THE EFFECTS OF TASK DIFFICULTY AND MAGNITUDE OF REWARD ON MENTAL DEFECTIVES IN LEVEL OF ASPIRATION TESTS

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INTRODUCTION

Significance of the Problem

It has been observed that single factors of personality such as intelligence or social adjustment alone are not sufficient to base predictions concerning the motivation of human beings to perform well in given tasks. It appears that in the mentally retarded, as well as normal individuals, the level of aspiration is a strong determining factor in the realization of potential. This is especially true in reference to training and placement in the community as participating members. Because the potential of the retardate is less than that of the normal individual, it is important that special means be sought for developing this large quantity of human resource material.

Through knowing factors which influence the individual to aspire to higher or level goals, it is expected that an understanding of the individual can be obtained which is sufficient to make accurate predictions concerning his motivation to realize his potential in a task situation.

From an understanding of his level of aspiration in a specific task situation, it is hoped that generalizations may be made concerning his performance in similar situations. Perhaps eventually, positive steps may be formulated which will enable one to learn to aspire to realize his fullest potential.

Purpose of the Study

The purpose of this study is to investigate the effects of task difficulty and magnitude of reinforcement upon the performance of mentally retarded institutionalized individuals in a level of aspiration situation.

Frank (8) defined Level of Aspiration (L.O.A.) as:

> . . . the level of future performance in a familiar task which an individual, knowing his level of past performance in that task, explicitly undertakes to reach. By level of past performance is meant the goodness of the individual's past performance, as he knows it (119).

The following factors are common to all Level of Aspiration experiments:

1. The subject S is given experience with a task.

2. The S makes an expectancy statement concerning his future performance on the task.

3. The S is allowed additional experience with the task.

4. The S makes another expectancy statement concerning his future performance on the task.

Investigation of effects of success and/or failure on the verbalized goals of the S may be carried out by repetition of the procedure.

Steisel and Cohen (28) suggest that in the experimental situation when S is requested to make a verbal statement regarding his anticipated behavior, this statement does not reflect some significant aspect of the motivation system or the true L.O.A.

Gardner (12) suggests that the verbal statement may be an artificial, but objective and quantifiable, indication which S makes regarding his future performance on a given task.

In quantifying L.O.A. data, Frank (7,8,9,10,11) devised the D-score, which expresses the difference between aspiration and actual performance of the S. (D = Aspiration-Performance). The D-scores may range from high positive, in which aspiration is greater than performance, to high negative, in which aspiration is less than performance.

Lewin (19) suggests that the verbal estimates obtained from S may be categorized under the following headings:

1. S's attempting to be as realistic as possible.

2. S's attempting to do as well as he can.

3. S's attempting to avoid failure experience.

Frank (10) suggests that the relation of L.O.A. to the level of past performance depends on the strength of three needs:

1. To keep L.O.A. as high as possible, regardless of past performance (produces high positive discrepancy between L.O.A. and past performance).

2. To make L.O.A. approximate the level of future performance as closely as possible (produces 0 discrepancy between L.O.A. and past performance).

3. To avoid failure (produces high negative discrepancy between L.O.A. and past performance).

Frank (11) found support for his hypothesis that L.O.A. represents, on the one hand, objective estimates of future level of performance on the basis of past levels of performance and, on the other hand, a means of protecting the ego-level when this is involved in the task.

It is possible that the level of aspiration of mentally retarded individuals would differ from that of noninstitutionalized individuals since they have experienced a great deal of failure in intellectual and social situations and because institution life does not offer opportunities to

meet aspirations as does life in a more normal setting. If this observation is correct, then institutionalized individuals might not change their level of aspiration when they meet failure, or, when a reward is offered, to make more realistic appraisals of their ability and to shift their level of aspiration accordingly.

Statement of the Problem

Although there is lack of agreement among personality theorists concerning the number of motives which govern human behavior, all recognize motivation as a determinant of human behavior. Assuming that motivation is reflected in a level of aspiration situation the question may be asked, "what is the relationship which exists between the level of aspiration and various factors which are imposed on the retarded individual?" Chief among these factors are his previous experience with failure, his actual level of performance, and his institutionalization. What effect does reinforcement of performance have upon the level of aspiration?

The problem may be stated as follows: What relationship exists between task difficulty and level of aspiration, between the magnitude of reinforcement and

performance, and between magnitude of reinforcement and level of aspiration?

Hypotheses

For the purposes of this study, it is hypothesized that:

1. Task difficulty will differentially affect performance to a significant degree.

2. Magnitude of reinforcement will differentially affect performance to a significant degree.

3. There will be significant interaction effects among the major treatments.

Review of Literature

Lewin (18), on the basis of his field theory of personality, assumed that an individual becomes differentiated into psychological regions or tension systems which are separated by functional boundaries differing in degree of rigidity. In the mentally retarded individual the boundaries between the psychological regions are less permeable or more rigid than in the normal individual of the same chronological age; therefore, he is less able to discriminate between events than is the normal. In other words, if two events are put in different categories, one event has little

effect on future behavior with respect to the other. This concept of differentiation has been generally accepted although there is little supporting experimental evidence.

Shaw and Bensberg (26) tested the hypothesis that the degree of differentiation is a negative monotonic function of the degree of mental deficiency. They reasoned that the greater the retardation the fewer categories available for classifying experiences.

In Shaw and Bensberg's study institutionalized retardates were used as subjects and were matched for chronological age, years of institutionalization, sex, and socioeconomic level. The S's were divided into four groups on the basis of mental age as measured by the Stanford-Binet Intelligence Test. By using prearranged performance scores, one half of the S's were given success experience and the remaining one half were given failure experience in three different tasks in a L.O.A. situation. The L.O.A. was obtained before each trial.

The hypothesis was supported and it was concluded that the concept of differentiation is adequate to account for the results of the experiment without introducing the concept of rigidity of boundaries. It was reported that there was some evidence that at least part of the results

were opposite from those which would be predicted from the rigidity concept.

Harway (15), having observed rigidity of behavior, attempted to measure it on three L.O.A. tasks using rigid and nonrigid groups. He proceeded on the assumption of Goldstein's concept of secondary rigidity of behavior which holds that an individual manifests behavioral rigidity when he is unable to cope with a task, e.g., the individual, who has a need for adequacy or success or who fears failure greatly, will tend to not "see" or seek alternative methods of problem solving. Results indicated that goal-setting behavior differs significantly between rigid and nonrigid groups in several aspects, and that the rigid group set lower aspiration levels.

Anderson and Brandt (1) in a study using fifth-grade children found that low achievers set more difficult goals for themselves than did higher achievers. They concluded that this was due to the low achievers' awareness of their failures and to their being continually faced with situations in which demands exceeded capacities.

On the basis of the assumption that attitude toward performance is a significant factor in psychological testing, Starkman and Cromwell (27) hypothesized that there

would be a significant relationship between stated evaluation of performance and subsequent practice. Adult mental defectives who had been institutionalized four or more years were used as subjects in a level of aspiration situation which involved a coding task. The hypothesis was not supported. It was suggested that responses (verbalizations) are more responsive to "wish fulfillment" needs than to "attitude toward self" cues.

Child and Whiting (4) found support for evidence of Sears (25) and Gruen (14) that failure is more likely than success to lead to withdrawal in the form of avoidance of setting L.O.A. The study also confirmed, at various levels of significance, the following:

1. Success generally leads to raising L.O.A. and failure to lowering.

2. The stronger the success, the greater the probability of a rise in L.O.A. and the stronger the failure the greater the probability of lowering.

3. Shifts in L.O.A. in part are a function in S's confidence in his ability to attain goals.

In attempting to determine if the behavior in L.O.A. and "judgment" situations follow the same patterns, or if

behavior involved in the L.O.A. is qualitatively and quantitatively different, McGehee (21) used a technique in which the S's were penalized for overbidding. He concluded that behavior involved in erection of, and subsequent relationship to, the level of aspiration was psychologically different from that in the activity of judging. The S's appeared to be more involved in erection of levels of aspiration than in making a judgment, and the difference was interpreted to be a function of the ego-level of the S.

Frank (9) found that judgment tends to remain close to actual performance and suggested that this may be due to a need to keep in touch with reality. The L.O.A. is usually a compromise between the individual's evaluation of his ability and his desire to achieve on a high level, or between judgment and goal. From this observation, he reasoned that the L.O.A. situation is usually a threat to the S's self-esteem in that he exhibits his ability before someone else, but must commit himself as to expectation of future achievement. He attempts to meet threat by performing well and by manipulating his L.O.A. Thus, L.O.A. may be used to protect the ego from effects of failure by being kept resolutely high despite poor performance, or if S experiences a performance below his estimate as a threat

to his self-esteem, he may keep his L.O.A. low to prevent this from arising.

In order to investigate the motives involved in expressing a level of aspiration, Kausler (17) used three groups of subjects performing simple arithmetic tests under varying conditions. The results indicated that expressing an aspiration level served to increase performance level on the subsequent tasks and that there was no correlation between magnitude of aspiration level and magnitude of performance score when differences in task aptitude were eliminated. He suggested the operation of a "set," introduced only by the expressing of an aspiration level, which is then modified by the frame of reference surrounding the expressing of the aspiration level.

In a study of response to motivation conducted with familial mentally deficient children, Hunt and Patterson (16) found that concrete reward of candy did not increase performance on the Goodenough Draw-A-Man Test, but that verbal urging did. When motivation results of verbal urging began to wear down, concrete reward of candy restored motivation.

Cantor and Hottel (3), using institutionalized mental defectives, studied discrimination in learning with magnitude

of reward as incentive motivation. The S's were divided into "low" and "high" I.Q. groups and low or high reward groups. Those with I.Q.'s below fifty were the "low" I.Q. and those with I.Q.'s above fifty were the "high" I.Q. group. It was found that the difference of performance of low and high reward groups was not significant, but that the high I.Q. group exceeded the low I.Q. group in performance with a difference which was significant at the 5 per cent level.

Frank (10) designed a study utilizing two tests of speed and one of motor coordination to test his hypothesis that the set and frame of reference of a S expressing L.O.A. were characteristic of a stable trait of personality and that this would be manifested in many different performances. The results indicated that the ratio between L.O.A. and level of performance remained constant regardless of the test being used.

Sears (25) confirmed the conclusion, i.e., that the specific aspiration level response fits into a more general reaction pattern of the individual. "Aspiration level response forms a part of a cluster of associated personality attributes which may function as a whole in a number

of different situations" and will reflect the needs of the individual.

Gruen (14) observed that maladjusted subjects in reacting to failure tended to compensate and/or fear failure in contrast to greater realism in well-adjusted subjects. A negative discrepancy score was characteristic of maladjusted subjects only.

Sears (25) found a low positive discrepancy reaction only in individuals who feel confident security in their own achievement and who are able to admit failure without too serious damage to self-esteem. Negative discrepancies were found in children who probably feel some insecurity regarding achievement but who show more general self-protection defense reaction in situations of possible failure before others.

Frank (7), investigating the possibility that L.O.A. and random guessing were the same, found that the average L.O.A. deviated more markedly than does random guessing. The D-score between L.O.A. and performance were more widely distributed for men than for women.

Gilinsky (13), in a study using college students, found that the greater the perceived difference in ability between

the individual and the group the further the L.O.A. diverged from the supposed group.

Results of studies conducted by Sumner and Johnson (29) and Walter and Marzolf (30) indicated that goal-discrepancy scores for boys were greater than for girls and that the goal discrepancy score was independent of actual level of achievement or L.O.A. It was concluded that boys feel greater need for achievement and therefore produce greater discrepancy scores.

Investigating Sears' (25) observation that high positive goal-level setting is an effort to secure commendation rather than a realistic goal, Cohen (5) found that responses in L.O.A. tasks fell into twelve patterns which were dependent upon the reaction of the individual to fear of failure.

Bayton's (2) study indicated three levels of aspiration available to the individual: Maximum Level of Aspiration, which represents ultimate ability and can be expressed as Hope; Actual Level of Aspiration, which is the score the subject expects to make on the next trial and which can be expressed as Expectation; and Minimum Level of Aspiration which is the score below which the individual is certain he will not fall and can be expressed as Minimum Goal. The

results supported the view that in an ego-involved task, influences expressed in the L.O.A. continue to be operative upon the performance following the statement of the aspiration.

Further study by Preston and Bayton (22) regarding the several types of aspiration, e.g., hope, expectancies, minimum goals, et cetera, have provided evidence that these types of aspiration are more or less independent.

Proceeding on Lewin's (20) assumption that "wish" represents unreality and "expect" represents reality, Festinger (6) found that the amount of change in the D-score for L.O.A. and level of performance for the "wish" group was greater, and that the amount of change after comparing their own performance with other groups was greater than was that for the "expect" group.

Frank (10) concluded that the size of the difference between L.O.A. and median level of past performance was due to involvement of ego-level of the individual in the task as is shown by self-competition or social pressure and assumed that this (1) either strengthened the need to avoid failure, or more usually, (2) strengthened the need to keep the L.O.A. high.

Rotter (23, 24), who refined the L.O.A. technique and delineated the task requirements, pointed out the need to consider the pattern of responses given by an individual rather than the D-score or any other one score alone. He concluded that the test demonstrates the degree of feelings of inferiority or inadequacy of the individual and the nature of defenses or compensations with which he attempts to meet the feelings of inadequacy.

Literature concerning the Level of Aspiration is inconclusive but it appears that the following general statements may be made concerning it.

1. The L.O.A. will vary more if the individual is primarily motivated to avoid failure than if to achieve success.

2. Successful experiences produce a rise in L.O.A. and failure experiences produce lowered L.O.A.

3. Maladjusted individuals react more extremely to either success or failure than do normals.

4. L.O.A. is higher when the individual is competing with equals than if with a superior group.

5. L.O.A. will vary according to the goals the individual is seeking.

From observation of an individual in a L.O.A. situation it would be expected that some information could be obtained concerning his optimism or pessimism toward a given type of endeavor, the value he places on certain goals, his reaction to fear of failure, his ego development and his sense of adequacy.

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CHAPTER II

METHODS AND MEASUREMENTS

Subjects

The subjects under investigation in this study were twenty mentally retarded males and eight mentally retarded females whose mental ages ranged from six years, six months to twelve years, seven months as measured by the Stanford-Binet or the Wechsler Scale. The mean mental age for the group was eight years, eight months. Length of institutionalization for the group ranged from eleven months to four years, nine months with a mean length of institutionalization of two years, five and one-half months. All were institutionalized in a school for retardates. No individual with obvious motor impairment was used in the study.

Procedure

For the purposes of this study, the subjects were divided into four groups on the basis of mental age and length of institutionalization. The mean mental age for Group I was eight years, eight months, and the mean length of institutionalization was two years, five months. For

Group II the mean mental age was eight years, nine months and mean length of institutionalization was two years,four months. For Group III the mean mental age was eight years, seven months and mean length of institutionalization was two years, five months. For Group IV the mean mental age was eight years, ten months and mean length of institutionalization was two years, four months. This information together with the task difficulty and magnitude of reward for the four experimental groups is shown in Table I.

TABLE I

EXPERIMENTAL GROUPS

Group	Mental Age	Length of Institutionalization	Task Difficulty*	Magnitude of Reward**
I	8-8	2-5	D_1	R_o
II	8-9	2-4	D_1	R_1
III	8-7	2-5	D_2	R_1
IV	8-10	2-4	D_2	R_2

*D_1 = 5 feet; D_2 = 6 feet.
**R_1 = no reward; R_2 = 1¢ reward.

Group I was assigned to first degree task difficulty, no reward (D_1 R_o); Group II to first degree task difficulty and reward (D_1 R_1); Group III was assigned to second degree

task difficulty, no reward (D_2 R_o); and Group IV to second degree of task difficulty and reward (D_2 R_1).

Experimental Design

The general plan of the research was to obtain measures or criterion scores from the level of aspiration task: expectation, hope, reward. The main experimental conditions for performances and aspiration were: Trials x condition x reinforcement.

The independent variables (task difficulty and magnitude of reinforcement) were varied into all possible combinations, resulting in four experimental treatment groups. Each group of seven subjects performed for five practice trials and fifteen experimental trials. Figure 1 on the following page schematically depicts the experimental design.

This study utilized the factorial arrangement of treatments and was amenable to 2 x 2 x 2 trial of analysis of variance. For significant f ratios Duncan's multiple range test was used to determine which particular treatment or treatments were significant.

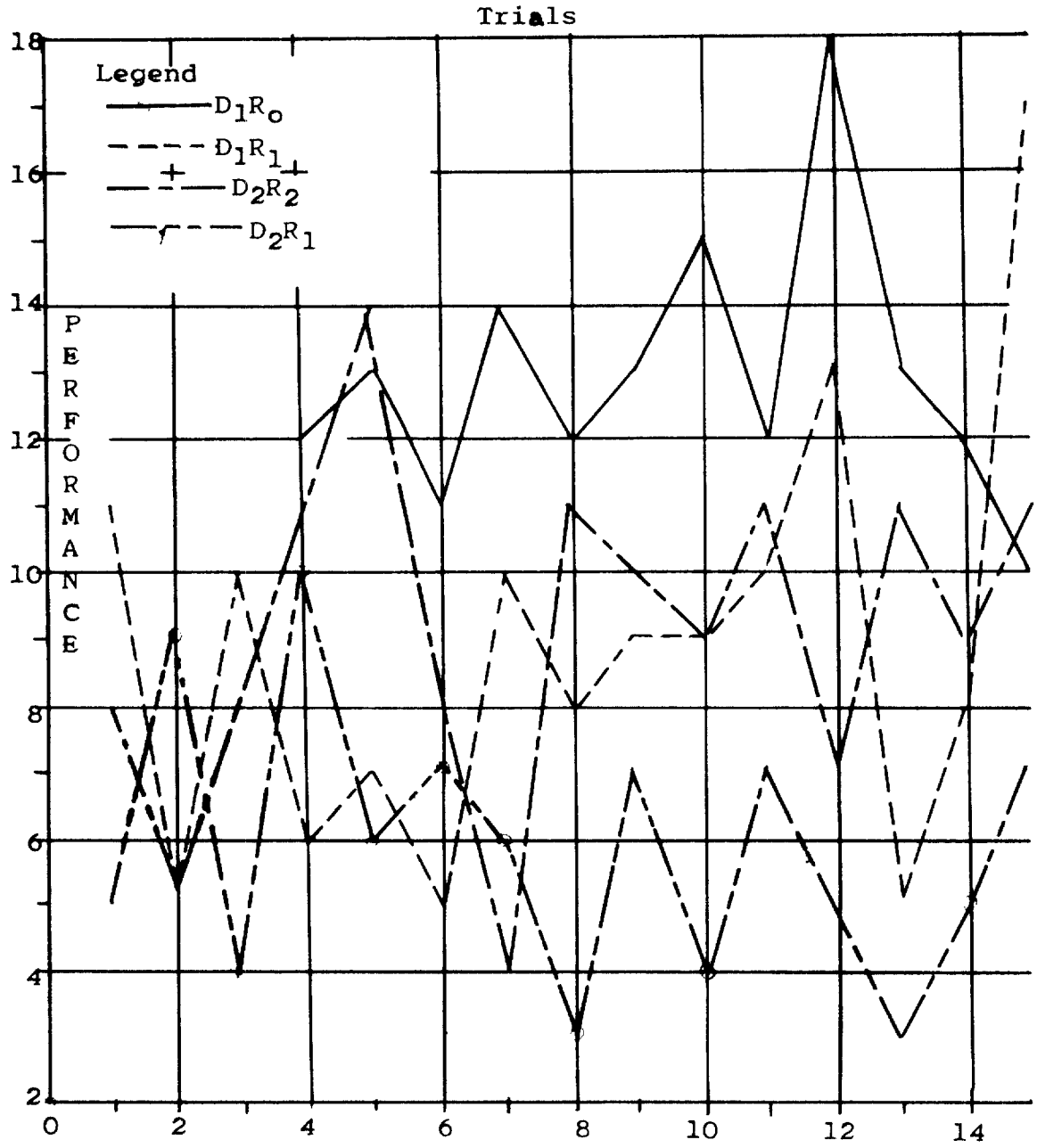

Fig. 1--Practice performance scores.

Apparatus

A two-inch by six-inch board, which was three feet long, was used as a base for a post which was three eights of an inch in diameter and six inches long. The post was placed in one-inch insets which were drilled at different distances on the board to allow a change of distance for the subjects. Five plastic hoops, nine inches in diameter were used for tossing. The board was placed on a table which was twenty-nine inches from the floor, with a distance of five feet from the subject to the nearest goal and six feet to the most distant goal.

Instructions

The examiner told each subject, "I want to see how many of these rings you can throw on the post. Stand here" (examiner pointed to the line on the floor, five feet from the nearest goal and six feet from the most distant goal), "and throw them any way you want to but see how many you can get on there" (pointing to post). "Try these five." The subject was given five practice trials of five tosses each. After each trial the examiner said, "Now let's try it again."

After the five practice trials, the examiner handed the rings to the subject and said, "How many of these five rings do you want to get on the post?" The answer was recorded. Then the examiner asked, "How many of these five rings do you think you can get on the post?" The answer was recorded. This procedure was followed before each of the fifteen experimental trials of five tosses each.

For the reward group the same instructions were given for the practice trials. Then the examiner said, "For every ring you get on the post I'll give you a penny." Then he asked, "How many of these five rings do you want to get on the post?" The answer was recorded. Then he asked, "How many of these five rings do you think you can get on the post?" The answer was recorded.

CHAPTER III

RESULTS

Practice Trials

In all level of aspiration experiments the subject is first given experience with the task. In this study the subjects were given practice trials which also were used as a means of determining if the groups were equated.

The analysis of variance of the performance scores on the practice trials, shown in Table II, demonstrates that the subjects at each level of difficulty were equated.

TABLE II

ANALYSIS OF VARIANCE ON PERFORMANCE SCORE ON PRACTICE TRIALS

Source	DF	Mean Square	F
Between	27		
Difficulty	1	20.816	5.914
Reinforcement	1	.257	<1.000
Difficulty x reinforcement	1	.270	<1.000
Error (between)	21	1.308	
Within	108		
Trials	4	3.189	4.344
Trial x difficulty	4	.636	<1.000
Trial x reinforcement	4	.348	<1.000
Trial x reinforcement x difficulty	4	.556	<1.000
Error (within)	92	.734	
Total	139		

It was found that the performance of the subjects at both levels of difficulty improved with practice, indicating that some learning was taking place. The difference between trials was significant at the .01 level.

A significant difference at the .01 level was found in the performances of the groups at the two levels of difficulty. The subjects who performed the task at the lowest level of difficulty (D_1) did better than the subjects who performed the task at the higher level of difficulty (D_2), indicating that one task actually was more difficult than the other.

Experimental Trials

Hypothesis one stated that task difficulty will affect performance. Figure 2 on the following page schematically depicts experimental performance at the two levels of difficulty.

The analysis of variance of performance scores on the experimental trials indicates a significant difference at the .01 level between the groups for the two levels of difficulty. The hypothesis was supported.

No support was found for hypothesis two--that magnitude of reward will affect performance. The analysis of

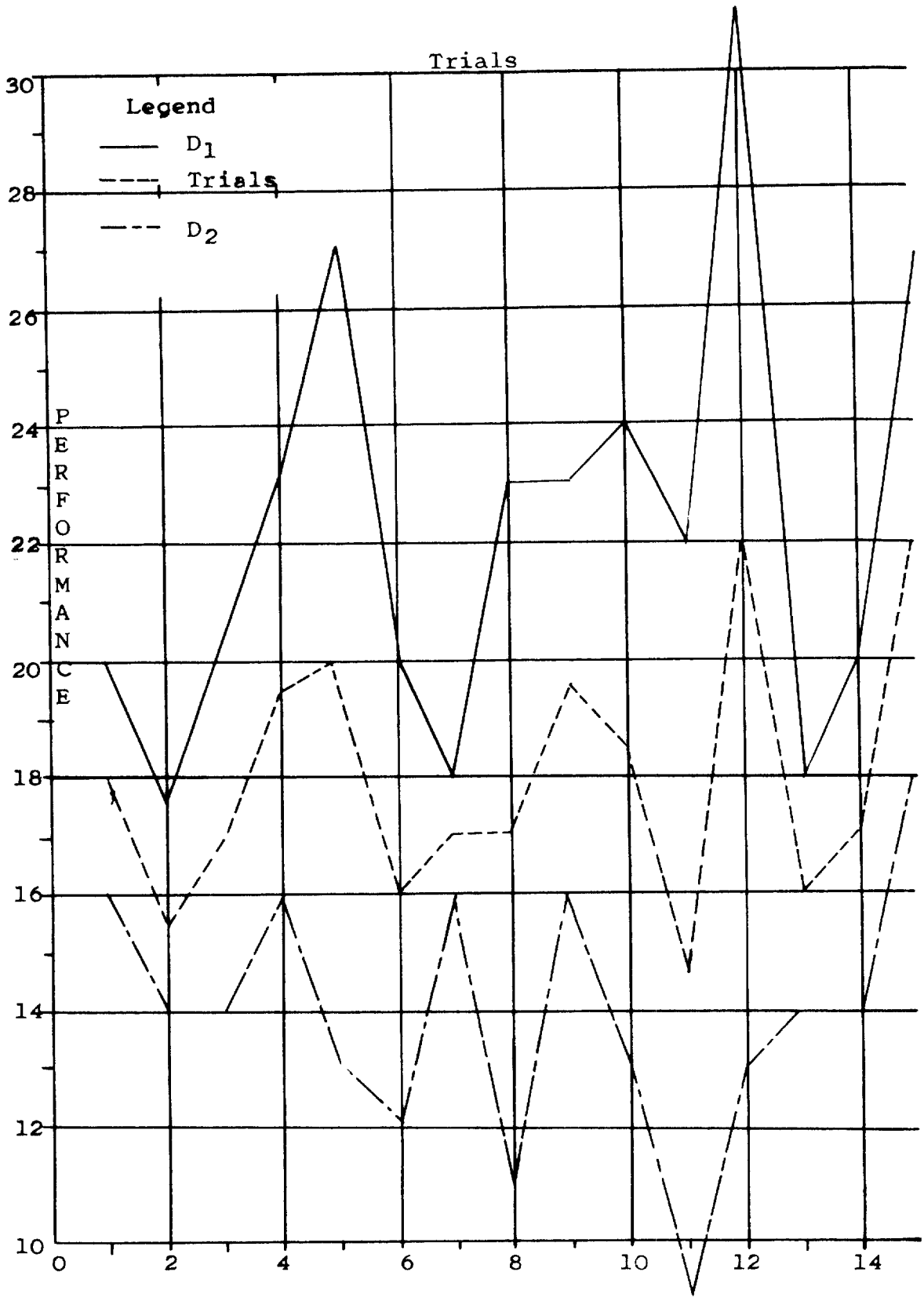

Fig. 2--Experimental performance at two levels of difficulty.

variance as shown in Table III indicates that the only significant difference is for task difficulty. The reinforcement did not affect the performance.

TABLE III

ANALYSIS OF VARIANCE ON PERFORMANCE SCORES ON EXPERIMENTAL TRIALS

Source	DF	Mean Square	F
Between	27		
Difficulty	1	31.490	6.440
Reinforcement	1	.120	<1.000
Difficulty x Reinforcement	1	19.720	4.003
Error (between)	24	4.889	
Within	378		
Trial	14	.665	<1.000
Trial x difficulty	14	.712	<1.000
Trial x reinforcement	14	.902	1.029
Trial x difficulty x Reinforcement	14	1.205	1.375
Error (within)	336	.876	
Total	419		

No significant difference was found between the performance of subjects in the no-reward (R_0) group and the reward (R_1) group. Figure 3, page 32, schematically depicts experimental performance of the reward group and the no-reward group.

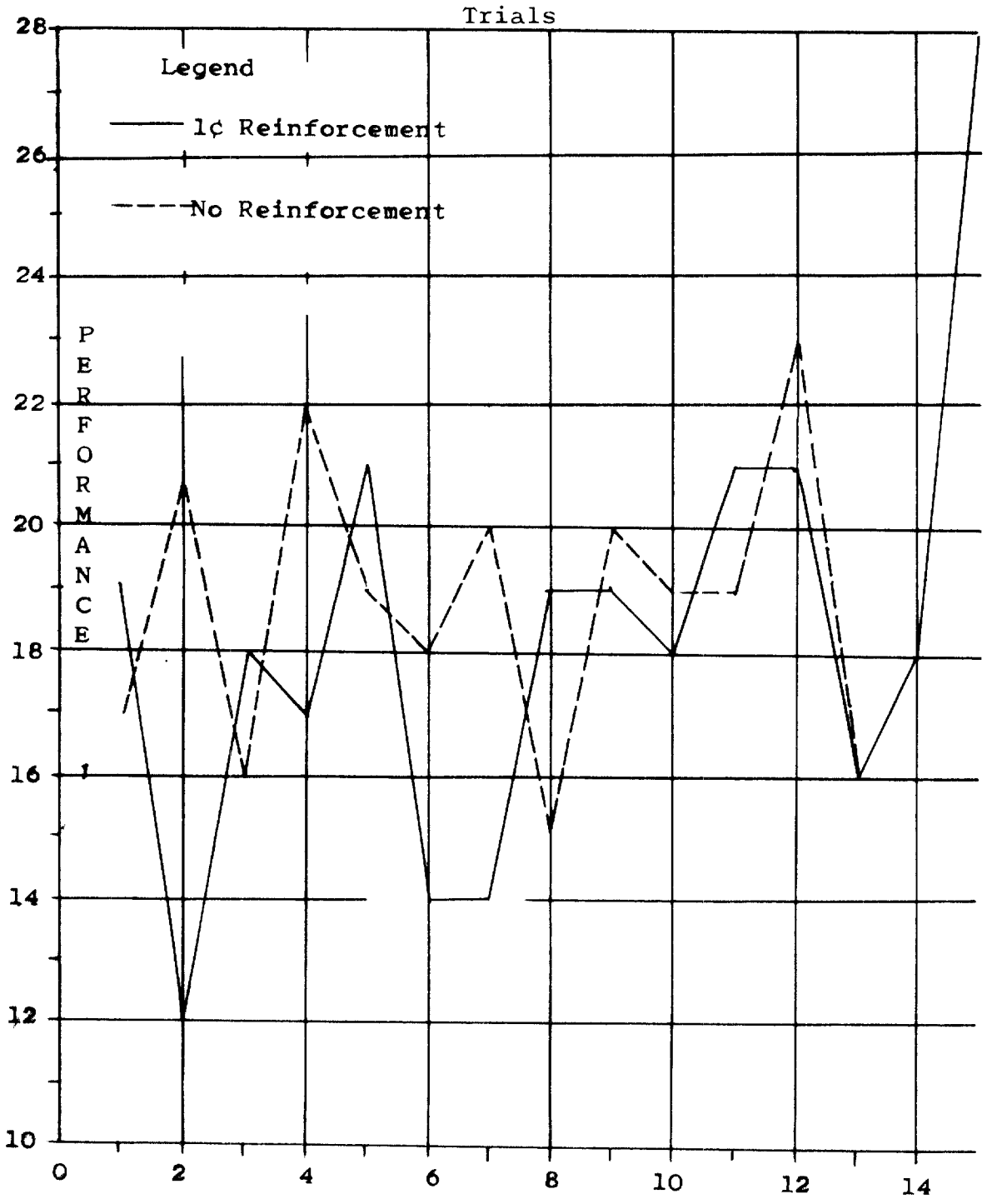

Fig. 3-- Experimental Performance of the two levels of reinforcement.

Hope Scores

Since success was less frequent and the task more difficult for the subjects in the (D_2) group, it might be expected that the hopes of these subjects would not be as high as were the hopes of subjects working at the less difficult task (D_1), but this was not the case. Table IV presents the analysis of variance of the mean "hope" scores.

TABLE IV

ANALYSIS OF VARIANCE OF MEAN HOPE SCORES

Source	DF	Mean Square	F
Difficulty	1	75.57	<1.000
Reinforcement	1	206.28	<1.000
Difficulty x reinforcement	1	357.15	<1.000
Error	24	389.53	
Total	27		

No significant difference was found in the expressed hope for the different levels of task difficulty or for reward. It is suggested that this finding lends support to Lewin's assumption that "wish," which was expressed in this study as "hope," represents unreality.

Expectancy Scores

One might anticipate that subjects working at a more difficult task would expect less success than would those working at the less difficult task. However, this was not the case. The analysis of variance of the mean expectancy scores, as shown in Table V, indicates no significant

TABLE V

ANALYSIS OF VARIANCE OF MEAN EXPECTANCY SCORES

Source	DF	Mean Square	F
Difficulty	1	75.57	<1.000
Reinforcement	1	146.28	<1.000
Difficulty x reinforcement	1	371.58	1.037
Error	24	358.16	
Total	27		

difference in the expressed expectancy for the different levels of task difficulty or levels of reward. It is suggested that this finding is in agreement with Frank's reasoning that the level of aspiration is used to protect the ego from effects of failure by being kept high despite poor performance or being kept low to prevent a threat to his self-esteem if he experiences a performance below his estimate.

Hope-Performance Discrepancy Scores

The discrepancy (D) score is the difference between the aspiration and actual performance. Attainment discrepancy (A.D.) is the difference between hope on trial x and performance on trial x-1 (the preceding trial). Hope-performance mean A.D. scores for each subject are shown in Table VI.

TABLE VI

HOPE-PERFORMANCE MEAN A.D. SCORES FOR EACH SUBJECT

Source	DF	Sum of Squares	Mean Square	F
Difficulty	1	1.992	1.992	1.337
Reinforcement	1	.777	.777	<1.000
Difficulty x reinforcement	1	2.766	2.766	1.857
Error	24	35.741	1.489	
Total	27	41.276		

$D_1 R_o$	$D_1 R_1$	$D_2 R_o$	$D_2 R_1$
.866	4.266	1.400	.600
.666	1.666	1.200	3.466
1.200	1.666	4.733	1.333
1.200	1.200	2.733	1.266
.733	3.466	.733	1.666
.800	1.600	3.933	2.600
3.333	1.666	2.200	3.933
8.798	15.530	16.932	14.864
Mean 24.328		31.796	

ΣR_o = 25.730 G.T. = 56.124

ΣR_1 = 30.394 C.F. = 112.496

One might expect the subjects in D_2 and R_1 groups, when asked to state "hope" for the next performance while knowing the level of their previous performance, to shift their level of aspiration and more nearly equate "hope" with their last performance. A study of A.D. scores shown in Table VII indicates that this did not occur. No significant difference

TABLE VII

HOPE-PERFORMANCE A.D. SCORES

Source	DF	Mean Square	F
Difficulty	1	1.992	1.337
Reinforcement	1	.777	<1.000
Difficulty x reinforcement	1	2.766	1.857
Error	24	1.489	
Total	27		

was found between the groups. The differences between hope and performance were not influenced by task difficulty or level of reinforcement. This suggests the operation of a set and offers support for Frank's hypothesis that the set and frame of reference of a subject expressing L.O.A. were characteristics of a stable personality trait.

Expectancy-Performance Scores

As indicated previously the "expectancy" of the subjects remained essentially the same regardless of the difficulty of the task or magnitude of reward. The expectancy-performance mean A.D. scores for each subject are shown in Table VIII. The analysis of the A.D. scores

TABLE VIII

EXPECTANCY-PERFORMANCE MEAN A.D. SCORES FOR EACH SUBJECT

Source	DF	Sum of Squares	Mean Square	F
Difficulty	1	.031	0.031	<1.000
Reinforcement	1	.336	0.336	<1.000
Difficulty x reinforcement	1	2.851	2.851	2.412
Error	24	28.376	1.187	
Total	27	31.594		

$D_1 R_o$	$D_1 R_1$	$D_2 R_o$	$D_2 R_1$
.733	3.800	1.066	1.466
.533	1.400	1.333	3.466
1.733	1.733	4.733	.533
.733	1.666	2.666	1.200
1.400	3.600	1.000	.733
1.200	1.400	1.000	2.600
2.666	1.400	2.133	1.000
8.998	14.999	13.921	10.998
23.997		24.929	

ΣR_o = 22.929
ΣR_1 = 25.997

G.T. = 48.926
C.F. = 85.491

as shown in Table IX below indicates that the differences between expectancy and performance are not affected by task difficulty or level of reinforcement.

TABLE IX

EXPECTANCY-PERFORMANCE A.D. SCORES

Source	DF	Mean Square	F
Difficulty	1	0.031	<1.000
Reinforcement	1	0.336	<1.000
Difficulty x reinforcement	1	2.851	2.412
Error	24	1.182	
Total	27		

Again this may be attributed to the operation of a set, as mentioned for the Hope-Performance results, or more likely it may be an indication that the subjects were failing to make realistic appraisals of their ability and failing to adjust their expectations accordingly.

Hope-Expectancy Scores

Since the analysis of variance of the "hope" and "expect" scores indicated no significant differences between the hope and the expectancy expressed by subjects confronted with different task difficulties and levels of

reinforcement, the question arises: Is the "hope" and "expectancy" expressed by the subjects the same thing? It was hypothesized that "hope" and "expectancy" were independent. The *t* test was employed to determine if there was a significant difference between the means of the "hope" and "expectancy" scores.

Results of the *t* test indicated that the observed value of *t* at the 1 per cent level of significance was greater than the tabled value of *t*; therefore, "hope" and "expectancy" were independent. The hypothesis was supported.

CHAPTER IV

DISCUSSION OF RESULTS

It is evident from the results that neither magnitude of reward nor task difficulty affected the stated hope or expectancy of success of mentally retarded individuals in a level of aspiration situation. Since no empirical data exist with which to compare these results, an attempt shall be made to explain these findings in terms of Rotter's social learning theory.

Rotter states that his theory is concerned with "how the individual selects from acquired behaviors the ones he will use in defined situations of learned or acquired meaning (1, p. 81)." He continues by stating that new experiences are a partial function of acquired meanings and that acquired meanings or learnings are changed by experience. In this way personality becomes increasingly stable as one becomes older, since the individual tends to select new experiences and meanings on the basis of a continually increasing store of experiences.

In the case of the mentally retarded individual who has been institutionalized, his experiences have not continued to

broaden but rather have tended to become more narrow. He has been bound by rules and regulations which are necessary in the institutional situation. He has been deprived of making decisions, and thus learning from this decision-making, on a level which might be expected of a normal child of comparable mental age. He does not decide if it is a good time to ask if he may go swimming or if he may have an ice cream cone since these activities are scheduled and regulated for him without any participation on his part. As a result he has developed a rigidity of personality due to lack of new experiences.

This is reflected in the present study in which the subjects failed to make changes in their stated expectations, which would have been more in keeping with their abilities, in response to a reward.

There is some evidence that the stated expectancies are an indication of ego-involvement rather than a true statement of internally held expectancies.

Rotter states:

> The behavior of stating goals in the peculiar social situation of the testing room involves other variables and potential reinforcements so that sometimes the verbal statements are far from accurate descriptions of internally held expectancies representing instead what might be called defenses to avoid failure (1, p. 324).

In other words, "the subject is concerned not merely with predicting some event accurately but with behaving in such a way as to provide himself with a maximum satisfaction" (1, p. 212).

In this study, after performance of the task, some of the subjects were questioned regarding their expressed "hope" and "expectancy." It was found that they had hoped to obtain the highest possible score each time but had failed to express this verbally when asked in the experimental situation. This finding suggests that previous learning experiences, at least for some of the subjects, has taught them that failure to achieve as much as they would like to achieve is not so painful if the desire has not been verbalized. The lack of true verbalization of the level of aspiration in this case is interpreted as the functioning of an ego-protective mechanism.

It appears that the mentally retarded, institutionalized individual does not react to reward or difficulty of task in the manner which might be expected because of previous learning experiences. His experiences have been limited and regulated for him, and he has had no experience in adjusting his aspirations realistically to his ability.

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CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Twenty-eight mentally retarded subjects were studied in a level of aspiration situation in which they performed a task at two levels of difficulty and at two levels of reinforcement.

The factorial arrangement of treatments was used. The independent variables, task difficulty and level of reward were varied into all possible combinations, resulting in four experimental treatment groups.

It was found that only task difficulty affected performance and that neither task difficulty nor level of reinforcement affected the level of aspiration of the subject.

Since research on the level of aspiration of retardates is extremely limited, the findings of this particular study cannot be discussed in terms of findings of comparable studies.

Conclusions

From the foregoing discussion based on the results of an evaluation of data on mentally retarded subjects the following conclusions are presented:

1. Prior performance does not affect the aspiration of mental defectives.

2. Reinforcement does not affect the aspiration of mental defectives.

3. Difficulty of task does not affect the aspiration of mental defectives.

4. The aspiration of mental defectives is independent of environmental events.

5. Mental defectives do not change their aspirations realistically in relation to ability or past experience.

Recommendations

An analysis of the data presented in this study warrants the recommendation that research be continued using the level of aspiration situation and the following:

1. Retardates of the same mental age,as those in the present study, in a non-institutional setting.

2. Normals of the same mental age in an institutional setting.

3. Normals of the same mental age in a non-institutional setting.

Such studies should be aimed toward determining if the behavior of retardates in a level of aspiration situation as reported is typical of retardates in general, retardates who are institutionalized, any individual who is institutionalized, or any individual of comparable mental age.

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