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THE EFFECT OF PERFORMANCE EXPECTANCY  
ON SUBSEQUENT PERFORMANCE

By

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## ABSTRACT

The purpose of this study was to test the hypothesis advanced by Aronson and Carlsmith (1962), that individuals with a low performance expectancy would rather fail at a task than succeed and disconfirm their low expectancy. Other experimenters who tried to test this hypothesis came up with contradictory findings. This was attributed by the writer to certain flaws in the procedure. The present study aimed at improving the procedure as well as at testing further hypotheses. The hypotheses were:

1. To avoid dissonance, subjects with low performance expectancy would upon performing well, try to change their performance if given the chance to repeat the task.

2. The dissonance experienced by the low expectancy subjects upon receiving high performance scores, would be an increasing function of the size of the discrepancy between the subjects' expectancy levels and their final performance.

3. The strength of a low expectancy would be an increasing function of the number of failures experienced by the subject.

120 undergraduate Arab females at the American University of Beirut were presented with a task in which they were asked to make judgements which were evaluated by the experimenter. After each trial which consisted of 20 judgements, the subject was given a predetermined score which, she was told, was the

number of correct choices she had made out of 20. These scores were supposed to develop a certain level of low expectancy in the subject. The dependent variable was the number of changes the subject made on the repeat trial, upon receiving a consistent or inconsistent score. A control group for memory was set up to check if the changes were due to a faulty memory or a desire to change.

The results did not confirm the hypotheses. Subjects behaved in a manner that confirmed an achievement motivation hypothesis rather than the Aronson and Carlsmith confirmation of expectancy hypothesis.

## INTRODUCTION

This study is an attempt to investigate further what Aronson and Carlsmith (1962) called the 'confirmation of expectancy' motivation, which they claimed, explains the behavior of individuals who would rather fail at a task to confirm their expectancy of failure than pass and disconfirm it. At first glance such a motive, if it exists, cannot be readily appreciated by a healthy normal reader who has been brought up to value high achievement. For him it simply goes contrary to common sense.

However if one relates this motive to the self concept, the confirmation of expectancy motive explanation of behavior may be appreciated and in fact it may be unique in being able to explain certain kinds of behavior which do not lend themselves to an achievement motive explanation. A person with high n achievement may nevertheless have negative attitudes about himself, his abilities or surroundings, and thus may experience satisfaction upon getting a poor result or an unpleasant happening to him. Such things may be a disappointment to others with high n achievement and positive self concepts. In fact one may argue that if there is evidence for a confirmation of expectancy motivation, this concept may be able to explain achievement motivated behavior as an endeavor to confirm positive attitudes toward self.

As McGuire emphasized in his review of the subject (1966), "the fundamental Aronson idea is an ingenious and

not completely implausible one. Perhaps further research is justified to map out an empirical realm to which it may be valid." (7, 499)

What gave impetus to this study is an interest in the phenomenon, and dissatisfaction with the methods that have been so far employed in its investigation. In the first chapter, the literature on the subject is reviewed, and the experimental designs employed in investigating the phenomenon are evaluated, and finally a brief statement is made of how the present study differs from the others in design, and the rationale underlying it.



## CHAPTER I

### REVIEW OF THE LITERATURE

Festinger (1957) and Festinger and Aronson (1960) have suggested that individuals have a need for cognitive consistency. A person may have two cognitions which are psychologically inconsistent. He thus experiences discomfort and attempts to reduce the dissonance by making the inconsistent cognitions as consistent with each other as possible by changing either one or both of them. (Aronson, 1962).

Cognition could be about anything in the surroundings of the person, his behavior and himself. Often cognitive dissonance involves cognition about the self (Festinger, 1957).

Prior to the work of Aronson and Carlsmith (1962), experimenters had tested dissonance theory making the implicit assumption that people have positive attitudes towards themselves, their abilities and behavior. Would people with negative self concepts experience dissonance when they are not successful at something, or when they perform poorly on a given task? If they do, how will they reduce the resulting dissonance?

To answer these questions, Aronson and Carlsmith (1962) designed an experiment where they tried to manipulate the subjects' expectancies concerning their abilities on a given task and their actual performance so that it was either consistent or inconsistent with their performance expectancies, and to obtain a measure of dissonance where dissonance was expected to occur.

The subjects were paid female undergraduates at Harvard. They were told that the aim of the research was to find paper-and-pencil tests of personality which would predict the results of interviews. The subjects were to be interviewed after the test. Actually there were no interviews and only two personality tests: a warm-up self-rating scale, and the task of interest, which was introduced as a "social sensitivity test" that was highly reliable and valid. The subjects were told that it was a good measure of an individual's sensitivity to others, their understanding and insight.

The task was to pick out the schizophrenic person from among three whose facial photographs were presented on a card. (Photographs were taken from an old Harvard yearbook, and none of those students were schizophrenic as far as the experimenters knew.) There were 100 such cards, 20 on each trial. After each trial the subject was given a predetermined score which was supposedly the number of correct choices the subject had made out of twenty. For each subject the first four scores were designed to induce either consistently high or consistently low score expectancies. The fifth score reported to the subject was intended either to confirm or to disconfirm expectancies. After the fifth trial the experimenter pretended that he had forgotten to time the subject on that trial, so the subject was asked to take it again. The investigators used this ruse to obtain a measure of dissonance. They argued that if the subject was dissatisfied with her inconsistent performance on the fifth trial, she would tend to change her performance

on the second take of the fifth trial in such a way as to make it more consistent with her expectancy. Thus if a low score was reported to a high expectancy subject, the only way to achieve consistency was to change as many of her earlier responses as possible. The same would hold for a low expectancy subject to whom was reported a high performance score. However the former are expected to change more than the latter because an achievement as well as a consistency motivation would be operating in the same direction. It then follows that subjects who were satisfied with their performance on the fifth trial (i.e., those whose performance was consistent with their expectancy) would make no or few changes on the second take of the fifth trial to preserve consistency.

So the dependent variable in the study was the number of changes the subject makes on the second take of the fifth trial, the more changes she makes, the more dissatisfied she is with the inconsistent score she is given. Thus the number of changes was taken as a measure of dissonance reduction.

The results clearly supported the Aronson and Carlsmith hypothesis. The finding which stirred up a great deal of interest was that concerning low expectancy high performance subjects. The change score of this group significantly exceeded that of low expectancy low performance subjects. It suggests that these subjects with a low performance expectancy deliberately worsened their performance to confirm their low expectancies.

The authors state that these results not only confirm a dissonance reduction or confirmation of expectancy theory, but also support assumptions contained in several other theories: Lecky's theory of self consistency (1945), Tolman's notion of the unpleasantness of disconfirmed expectancies (1959), Kelly's assumption in his theory of personal constructs that predictable behavior is desirable (1955), and others (Aronson, 1962).

The question is if this phenomenon is genuine, why have not other experimenters, excepting one (Brock, 1965), been able to find similar results in their replications of the study?

The earliest replication was that of Ward and Sandvold (1963) who argued that the Aronson and Carlsmith findings were an artifact of the experimental situation itself. (In particular they suggested that subjects may have responded consistently to the test in order to please the experimenter who had earlier described the test as highly accurate and valid). Moreover the subjects were paid recruits. Ward and Sandvold attempted to examine their hypothesis by inducing low (rather than high) test validity among subjects. Their data suggested a general desire of the subjects to do well on the test, and failed to confirm the Aronson and Carlsmith dissonance reduction finding.

Analysing the experimental procedure of these investigators, it was found that besides inducing low test validity (instead of high), they had altered the instructions to the subjects in such a way that made the subjects feel that their classmates

would learn their scores. (Subjects were told that participation in the research would form the basis for future class discussion of psychological testing). This may have led the subjects to think that comparison and discussion of their individual performances may come about, and thus they were motivated to do well. (Cotrell, 1965)

Was Ward and Sandvold's study enough to render the Aronson and Carlsmith study invalid due to demand-characteristics bias (e.g. declaring the test as highly valid), in spite of procedural differences in the Ward study not exactly relevant to the demand - characteristics interpretation (e.g. indirectly motivating the subject to do well)?

Silverman and Marcantonio (1965) held that, to test for the effect of such bias, it should be demonstrated that consistency-seeking behavior is obtained with reliability and validity emphasis included, and success-seeking behavior is obtained with this emphasis removed. Their data suggested that the reliability-validity emphasis increased success-seeking behavior at the expense of consistency-seeking behavior, a finding which is congruent neither with Ward and Sandvold's (1963) nor with Aronson and Carlsmith's (1962) findings. How then can one account for the fact that Aronson and Carlsmith observed consistency-seeking behavior with the reliability-validity statement included, while Ward and Sandvold obtained success-seeking behavior with this statement absent?

Silverman and Marcantonio suggested that there were differences among the above mentioned studies which may have

affected the relative strengths of the two opposing motives, and which may have outweighed the factor of reliability-validity emphasis. They suggested differences among the subjects used in each study, Ward's nurses being more concerned with their level of social sensitivity than the randomly selected under-graduates of Aronson and Carlsmith, the former being recruited from a psychology course which may have further urged them to demonstrate high sensitivity. Silverman and Marcantonio's subjects were neither nursing students nor paid. All this, Silverman and Marcantonio suggested, could have contributed to make the consistency motive and the success motive more equivalent, thus making the effect of the reliability-validity statement more apparent in their study.

The second main difference between the Aronson and Carlsmith study and that of Ward and Sandvold concerning the subject's expecting or not expecting that others would know her scores was investigated in an experiment by Cottrell (1965). His experiment was similar to that of Aronson and Carlsmith except that he divided the subjects further into two conditions: "public" where the subjects were led to expect that their scores on the test would be revealed to their classmates (by means of special instructions), and "private" where they were led to expect that their scores would be kept confidential (again by special instructions). His data showed that these conditions did not overcome dissonance reduction effects. However the dissonance-reduction effect of his study were not as pronounced as those obtained by Aronson and Carlsmith. His results merely indicated that low expectancy high performance subjects

make significantly more changes than the high expectancy high performance subjects, but they do not differ from the low expectancy low performance subjects, a deficit which prevents one from considering his study substantial evidence for the Aronson and Carlsmith's claim.

Moreover there were some procedural differences between the Cottrell and the Aronson and Carlsmith studies besides the new variables of public and private conditions. The subjects were tested in groups of four in the Cottrell study. Measures were taken to prevent communication between them. There were only four subjects in each experimental condition instead of ten. Moreover, each trial consisted of 10 cards only instead of 20 as in the Aronson and Carlsmith study. This raises the question of whether the scores of 9, 8, 8, 9 out of 10 supposed to represent high performance had the same effect as the scores of 17, 16, 16, 17 out of 20 in the Aronson and Carlsmith study. The same can be said of the low scores 3, 2, 2, 3 as compared to 5, 4, 4, 5. This could have contributed to the difference in magnitude of dissonance-reduction effects, the Aronson and Carlsmith subjects having probably experienced more dissonance. Although the experimenters in the Cottrell study had asked the subjects in a post-experimental questionnaire to guess what score they would get on a new set of cards with the data used as evidence of the successful manipulation of expectancies, yet one would wonder if the results would have been the same had the experimenter done that before the fifth trial,

thus allowing no other variables to confound his manipulation procedure.

A third reasonable criticism of the Aronson and Carlsmith study, (the other two being payment of subjects and inducing high test validity), was that perhaps the experimental conditions used by Aronson and Carlsmith produced a differential effect on the ability of the high and low expectancy groups to accurately recall their previous responses. Among those who tested this hypothesis were Waterman and Ford (1985) who held that the series of successes given to the high expectancy group may have resulted in the acquisition by the subjects of a consistent rule or method for making their choices, while the series of failures experienced by the low expectancy group would tend to discourage the development of any consistent rule. Such a rule would facilitate recall since the subjects would simply reapply the rule when attempting to recall their previous responses. Their results indicated that recall is a confounding variable which may account for the Aronson and Carlsmith results. Moreover, Waterman and Ford failed to reproduce the Aronson and Carlsmith finding of dissonance reduction.

One would, however, question the procedure used by Waterman and Ford in investigating the dissonance reduction hypothesis. Their subjects were asked on the fifth trial to make two specific responses to each card. First they were told to remember as accurately as they possible could which of the faces they had selected the previous time.



Second they were asked to select which of the faces they now believed to be that of the schizophrenic. Thus two responses were recorded for each subject, the one that was recalled and the final choice. This suggests that the recall task may have had an effect on the final choice task, and thus may have affected and even prevented the operation of a consistency motive if such a motive existed. Consider a low expectancy low performance subject. According to Aronson and Carlsmith's hypothesis, this subject has had her expectancy confirmed, therefore she would make as few changes as possible mainly due to memory. However in the Waterman and Ford situation, when this subject is asked to recall her previous responses, she cannot help but change them later, if only for the sake of avoiding being considered stupid by the experimenter. A similar effect may have operated on the low expectancy high performance subject who will avoid changing her responses for which she had received a high score, and after having recalled them to the experimenter. What would the experimenter think of her if after having recalled her correct responses, she changed them so adversely knowing that she had obtained a high score on them? The same effect must have operated for the other groups in the other conditions preventing a dissonance reduction act from happening even if dissonance was there and the intention to reduce it was present.

Another evidence for the differential effect of success and failure conditions on memory was reported by Lowin and

Epstein (1965). In their first experiment, these investigators had failed to reproduce the dissonance reduction effect of Aronson and Carlsmith. They tentatively attributed that to differences in experimenter demand, that is the experimenter's status and payment of subjects (Orne, 1962). In their first study, the experimenter was a graduate student and subjects were unpaid volunteers. In their second study they varied experimenter demand by running the crucial comparison conditions, low expectancy-high performance and low expectancy-low performance, under paid subject-high status experimenter, and volunteer subject low status experimenter conditions. No differential effects were found due to variations in experimenter demand. In their third experiment they tested for the effects of successes and failures on recall. Having their hypothesis confirmed, they tried to correct the data of their first experiment for recall. This further strengthened their earlier finding of a high performance motive rather than a confirmation of expectancy motive.

One may ask why, having used the same design in their first experiment as did Aronson and Carlsmith, Lowin and Epstein came up with contradictory findings. The experiments discussed earlier in the paper had some variations in the design and thus the findings were discussed with that view in mind. Lowin and Epstein's first experiment raises the crucial question of the validity of Aronson and Carlsmith's findings as well as their own findings. The former had not taken account of the established fact that the four conditions

of their experiment have differential effects on recall. Would they have had their hypothesis confirmed if they had done that? As for Lowin and Epstein's first experiment, it is perhaps legitimate to ask if the expectancy manipulation was successful at all. Perhaps such a manipulation was successful in Aronson and Carlsmith's experiment since they came up with differential results for their conditions. The same could be said of the first Brock et al. study (1965) which by using the Aronson and Carlsmith design, successfully reproduced the latter's findings. Even when Brock et al. in their second study reduced the induction trials from 4 as in the Aronson and Carlsmith to 2, they still got the crucial effect.

What is needed is a further experiment which takes account of the presence of the desired performance expectancies in the first place, as well as of the differential effects on recall of previous successes and failures. When designing such a study, the following questions should be considered:

1. What is a good procedure for developing the required expectancies? How can the experimenter be sure that such expectancies have indeed developed?
2. What should the task be? In other words, if the effect is genuine, does it apply to all kinds of tasks?
3. Would dissonance reduction vary according to the amount of discrepancy between the subject's expectancy and the score she finally gets?
4. If such an effect is detected, how can the experimenter be sure that it is due to performance expectancy alone and not to other variables?

5. What should the instructions to the subjects be?

The first question arose as a result of the contradictions in findings when the same experimental design was used. Suffice it to mention the first studies of Lowin and Epstein (1965) and the study of Brock et al. (1965). The former failed to confirm the Aronson and Carlsmith findings, while the latter succeeded. It could be argued that perhaps the desired performance expectancy was indeed developed in the Brock et al. study, but not in the Lowin and Epstein study. Apart from suggesting that perhaps the development of expectancy procedure proposed by Aronson and Carlsmith was not highly reliable, these results also throw doubt on the ability of the experimenter to conduct the experimental session efficiently. (Es were graduate or undergraduate students, and some students could be more efficient than others.) A possible solution would be to adopt a procedure by which the experimenter can check whether the desired expectancy has been developed in the subject or not. The procedure adopted in this study was to ask the subject to estimate her score on each coming trial. A certain problem was anticipated and immediately taken care of. Subjects would naturally come to the experimental room with different levels of aspiration. So their first estimate may be very different from the scores they were supposed to receive. So if the <sup>subject</sup> / said that she expected a score of 15 whereas she was supposed to be getting scores of 4 and 5, she might be unwilling to change, because having given an estimate, she may wish to stick to it in spite of the low scores she may

be getting later on. Verbalization of an expectancy renders the subject more committed to it. (10,387). To guard against this, the subject started giving estimates after she had already received her score for the first trial. She would then anticipate her score on the second trial, after which she would receive her score on that trial, and so on. This way the subjects' expectancies were manipulated right at the beginning of the experiment. Their own estimates served as a check on the development of the desired expectancies.

Another question relevant to the development of expectancies is whether the strength of an expectancy is a function of the amount of feedback from the experimenter. Brock et al. (1965) found that decreasing induction trials from 4 to 2 decreased the dissonance reduction effect without rendering it insignificant, while increasing feedback from one after every 20 judgements to one after every judgement (in which case the subjects would be having 80% of their judgements as correct or incorrect,) abolished the dissonance reduction effect altogether. The investigators were unable to explain the latter results. It could be said that perhaps the subjects, in both the low and high expectancy conditions, were respectively receiving negative and positive rewards which were considered by them as inappropriate, as they probably fell much beyond their reinforcement baseline. For example it has been found by Baron (1965) that "for subjects who initially had been reinforced at a 33% rate for a particular class of emotional

labeling responses to a facial photograph, a switch to a 66% rate of social reinforcement produced a more positive state of affect and a higher rate of emission of the reinforced response class than did a switch to a 100% rate of social reinforcement." (p. 530). However, since the findings of Brock et al. indicated that decreasing the induction trials from 4 to 2 decreased dissonance reduction without abolishing it, one may wonder if increasing it by just the same amount may not increase dissonance reduction. This was actually tried out in this study. There were two main groups, one going through four trials to develop the desired expectancies, and the other through eight trials. Otherwise these two groups were treated in exactly the same way.

As for the nature of the task it is interesting to note that when the task was to judge the brightness of three Munsell Glossypapers which varied only in the hue but not in brightness, the dissonance reduction effect was not found. (3<sup>1</sup>/<sub>4</sub> 195). This raises the question of whether this task made the subjects' judgements any more susceptible to influence by the experimenter's manipulation than the facial photographs of Aronson and Carlsmith. One could argue that even if the strips did not objectively differ in brightness, but only in hue, the different colors may appear subjectively different in brightness. This may have made the subjects less susceptible to experimenter's manipulation. The point is to find a task which the subjects may consider meaningful and interesting, but still on which they themselves

cannot tell where they have been right and where wrong, and for this reason would be willing to accept the scores given to them by the experimenter as true evaluation of their performance. This way the subjects' expectancies would be more completely subject to manipulation by the experimenter. A task considered to meet these requirements was used in this study, and will be discussed in the method section.

The factor of varying the amount of discrepancy between the subjects' expectancy and the final scores they get was tested by having 3 levels of expectancy: 4, 7, and 10. The final score they got was 18. This way the discrepancy was of three magnitudes.

The fourth question concerns the interpretation of findings which pertains to the method of controlling the other variables in the experimental situation which might confound the main one. It has been established that the experimental conditions themselves have a differential effect on memory (Lowin and Epstein; <sup>1965</sup>Waterman and Ford 1965). Thus the results could be interpreted as being due to differential recall, rather than to differential dissonance reduction. If after controlling this variable, the crucial effect persists, then one is justified in attributing it to the operation of a dissonance reduction need. Thus corresponding to each experimental group, there was set up a memory group which was treated in exactly the same way as the experimental group except at the end, when the control subjects were asked to reproduce their responses on the last trial, whereas the experimental

subjects were simply made to repeat the last trial by use of a ruse. This procedure took care of the differential effects of different degrees of failure on the subject's ability to recall. If the number of changes made by the experimental group exceeded those made by the corresponding control group, then the different number of changes among the experimental groups could be attributed to the independent variable under study.

The last question concerning the instructions to the subjects is quite important, and also relates to the nature of the task as it is introduced to the subjects. If the subjects are told the test is a "social sensitivity test" as was the case in most of the other studies, this itself is enough to provoke them differentially. It was suggested by Silverman and Marcantonio (1965) that depending on the status of the subjects, whether nurses or psychology students or simply randomly selected undergraduates, such instructions could motivate them differentially, and thus affect the strength of the consistency motive if such a motive exists. Thus by changing the nature of the task, from an ego-involving one, to a more neutral one, (which will be discussed in the method section), the differential motivation was more or less avoided.

One further change in the procedure concerns the ruse originally used by Aronson and Carlsmith. It was used again in this study, but before the subjects repeated the last trial (the experimental subjects) the experimenter



pretended she was erasing their responses on that trial. It was hoped that this procedure would lead the subjects to be less inhibited about changing their responses if they wanted to change them, and keep them from feeling they were being tricked into repeating that trial.

## CHAPTER II

### HYPOTHESES AND METHOD

The present study investigates the effect of performance expectancy on actual performance. Would a person rather fail at a task to confirm a low performance expectancy than succeed and disconfirm it? Three hypotheses were formulated:

Hypothesis I - If a person expects to perform poorly in a particular task, a good performance will be inconsistent with his expectancy; he will attempt to reduce dissonance by worsening that performance when allowed to repeat that task. On the other hand, subjects who expect to perform poorly, and whose final performance is poor, will not experience such dissonance, and thus will not attempt to change that performance on the repeat trial.

The way to change the performance is to change the previous responses made on the first take of the trial, an act which guarantees a different score. Therefore low expectancy subjects who receive final high scores are expected to change more responses than low expectancy subjects who receive final low scores.

Hypothesis II - The dissonance experienced by those subjects who expect low scores, but receive high scores instead, is an increasing function of the size of the discrepancy between the subjects' expectancies and their performance. In this study some subjects are made to expect a low score of 4, others a low score of 7, and others a low score of 10.

It is expected that upon receiving a high score of 18, the biggest number of changes will be made by the group expecting a score of 4, the second biggest by the group expecting a score of 7, and the least by the group expecting a score of 10.

Hypothesis III - The strength of a low expectancy is an increasing function of the number of failures experienced by the subject on the task. In this experiment some subjects are made to experience four failures, and others eight failures. The group experiencing eight failures are expected to have a stronger expectancy of failure than that experiencing only four failures. Consequently it is expected that they would experience more dissonance upon receiving a high score, and therefore would make more changes than the four failures-group.

## METHOD

### Subjects and Task

One hundred and twenty subjects were used. They were female Arab undergraduates at the American University of Beirut. They were tested individually. The following instructions were given to them to read aloud:

INSTRUCTIONS:

This experiment is based on studies done on the relationship between sound and meaning. It has been found that certain sounds provoke certain meanings. We are interested in the speed with which a person can correctly identify the meaning provoked by a particular sound. You have before you a set of cards. On each card you find a sound typed in capital letters. (Call it a nonsense syllable.) Below it are two meaningful words which are opposites. One of these words has been found to be provoked by that nonsense syllable. Your task is to judge which one it is as fast as you can. You will call out loud your choice so I can record it. The first card is a practice card. I will start timing you as soon as you turn to the first card after the practice card. after every twenty cards you find a blank card indicating the end of the first trial. You will receive your score for that trial which will be the number of correct choices you have made out of twenty. You will also estimate your score on the next trial. You will proceed to the next set or trial when I tell you. It is not always possible to correctly estimate your score on this task. Sometimes a person who thinks he has done very poorly may receive a high score and vice versa.

Now turn to the practice card.

PROCEDURE: The subjects were divided into two main groups. For the first group the task consisted of six trials in all. The first four trials were meant to develop a certain level of expectancy which was either (a) very low, (b) moderately low, or (c) high low. This was done by giving the subjects, after each of the first four trials, the following false scores:

(a) low expectancy group: 4, 5, 5, 4

(b) moderately low expectancy group: 7, 8, 8, 7

(c) high-low expectancy group: 10, 11, 11, 10.

After receiving her score at the end of each trial the subject was asked to estimate her score on the next trial. After the fifth trial, she received either a similar score to the expectancy she was supposed to have, (either 4, 7, or 10 depending on her expectancy), or a disconfirming high score of 18. After the fifth trial, a ruse was used to make the subject repeat the fifth trial to observe the changes she made. She was told that on the fifth trial the experimenter had forgotten to time her. Half the subjects were then asked to repeat the fifth trial as though it were a completely new set of cards because the data collected on it could not be used. (The experimenter pretended she was erasing the subject's responses on that trial.) The other half of the subjects were told that the omission was not all that serious. They were asked to take the fifth trial again as a recall task trying as best as they possibly could to give the same responses they gave previously.

The second main group of subjects were treated in exactly the same way as the first group except for one thing: instead of using four trials only to develop the desired expectancies, they went through eight trials thus receiving eight scores instead of four before they got to the critical trial which they had to repeat. The first group will be called the four trial group, and the second the eight trial group.

Table 1 is a diagram of the complete design:

Table 1

DESIGN OF THE STUDY

	<u>Consistent</u>		<u>Inconsistent</u>	
	<u>Exp.</u>	<u>Memory</u>	<u>Exp.</u>	<u>Memory</u>
	Expectancy 4			
<hr/>				
4 Trials	Expectancy 7			
<hr/>				
	Expectancy 10			
<hr/>				
	Expectancy 4			
<hr/>				
8 Trials	Expectancy 7			
<hr/>				
	Expectancy 10			
<hr/>				

## CHAPTER III

### RESULTS AND DISCUSSION

#### Development of Expectancies

As mentioned earlier the scores given to the subjects, whether low (4), medium low (7), or high-low (10) were expected to develop correspondingly low, medium low or high-low expectancies in the subject regarding her performance on the task. Requiring the subjects to estimate their scores on each coming trial served as a check on the development of the desired expectancy.

Figures 1-6 show how the subjects' reported expectancies (their own estimates) compare with the intended expectancies for each trial. On the whole the subjects seemed to gradually change their estimates in the direction of the desired expectancies.

In general the subjects' first estimates were not very different from their first scores. This could be because they had given their estimates after they had received their first scores, which implies that their first scores had already influenced their expectancy level. The biggest difference between the first estimates and the first scores was found for the groups that were supposed to develop an expectancy of 4 (Figs. 1&4). Such a score was probably much below their general expectancy baseline, and thus did not immediately affect the subjects' expectancy level.

Table 2 shows the mean scores expected by the subjects on the last trials for each level of expectancy for both the

Figures 1-6: Scores anticipated by the subjects each trial as compared to the scores they were expected to give.

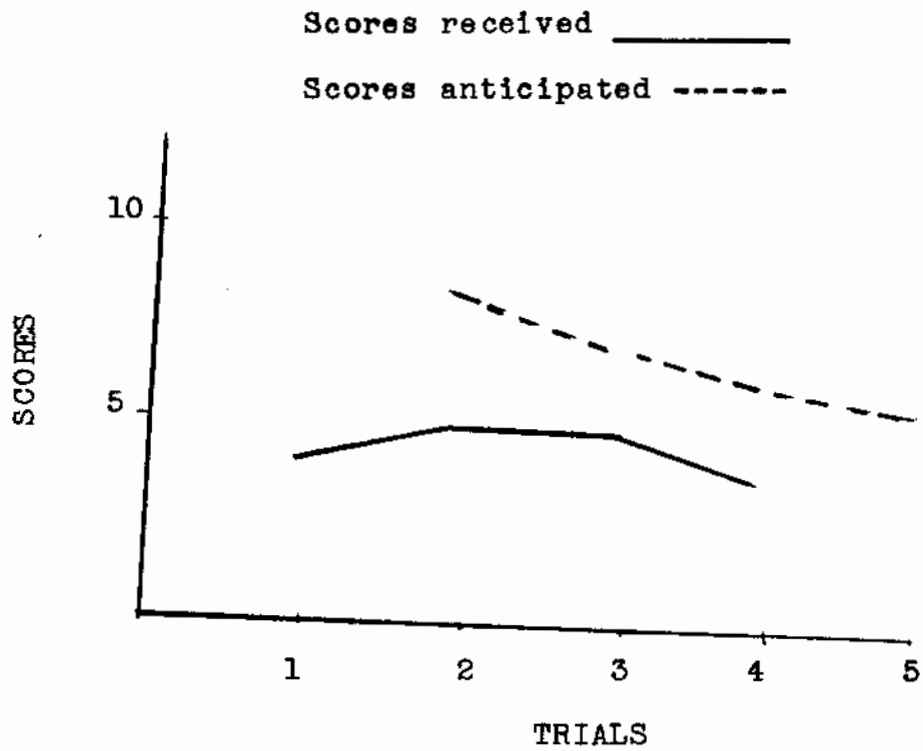


Figure 1. 4 trial - expectancy 4

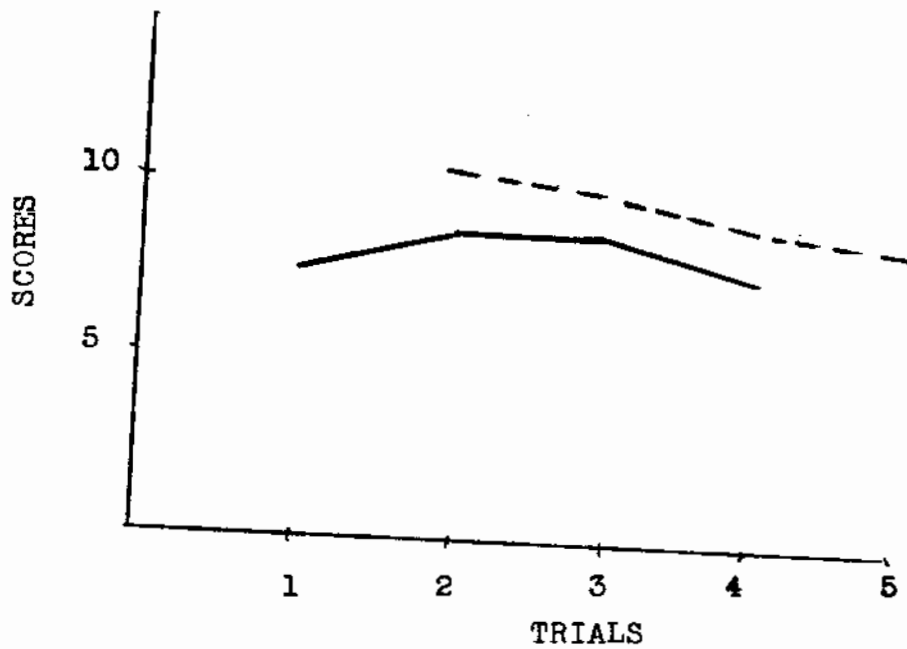


Figure 2. 4 trial - expectancy 7



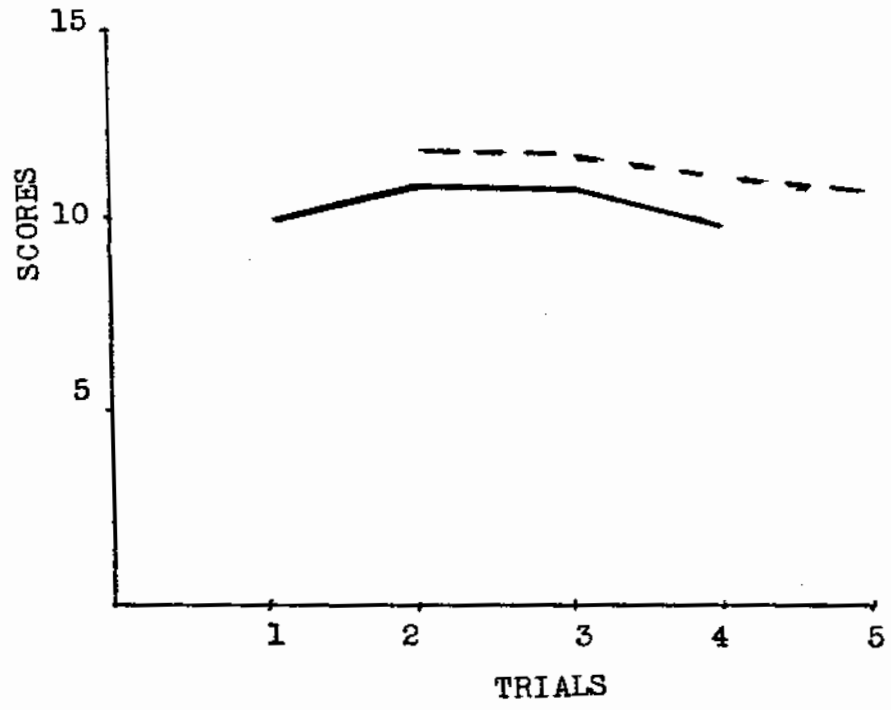
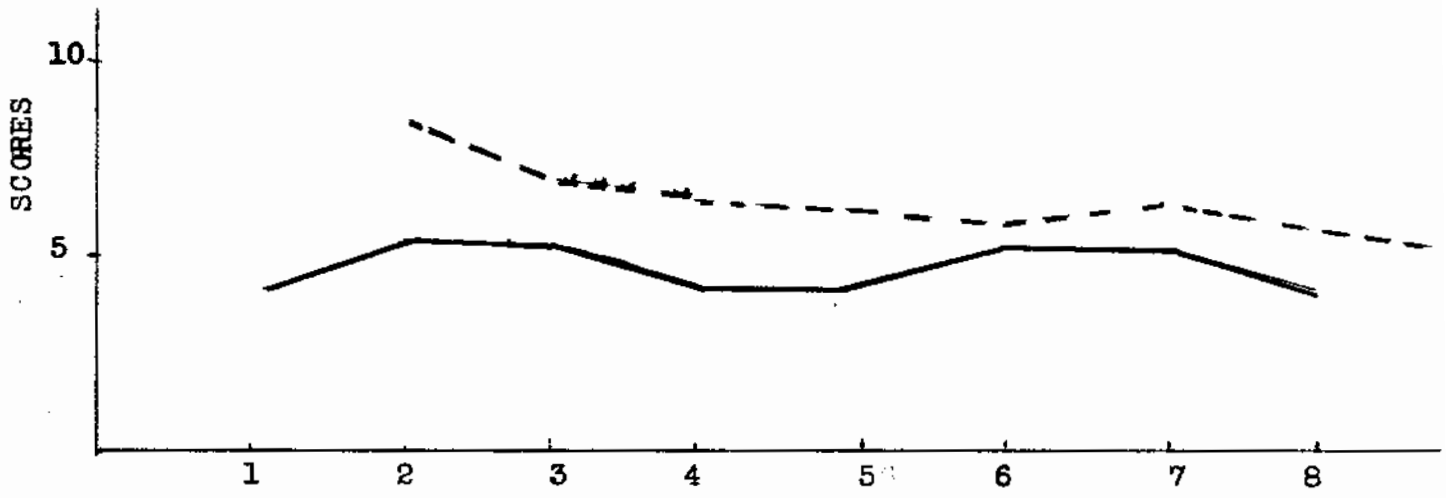
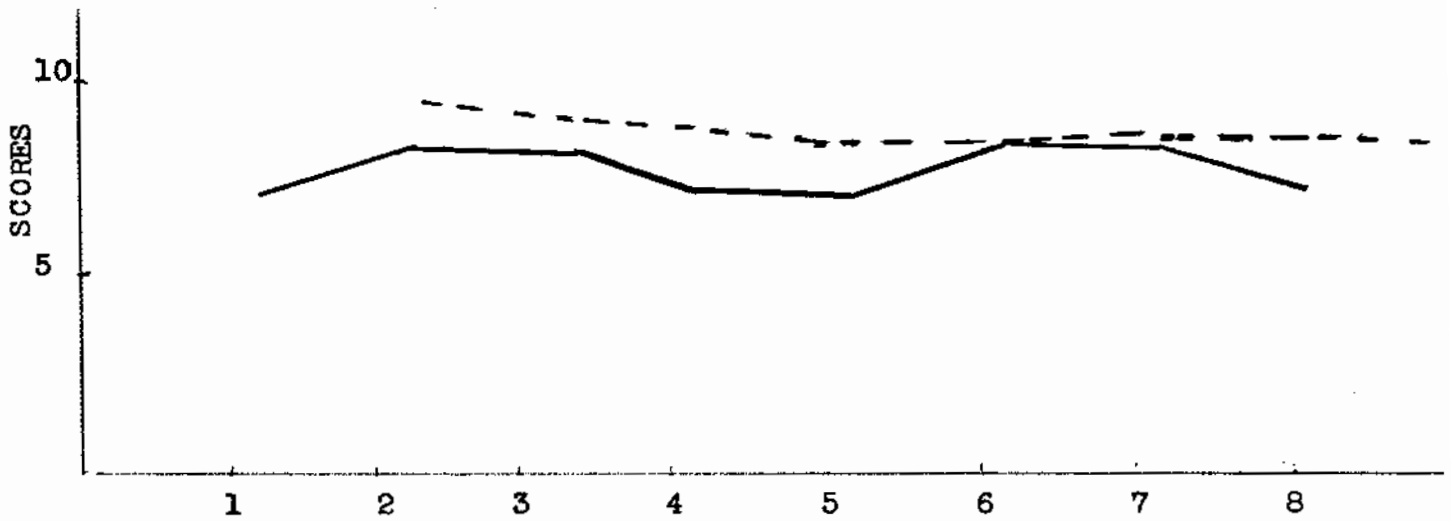


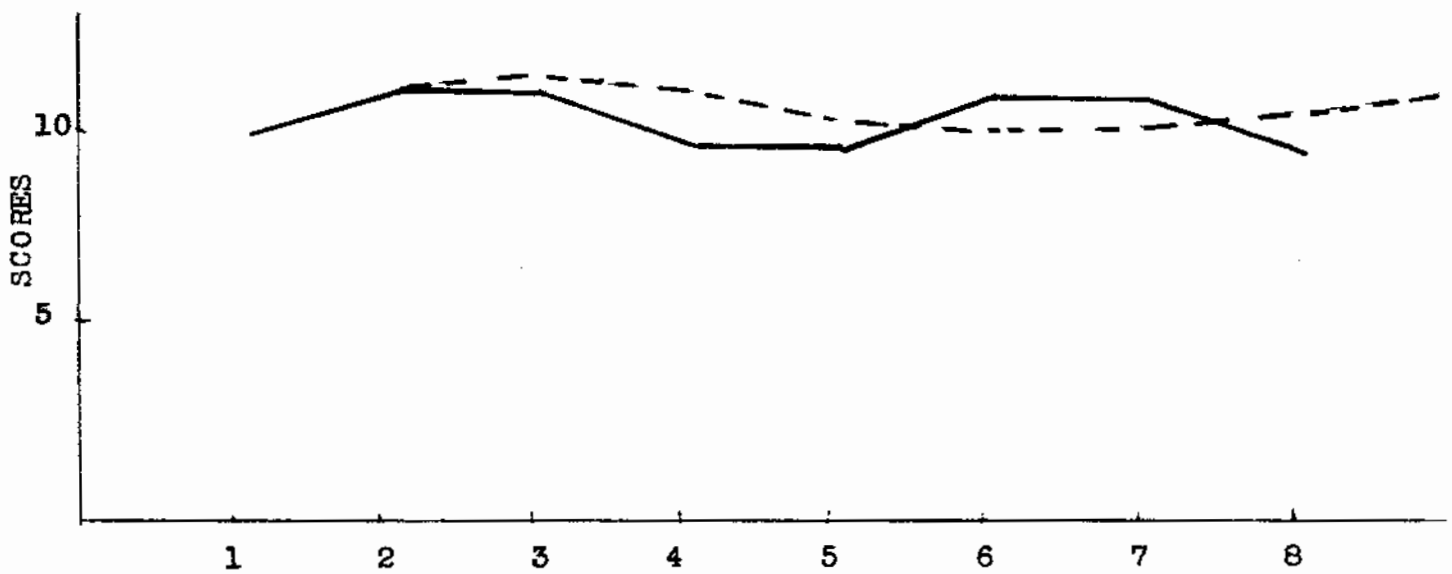
Figure 3. 4 trial - expectancy 10



TRIALS  
Figure 4. 8 trial - expectancy 4



TRIALS  
Figure 5. 8 trials - expectancy 7



TRIALS  
Figure 6. 8 trial - expectancy 10

four trial groups and the eight trial groups. It shows that on the critical trial the subjects had, on the average, expectancies very close to the desired ones.

Therefore the procedure adopted to develop the desired expectancies proved appropriate.

Table 2

MEAN SCORES EXPECTED BY SUBJECTS ON THE  
LAST TRIAL FOR BOTH THE FOUR TRIAL AND  
THE EIGHT TRIAL GROUPS

scores given to subjects	4-5	7-8	10-11
groups	scores anticipated by subjects		
4 trial group	6.4	8.0	10.7
8 trial group	4.9	8.0	11.0

Results Pertaining to the Hypotheses

The main independent variable in this study was the discrepancy between the subject's expectancy regarding her performance on the task, and the score she was given on the final trial.

The dependent variable was the number of changes she would make on repeating that trial, the more changes, the more dissatisfaction she experienced at receiving a score inconsistent with her expectancy.

Results pertaining to the first hypothesis - If a person expects to perform poorly in a particular task, a good

performance will be inconsistent with his expectancy; he will attempt to reduce dissonance by worsening that performance when allowed to repeat that task.

Within the limits of the experimental situation, the only way to reduce dissonance, if dissonance was experienced by the subject, would be to change the performance itself. Of course there may be many other ways of reducing dissonance, but in this context, the subject was given no choice. In fact the way to reduce the dissonance was suggested to her (by deliberately making her repeat the critical trial, and giving her the impression that her previous responses on that trial had been erased.) Thus having had a low expectancy, and given a final superior score, the subject would, according to the hypothesis, change as many of her earlier responses as possible, to bring back her performance to the expected level. Thus on the whole, such subjects (the inconsistent group) were expected to change many more responses than those receiving scores similar to what they expected (the consistent group).

The mean number of changes made by each group is presented in Table 3.

Table 4, shows the 4-way analysis of variance of the results. It shows that on the whole, and contrary to the first hypothesis, the changes made by the consistent groups significantly exceeded that made by the inconsistent group. In other words, subjects in the inconsistent group, upon receiving a high score inconsistent with their expectancies,

Table 3

MEAN NUMBER OF CHANGES MADE BY EACH GROUP

		CONSISTENT		INCONSISTENT	
		Exp.	Memory	Exp.	Memory
Trial 4	Expectancy 4	7.4	1	1.8	2.4
	Expectancy 7	9.8	2.2	2.6	1.8
	Expectancy 10	3.2	1.4	2.4	2.4
Trial 8	Expectancy 4	7.6	1.2	2.2	3.4
	Expectancy 7	2.8	3.6	2	2.6
	Expectancy 10	4	2	3.4	2.4

Table 4

ANALYSIS OF VARIANCE OF THE RESULTS

Source of variation	SS	df	MS	F	Sig. 5%
(A) 8 or 4 trials	.30	1	.30	--	--
(B) Consistent or incon.	58.80	1	58.80	6.66	sig.
(C) Expectancy score	15.05	2	7.52	--	--
(D) Memory or Exper.	108.30	1	108.30	12.27	sig.
(AB) Interaction	8.53	1	8.53	--	--
(AC) Interaction	23.55	2	11.77	1.33	--
(AD) Interaction	17.63	1	17.63	1.99	--
(BD) Interaction	120	1	120	13.60	sig.
(BC) Interaction	30.60	2	15.32	1.73	--
(CD) Interaction	12.35	2	6.17	--	--
(ABC) Interaction	13.22	2	6.61	--	--
(ABD) Interaction	10.80	1	10.80	1.22	--
(BCD) Interaction	45.35	2	22.67	2.57	--
(ACD) Interaction	43.52	2	21.76	2.46	--
(ABCD) Interaction	20.45	2	10.22	1.15	--
MS error	846.80	96	8.82		
Total	1375.30	119			

probably wanted to keep up the good performance. Thus as Figures 8 and 10 indicate, changes made by these subjects were not different in magnitude from the changes made by their corresponding control groups (the memory groups). This could be interpreted as an attempt on their part to remember as best as they could, their earlier responses. Such behavior could be explained as being due to a high n achievement. What lends support to this interpretation is the behavior of the subjects in the consistent group. Such subjects, upon receiving the same low scores as they expected, did not seem to have wanted to earn such scores again. Fig. 7 shows clearly how these subjects deliberately changed their previous responses (as is shown by the difference in the curves between the memory and the experimental groups). All differences between experimental and memory conditions for the consistent group were found to be significant at the .01 level except one - the 8 trial, expectancy 7-. The statistics used for testing these differences is the Newman Keuls. (13, p. 80; see Appendix III.) The biggest change, as fig. 7 shows, was for the group who had an expectancy of 7, and received a final score of 7. These subjects changed more than those with an expectancy of 4 and a final score of 4. It is as though, although both groups wanted to change to get a better score, the 7-score group had more hope that they would improve. The group with an expectancy of 10 and a final score of 10, did not change as much as the other two groups mentioned,

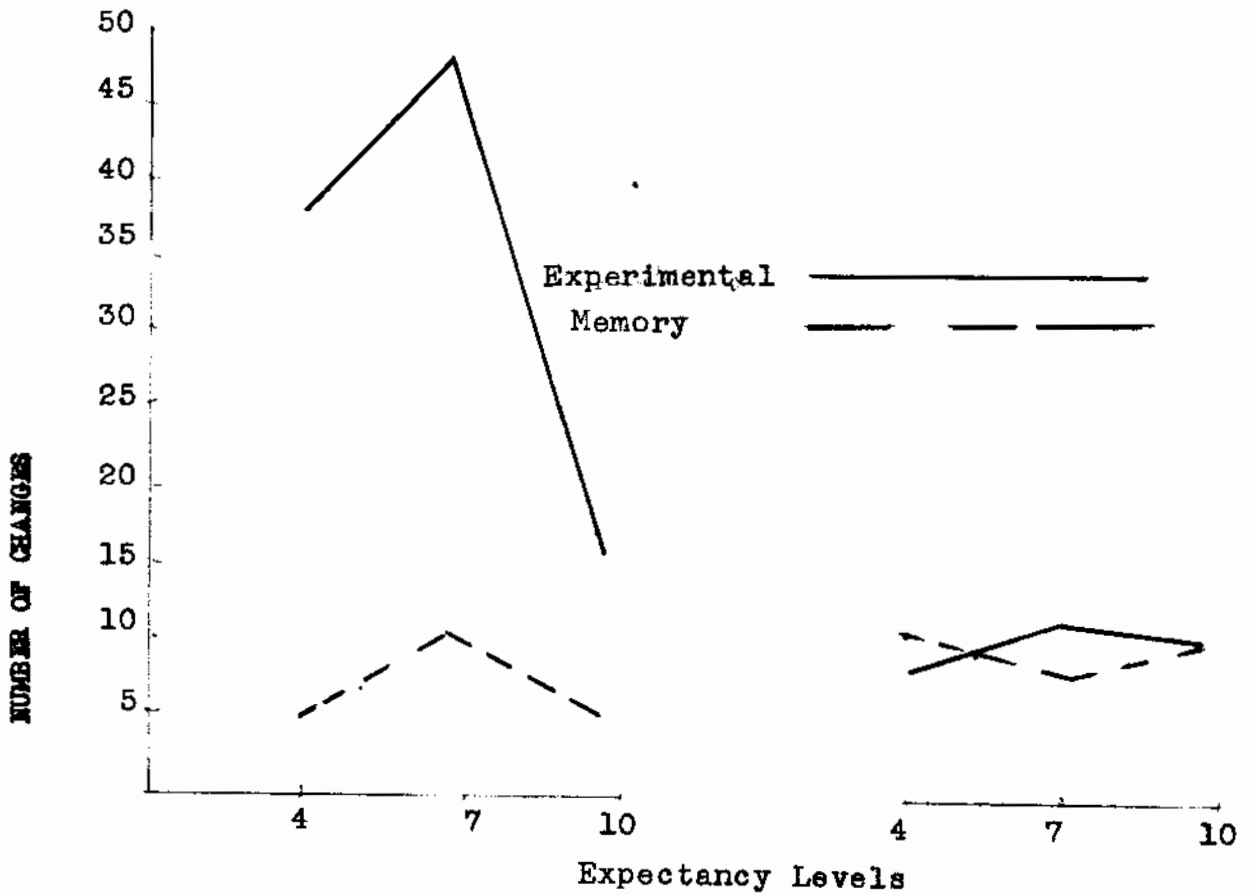


Figure 7. 4 trial consistent

Figure 8. 4 trial inconsistent

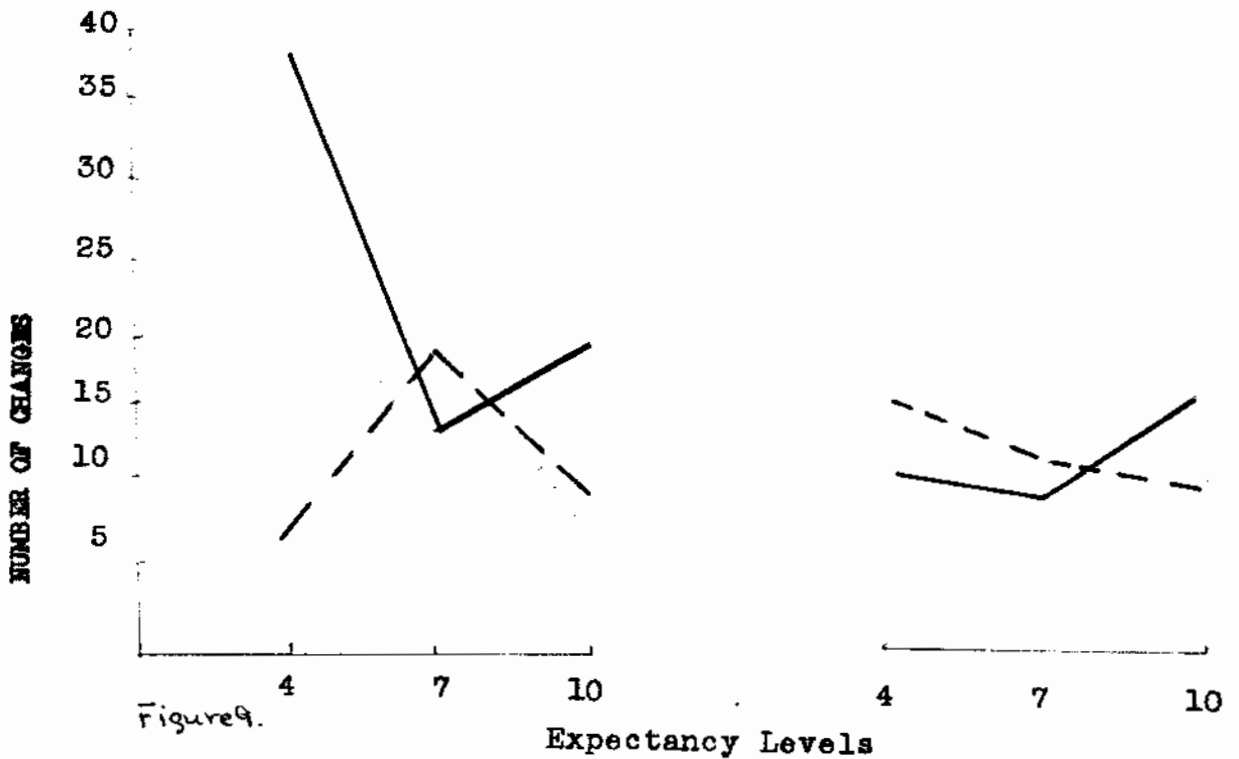


Figure 9. 8 trial consistent

Figure 10. 8 trial inconsistent

Figures 7-10. Changes made by the experimental groups at each level of expectancy as compared to their corresponding memory groups.

probably because 10 was not such a low score for them, and even if they made 20 changes (the maximum that could be made) they would still receive 10.

The experimenter could not explain the behavior of the 8 trial group who received a consistent score of 7. Their responses were not different from the corresponding memory group, which implies that they had no intention to change.

Hypothesis II - The dissonance is an increasing function of the size of the discrepancy between the subject's expectancy and his performance.

As indicated in the analysis of variance table, this factor of discrepancy ( $\delta$ ) was not significant. The discrepancy in this study, of whatever size it was, seemed to be appreciated by the subjects e.g. receiving a score of 18 when one of 4, 7, or 10 was expected. The subjects tried to keep their scores as similar to their final high scores as possible, evidence being that they did not differ from their memory controls. The fact that they did not change upon receiving a high inconsistent score goes against the Aronson idea that a person would rather have an unpleasant expected event to happen to him rather than a pleasant unexpected one. No matter what the size of the discrepancy was, the subjects were satisfied with their disconfirming performance.

Hypothesis III - The strength of a low expectancy is an increasing function of the number of failures experienced by the subject on the task.



As the analysis of variance table shows (Table 2), doubling the number of trials to develop the different degrees of low expectancy did not have an effect on the strength of the expectancy as measured through the number of changes made by the 4-trial and the 8-trial groups. However, comparing Figures 7 and 9 (both consistent but differ in the number of trials-the variable under discussion now), certain differences can be detected, specifically the number of responses changed by the subjects of each group at expectancy level 7. This difference could be explained as being due to the variability among subjects in the 4 trial group expectancy 7. The changes made by these subjects were 11, 11, 18, 7, 2. Those in the 8 trial group were 7, 2, 1, 2, 2.

The results of this study do not support the Aronson and Carlsmith (1962) idea of a confirmation of expectancy motivation. This finding is not incongruent with many other findings of other experimenters who tried to test the Aronson and Carlsmith hypothesis.

People may have a need for cognitive consistency as suggested by Festinger and Aronson (1960). However, satisfaction of this need would not normally be at the expense of other needs, like the need for achievement and success. Perhaps with a certain type of person, the need for cognitive consistency may be stronger than any other need. It would be interesting to examine the personalities of such people who would rather have an expected unpleasant

event to happen to them rather than an unexpected pleasant one.

Moreover it is not strange to find out that having more failures did not intensify the expectancy of failure. In a discussion of the effects of positive and negative rewards (Baron( 1966) cites evidence from several studies where increasing the reward, whether positive or negative, did not produce the expected effect. (Thus a series of 4 failures seemed to be enough to develop a low performance expectancy for the task in this study).

The fact that varying the levels of discrepancy between the expected and the final scores did not result in differences in the number of changes made by the subjects could be taken as evidence that the subjects did not experience any discomfort due to the discrepancy, of whatever size it was. It is true that they expected low scores, but it was not what they wanted. So having a sudden high score, although it disconfirmed the subjects' expectancies, did not disappoint them. This is further evidence for the importance of considering the variable of achievement motivation in such studies.

### SUMMARY

The proposition that individuals would rather fail at a task to confirm a low performance expectancy than succeed and disconfirm it was investigated in this study. The subjects were 120 undergraduate Arab females at the American University of Beirut. They were given a task in which they were asked to make judgements which were evaluated by the experimenter. After each trial which consisted of 20 judgements, the subject was given a predetermined score which was the number of correct choices she had made out of 20. These scores were supposed to develop a certain level of low expectancy in the subject. The main hypothesis was that if after developing a low performance expectancy, the subject was given a high score on the last trial, she would experience dissonance and would try to worsen her performance if given the chance to repeat the trial, by changing as many of her responses as she could. Changing the responses for which she received a high score would guarantee a low score. On the other hand if the subject received a low score on the last trial consistent with her low expectancy, she would not experience such dissonance, and thus would keep her responses unchanged. However since changes could be attributed to a faulty memory, a control group was set up against which the experimental group was compared. Subjects in the control group were asked on the repeat trial to reproduce their responses on the last trial. The experimental group was made to repeat the trial under the pretense that the experimenter had forgotten to time them on that trial.

It was further hypothesized that the dissonance experienced by the low expectancy subjects upon receiving high performance scores, would be an increasing function of the size of the discrepancy between the subjects' expectancy levels and their final performance. To test this hypothesis, three expectancy levels were induced in the subjects by means of false low scores: expectancy of 4, expectancy of 7, and expectancy of 10.

The third hypothesis was that the strength of a low expectancy would be an increasing function of the number of failures experienced by the subject. To test this hypothesis, some subjects were made to experience 4 failures, (by having 4 low-score-trials) and others to experience 8 failures (by having 8 low-score-trials).

The results did not confirm the hypotheses. It was found that subjects expecting low scores were not dissatisfied with the high scores they received on the final trial. In fact they seemed to have wanted to keep them. Evidence for that was that they did not make any more changes than could be accounted for by a faulty memory. On the other hand subjects expecting low scores were dissatisfied with the low scores they received on the final trial. Evidence for that was the big number of changes they made on the repeat trial. These changes were significantly greater than could be accounted for by a faulty memory.

Increasing the number of failures did not result in any differences, nor did varying the levels of low expectancy.

The results of this study were not found to be incongruent with many others which were cited in the review of the literature in this paper.

Appendix I

Raw Data

		Consistent		Inconsistent	
		Experimental	Memory	Experimental	Memory
	E 4	1,0,11,8,17	0,2,1,2,0	0,2,2,2,3	1,3,0,6,2
T 4	E 7	11,11,18,7,2	4,2,1,1,3	5,1,2,3,2	2,5,1,0,1
	E 10	3, 0,6,7,0	1,1,1,3,1	3,1,1,3,4	3,0,4,1,4
	E 4	11, 1,5,3,18	3,0,0,2,1	3,0,2,3,3	2,7,1,5,2
T 8	E 7	7, 2, 1,2,2	3,5,4,0,6	1,4,3,1,1	0,3,3,6,1
	E 10	4, 3,3,4,6	5,2,2,1,0	6,2,7,0,2	3,0,2,6,1

## Appendix II

The nonsense syllables in this study were taken from Stevens, Handbook of Experimental Psychology, pp. 542-546. They were chosen so that they would also be nonsense in the arabic language.

The syllables were:

POH	YOT
VAK	JEQ
GOK	QUG
MIV	FUP
GUH	GOV

The syllable GOV was used for practice.

FUP was used on the critical trial.

### Appendix III

#### Comparisons between each experimental group and its corresponding control (memory)

##### I. Consistent group.

###### A. 4 trial.

1. Expectancy 4;  $F = 109.4$ ; Significant -  $p .01$
2. Expectancy 7;  $F = 154.2$ ; Significant -  $p .01$
3. Expectancy 10;  $F = 8.65$ ; Significant -  $p .01$

###### B. 8 trial

1. Expectancy 4;  $F = 109.4$ ; Significant -  $p .01$
2. Expectancy 7;  $F = 1.7$ ; Not significant
3. Expectancy 10;  $F = 10.6$ ; Significant -  $p .01$

##### II. Inconsistent group.

###### A. 4 trial.

1. Expectancy 4;  $F = 1$
2. Expectancy 7;  $F = 1.7$  Not significant
3. Expectancy 10; -

###### B. 8 trial.

1. Expectancy 4;  $F = 3.84$  Not significant
2. Expectancy 7;  $F = 1$
3. Expectancy 10;  $F = 2.67$  Not significant

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