that this contradiction was due to inadequate manipulation of the complexity of the matching task. However, in the present study more dis- tinctly simple and distinctly complex matching tasks were used. Perhaps the complex portion of the matching task was still not complex enough.

Other possible factors contributing to these contradictions are the manipulation of error-rate on the linear maze task and the number of trials per $\underline{S}$. According to Amsel's(1958,1962) theory of "frustration reaction," frustrative nonreward increases the general drive level of an organism.

Dorothy Rethingshafer(1963) divided the activity of an individual who has been thwarted into three phases. In phase one, immediately following interference, there is usually an increase in energy expenditure. The individual blocked in a goal-directed activity will generally orient toward overcoming the barrier and reaching his goal. In phase two, a tension state called frustration may arise immediately with the onset of a barrier or, more usually, after CONTINUED interference. In the third phase, with CON- TINUED interference the individual may enter a state of tension-anxiety. The individuals inner excitation may change gradually from drive alert- ness to frustration-tension, to anxiety, and finally to extreme anxiety. The behavioral characteristics of an individual in a state of anxiety are repetitiousness, self-defeating attitude, and nonadjustive behavior. In other words, a rise in drive level is facilatitative to problem solving attempts. Then when, or if, an individual passes into frustration, the general drive level is nonoptimal. Frustration leads to overactivity,

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TABLE I

EXPERIMENTAL DATA
(# of correct responses)

High Simple	High Complex
6	3
8	1
3	2
7	2
8	0
7	0
6	4
6	4
8	3

Low Simple	High Simple
8	4
9	4
9	5
9	3
10	4
8	6
9	8
10	4
9	3

TABLE III

SOURCES OF VARIATION

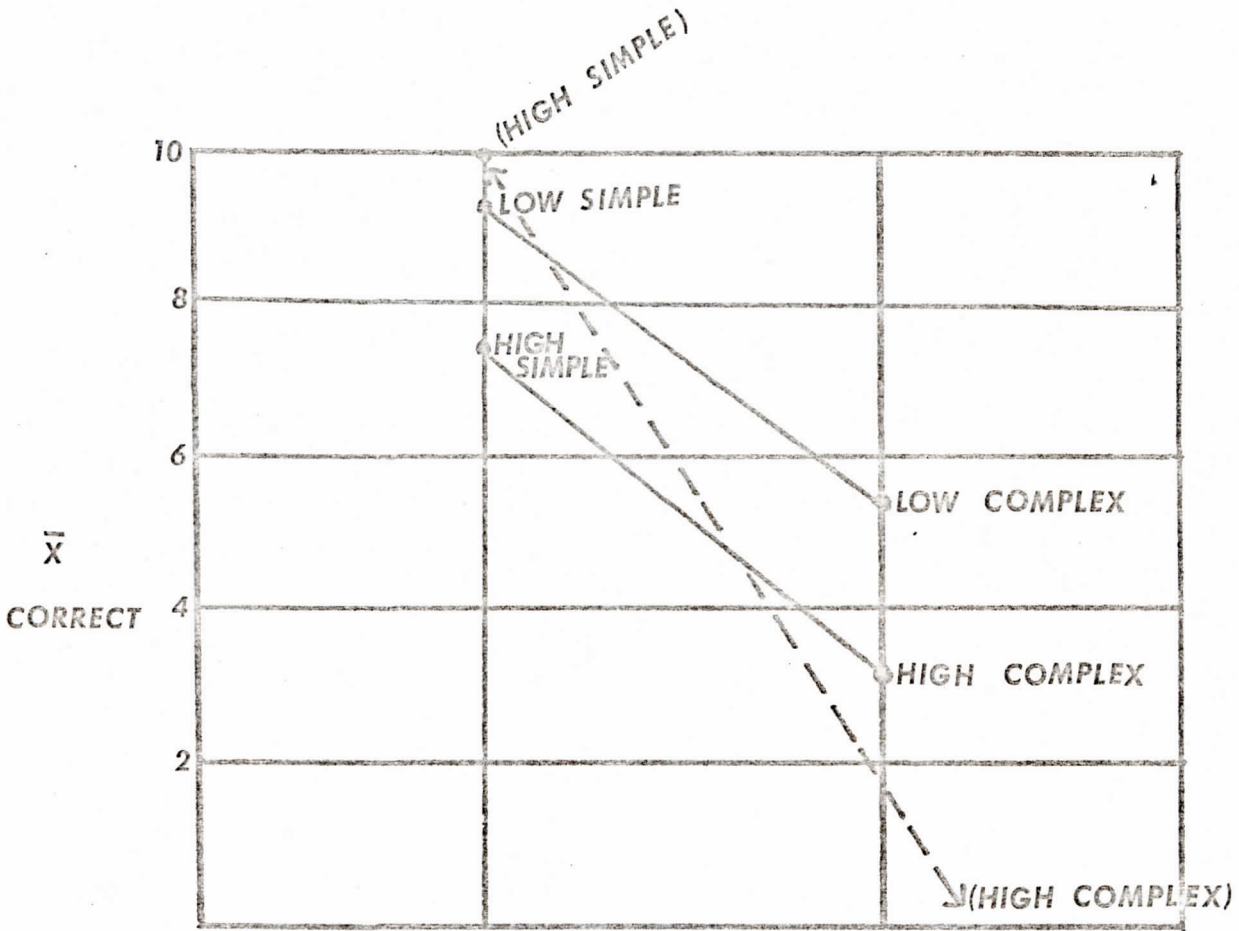|		SS	df	MS	F	P
Complexity	(A)	177.78	1	177.78	84.61	$<.01$
Induced Error Rate	(B)	53.78	1	53.78	25.61	$<.01$
Interaction (AXB)		0	1	0	0	$>.05$
Within Groups		67.33	32	2.10		
	total	198.89	35			

FIGURE II
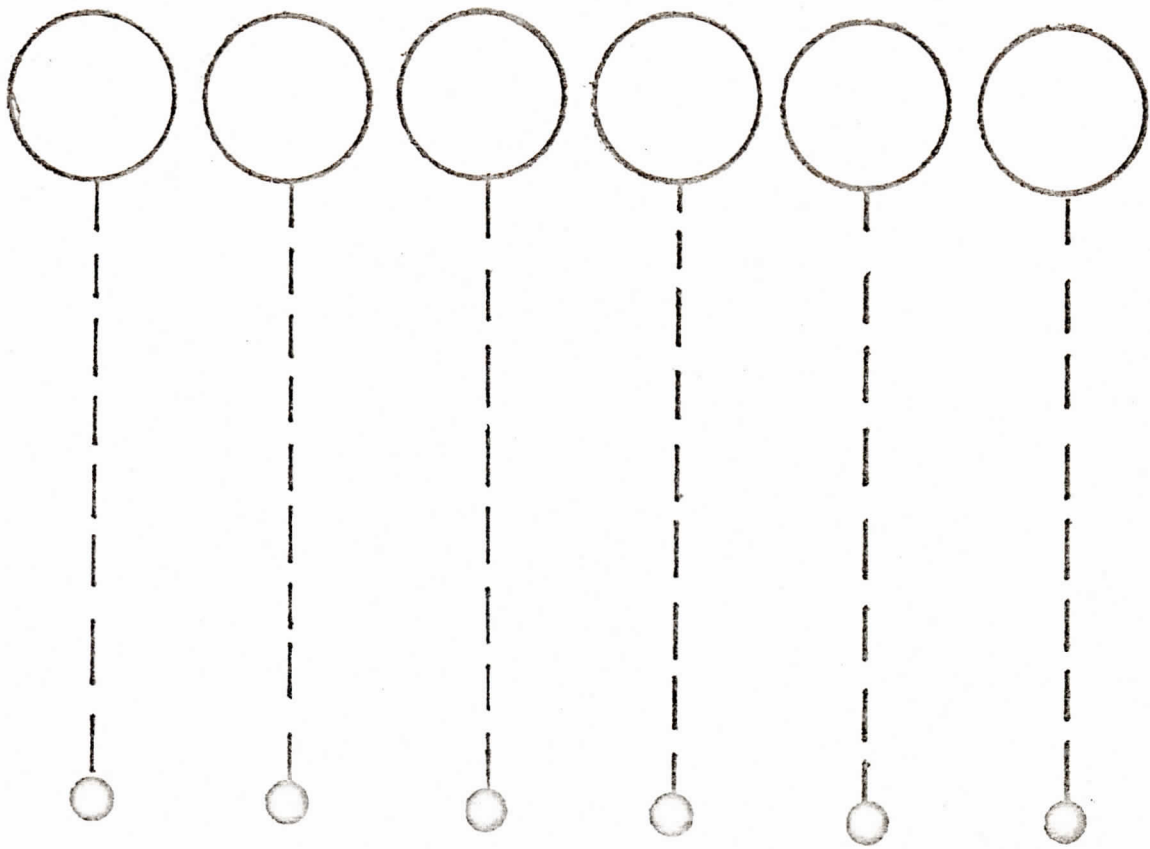
SIMPLE TASK
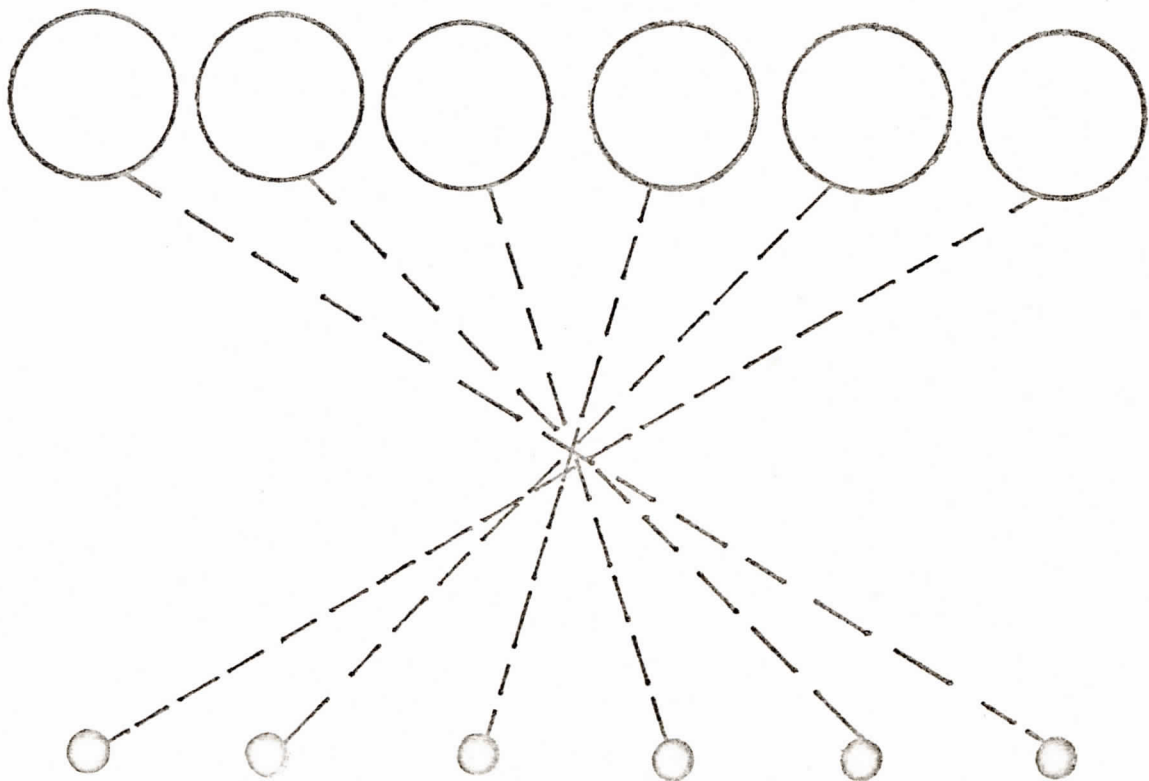
COMPLEX TASK

FIGURE IV

GRAPH OF TREATMENT MEANS
SHOWING DIRECTION OF PROPOSED DATA

EMPIRICAL DATA = _____

PROPOSED DATA = _ _ _ _ _ _ _