

EXPECTATION OF SUCCESS FOLLOWING FAILURE
AS A FUNCTION OF LEVEL OF SELF-ESTEEM
AND EGO-INVOLVEMENT

A Thesis

Presented to
the Faculty of Graduate Studies and Research
University of Manitoba

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
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January 1967



ABSTRACT OF THESIS

Since some individuals react to failure by lowering their level of aspiration and some by raising it, this study investigated the possibility that the level of self-esteem could account for the difference in response. It was predicted, from Cohen's "defense mechanism" theory, that high self-esteem individuals who are motivated to do well on a task, i.e., given ego-involving instructions, would protect their self-esteem by maintaining a high expectation of success even after many failures on that task. Low self-esteem individuals would more readily accept failure and thus lower their expectation of success with progressive failure on the task. It was also expected that under neutral instructions the predicted results would be less pronounced because failure is less personal and therefore less threatening under these circumstances.

The data revealed that neither the type of instructions nor the level of self-esteem caused any differential reaction to failure. It was concluded that the most likely reason for the failure of the hypotheses to predict the results was that the self-esteem scale did not differentiate the sample into two distinct self-esteem groups on the basis of their expectation of success. Alternatively, the overwhelming effect of failure was so strong as to possibly counteract the expression of any other variable. Private versus public failure, group testing of Ss, the nature of the task and communication among Ss are other variables which were discussed and which may play a role in determining reactions to failure.

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to Dr. J. G. Adair and Mrs. N. Wright for the advice and encouragement they gave in the preparation of this research.

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CHAPTER I

INTRODUCTION

Since experiences of success and failure are significant determinants of personality development, their effect on behaviour has been the subject of considerable research. This study is an attempt to determine the individual differences that are critical in predicting how people react to success and failure.

Although research into the effects of induced success and failure has taken several forms, the most frequent procedure is typified in level of aspiration studies. This method involves asking subjects (Ss), after they have succeeded or failed on a task, how they think they will do on the following trial of the same task or on a similar task. Inferences regarding how individuals react to success and failure are made on the basis of whether they raised or lowered their level of aspiration, i.e., their estimate of how well they will do on the next trial.

The basic conclusion regarding the effects of success and failure in this research (Lewin, Dembo, Festinger and Sears, 1944) is that generally the aspiration level will be raised or lowered as the performance reaches or does not reach the level of aspiration respectively. Shifts in the level of aspiration which rigidly adhere to this principle have been termed "typical" cases by Jucknat (Lewin et al., 1944). He also observed that the stronger the success the greater will be the percentage of raising the level of aspiration, and the stronger the failure, the greater the per cent of lowering the level of aspiration.

Although most people show the typical reaction to success and failure experiences, Jucknat and others have found that some Ss react consistently in an apparently paradoxical manner, i.e., they respond to failure by raising their level of aspiration, and to success by lowering it. Since all individuals do not react typically to success or failure, the possibility that personality differences are important is suggested.

Doris and Sarason (1955) and Doris (1959), for example, were interested in the question of whether Ss with differing personality characteristics would react differently to failure. Doris and Sarason found that Ss high in test anxiety showed a significantly greater tendency to blame themselves for failure than did low anxiety Ss. They conclude that such test anxiety may be a symptom of chronic low self-esteem, due to past experience or to acute anxiety related to the testing situation. In a study using children as Ss, however, Doris (1959) found no evidence that experimentally induced failure increased the correlation between test anxiety and self-esteem. Although no significant correlation was found when testing children, Katchmar, Ross and Andrews (1958), using the Taylor Manifest Anxiety Scale on college students, found that high anxiety Ss were affected by failure to a greater degree than low anxiety Ss. Thus, the results of studies exploring the relationship between failure and anxiety have not been consistent.

One personality variable, however, which has demonstrated some degree of consistency in determining reactions to success and failure is the need for achievement. Feather's (1963, 1965a, 1965b,

1966) research program in particular has been concerned with this personality variable. With respect to the need for achievement, he denotes success-oriented Ss as those who are motivated to achieve success, and failure-oriented Ss as those who are relatively more motivated to avoid failure. His results indicate that success-oriented Ss tend to make more "typical" changes in their probability estimates of success on a task under conditions of success, while typical changes are relatively more frequent for failure-oriented Ss under conditions of failure. He concludes that this difference in responsiveness to success and failure may be a function of differences in past experience. If success-oriented Ss have in the past been involved more frequently in test situations in which they have succeeded, success would be a more familiar experience to them, and typical changes in their expectations may therefore be more likely following success. Similarly, failure-oriented Ss may have had more experience with test situations involving failure. Failure would be a more familiar experience to them, and typical changes in their expectations may be more likely following failure. The assumption involved in this argument is that typical changes in expectations of success are more likely to follow familiar experiences than unfamiliar experiences.

These familiar success or failure experiences also constitute the personality variable of self-esteem. It is through these experiences that a person learns to judge and evaluate his capabilities. For example, after a succession of failures, an

individual may begin to doubt his intellectual capacity or his prowess on a specific task. If his failures are diverse and consistent enough, his overall estimation of himself, i.e., his self-esteem will be lowered. Hence, the self-esteem is based upon having certain expectations about oneself, consistently confirmed or denied. That is, the self-esteem may be thought of as a "set of expectancies, plus evaluations of the areas or behaviours with reference to which these expectancies are held" (McCandless, 1961, p. 174).

Consequently, an individual's self-esteem should have some bearing upon whether an individual reacts typically or atypically to success or failure. In other words, since a low self-esteem individual's most familiar experience is that of failure, he should tend to make more typical changes in his probability estimates of success under conditions of failure than under conditions of success. Similarly, high self-esteem individuals should demonstrate more typical changes under conditions of success than under failure, since their most common experience is that of success.

This relationship between an individual's self-esteem and his reaction to success and failure has been extensively and systematically researched. In fact, in a recent review, Wylie (1961) indicates that of all the self-concept studies, those concerned with the effect of experimentally induced success and failure have shown the least ambiguity and are most interpretable.

In one of the most influential studies investigating

this relationship, Stotland et al. (1957) hypothesized that people of high self-esteem would be less affected by failure experiences and more affected by success experiences. To test this prediction, group members communicated to the experimental S in their group, either high or low expectations of the quality of his achievement on individual tasks. The tasks were described as either relevant or non-relevant to the purposes of, or for the maintenance of, the group. Half of the Ss within each of the four conditions were then allowed to succeed, and the other half were told they had failed. Measures of self-esteem were available for all participants. The dependent variable was the individual's evaluation on an eight point scale of his success or failure on the task. The authors concluded that while no differences among Ss who succeeded on the task were obtained, members who received word that they had failed differed considerably in their final self-evaluation as a function of level of self-esteem. They found that the higher the self-esteem of a S, the higher was his evaluation of his performance, i.e., they found a direct positive relation.

Although self-esteem does not appear to distinguish how Ss will react to success or failure when the task is relevant to the purposes of the group, under conditions of low task relevance persons of high self-esteem defend themselves against poor evaluations more than do those of low self-esteem. This defense is accomplished, according to Stotland et al., by becoming unresponsive to the expectations communicated by their group when an unfavourable comparison with others would be likely. In addition, persons

of low self-esteem show a greater responsiveness to criticism of their performance and to failure experiences communicated to them by members of their social group. Stotland et al. conclude that persons with low self-esteem react to their experiences in a way that makes it difficult for them to improve their self-regard: they react strongly to failure and become responsive to the group's expectations when an unfavourable self-evaluation is most likely. Thus, different levels of self-esteem appear to induce different patterns of defensive reaction to experiences of failure.

In a second study, Stotland and Zander (1958), attempted to examine and verify these conclusions. They wished to examine whether or not failure leads to generalized self-devaluation, i.e., lowered self-esteem, as well as to devaluation of one's ability to do the particular task. They also wished to determine whether Ss would react differentially to public and private failure. After failing on an "impossible to solve" puzzle, the Ss were required to evaluate their visual-motor-coordination abilities as well as their performance on the failed task. Stotland and Zander concluded that the Ss who evaluated their puzzle performances relatively highly despite failure, were more highly motivated towards a heightened self-esteem than were the Ss who evaluated their puzzle performances less highly. When examining to what extent the prestige of the experimenter would have on a S's reactions, they found that those Ss who had their puzzle failure observed by an expert and who evaluated their performances highly, yielded lower self-evaluations of visual-motor-coordination abilities than those

made by all other Ss. These results suggest that public failure, as observed by an expert, may be more threatening than private failure and hence result in a lower self-evaluation.

Although the Stotland and Zander study somewhat restricts the generality of their previous findings, both studies support the notion that high and low self-esteem Ss react differentially to failure. That is, they both indicate that high self-esteem Ss are relatively unaffected by failure or, in level of aspiration terms, they react atypically, whereas low self-esteem Ss react typically.

The consistency of these results prompted Cohen (1959) to develop a theoretical basis to account for these findings. The result was his "defense mechanism" theory. His theory is based upon studies dealing with the relationship between characteristic ego defenses and self-esteem. In these studies, using the Blacky Test (Blum 1949) and its associated Defense Preference Inquiry (Goldstein, in Cohen 1959) on adult Ss, high self-esteem was found to be associated with the preference for avoidance defenses against unacceptable impulses, while low self-esteem is associated with the preference for expressive defenses. Cohen conjectured from these studies that expressive defenses (projection and regression) permit unacceptable impulses to gain some sort of outlet, whereas avoidance defenses (reaction formation and avoidance) block the expression of unacceptable impulses and therefore permit the creation of a self-protective facade. Thus, since high self-esteem individuals using avoidance defenses protect themselves from negative self-evaluations, they may be expected to be less affected by the

communication of failure experiences and more responsive to success experiences than are persons of low self-esteem.

In sum then, the evidence seems to indicate that various self-esteem groups are differentially able to fulfill the important acquired motive of maintenance of self-esteem at the highest possible level. Through their use of avoidance defenses and their greater expectation of being able to achieve their goals, the highs are able to protect a preconceived image of themselves, whereas the lows are more dependent upon experiential variations in formulating an image of themselves. Thus, the highs are much more resistant to change which may disturb their self-picture.

Although there is widespread support for this interpretation (e.g., Cohen, 1956, 1959; Stotland et al., 1957; Stotland and Zander, 1958; Goldstein, 1959; Leventhal and Perloe, 1962), there is evidence in the literature that takes exception to Cohen's theory. Notable is the study by Gollob and Dittes (1965) which not only disagrees with Cohen's predictions but, in fact, posits hypotheses which are diametrically opposed to them.

In their experiment, designed to test hypotheses concerning the effect of a communication, Gollob and Dittes first made Ss experience either success or failure on a Space Relations Test as a means of manipulating the self-esteem. The Ss then gave their opinion on three questions concerning cancer, then read the communication which was composed of equal segments of threatening

and non-threatening material about cancer, and then again, in light of what they had just read, stated their opinion on the same three questions.

Their findings suggest two hypotheses -- the simple and the fear. In the simple hypothesis, they postulate that when the advocated opinion is not a threat and is clearly and simply stated, there is an inverse relationship between self-esteem and a tendency to accept another's opinion. This hypothesis, they contend, is based on the consideration that individuals of low self-esteem think less favourably of themselves and their opinions and therefore, in attempting to enhance their self-esteem, are more likely to accept the opinions of others.

However, in cases where acceptance of a clearly and simply stated opinion would cause a substantial threat to the self, they postulate in their fear hypothesis that there is a direct positive relationship between self-esteem and a tendency to accept another's opinion. That is, the higher a S's self-esteem, the more likely he is to accept a threatening communication. This hypothesis, they state, is based on the assumption that people with low self-esteem do what they can to compensate for, or minimize their feelings of inferiority, i.e., try to raise their self-esteem. As a consequence, they are likely to defend against accepting any opinion that would make them feel still more insecure and threatened by rejecting the threatening communication. High self-esteem Ss, on the other hand, are more likely to accept the threatening communication because it does not degrade their self-

esteem. Thus, if failure is considered a threatening communication, then Gollob and Dittes' hypothesis that a threatening communication causes low self-esteem individuals to try to enhance their self-esteem and high self-esteem Ss to diminish their self-esteem is diametrically opposed to Cohen's "defense mechanism" theory that proposes that low self-esteem individuals will lower their self-esteem while high self-esteem Ss will maintain their level of self-esteem.

There may, however, be a very important reason for the discrepancy between Gollob and Dittes' findings and that of Cohen's. In all the studies related to Cohen's theory, the self-esteem of all Ss was determined beforehand, but in the Gollob and Dittes' study the self-esteem of the Ss was manipulated by having them either succeed or fail on a task. The fact that this is an important difference is illustrated in the Gollob and Dittes' study when they attempt to compare their findings using measures of self-esteem with those they obtained by manipulating the self-esteem, and find that they are unable to replicate their original findings.

Although Gollob and Dittes' (1965) hypotheses are based upon their study which manipulated self-esteem, they are supported by Festinger's (1957) "cognitive dissonance" theory which is not restrictive in this way. He proposes that since high self-esteem Ss expect to succeed, a failure will be inconsistent with this belief and will hence cause discomfort. This he refers to as a dissonant state. One method of relieving this state and bringing

about a more satisfying or a consonant state is by lowering the opinion of oneself, i.e., the self-esteem. Low self-esteem individuals, however, do not experience this uncomfortable state when failure occurs because they have learned to expect it. Hence, this theory agrees with the prediction of Gollob and Dittes, although for different reasons.

Festinger's "cognitive dissonance" theory, however, does not make a distinction between threatening and non-threatening communications. The fact that this distinction is important is evident even in those studies cited to support Cohen's predictions. In the Stotland et al. (1957) study, for instance, it was noted that their predictions were only true if the task was non-relevant, i.e., was not important to keep the group together. It may be conjectured, therefore, that failure may not be as threatening as when the task is relevant or important to the group as a whole. Also, in the Stotland and Zander (1958) study, Cohen's prediction that high self-esteem Ss will evaluate their performances highly in spite of failure, was not as well supported when the task failure was publicly observed by an expert, i.e., in a situation which is more threatening than is private failure. Hence, this study will examine the possible differences that might occur when the degree of threat is varied.

STATEMENT OF THE PROBLEM

Although the self-esteem literature is contradictory and inconsistent, two theories seem to emerge which offer some promise concerning the effect failure has on self-esteem. Cohen, in his "defense mechanism" theory, predicts that if high self-esteem Ss are generally less responsive to stimuli which degrade the self than to stimuli which are self-enhancing, then these high self-esteem Ss will, in the face of constant failure, choose to ignore the threatening stimuli and preserve their self-evaluation by maintaining a high level of expectation of success. If low self-esteem individuals tend to use expressive mechanisms which tend to destroy rather than exclude threatening stimuli, they should, under the threat of constant failure, considerably lower their expectation of success and hence their self-esteem. In contrast, Gollob and Dittes and Festinger believe that if failure is threatening, the reverse should be true, i.e., high self-esteem Ss should show the most change whereas low self-esteem Ss should demonstrate little if any change.

Hence, the purpose of this study will be to compare the opposing positions by employing a new technique developed by Feather (1966). However, because this study will employ a pre-dispositional measure of self-esteem, rather than manipulating the self-esteem, it is expected that Cohen's hypotheses will be supported. Therefore it is hypothesized that under constant failure low self-esteem Ss will lower their expectation of success relative to the expectations of high self-esteem Ss.

In addition, this study will investigate the possibility that when failure is not made to appear threatening, the outcome will be different. This possibility was suggested in both the Stotland et al. (1957) and in the Stotland and Zander (1958) studies. Stotland and Zander, for example, found that their hypotheses were not as well supported when failure was publicly observed and hence more threatening, than when the failure was private. It is proposed, therefore, that under conditions in which ego-involvement on the task is enhanced, failure will be considered more threatening than under conditions in which there is less involvement. Thus, those groups which are given instructions which enhance ego-involvement should demonstrate a more accentuated effect, i.e., high self-esteem Ss will show a significantly greater tendency to protect themselves, and low self-esteem Ss will demonstrate a significantly greater tendency to exaggerate their failure.

CHAPTER II

METHOD

Selection of Subjects

All Introductory Psychology students (N=227) attending Summer School classes were given Rosenbaum's Self-Esteem Scale (deCharms and Rosenbaum, 1960). On the basis of the test scores, the lowest twenty-five per cent and highest twenty-five per cent of the scores were respectively designated the low and high self-esteem groups. Those individuals scoring within these ranges were asked to participate in further experimentation. As a result of this request, thirty-two high self-esteem and forty low self-esteem Ss (which represents respectively fifty-seven and sixty-three per cent of those eligible) comprised the sample that was tested. The remaining forty-three and thirty-seven per cent of each group may have already completed their experimental hour quota and hence would not volunteer again. In addition, eighty students from the Personality Psychology course also volunteered. Although these Ss were used as "shams", they were not aware of being treated differently.

Task

All Ss used in the experiment were given a test booklet of twenty pages. The booklet consisted of ten rating scales and ten anagrams, one on each page. The pages were arranged so that a rating scale preceded each anagram in the booklet. The rating scale consisted of twenty-one squares arranged horizontally and

labelled from zero to one hundred in equal steps of five. The statement "No chance at all" was placed at one extreme of the scale, the statement "An even chance" at the middle, and the statement "Completely certain" at the other extreme of the scale. The scale is presented in Figure 1.

Each of the ten anagrams were composed of six letters equally spaced in a scrambled order. The task was to rearrange these six letters so that they formed a common English word. For the Introductory Psychology Ss, the ten anagrams presented in the booklet were comprised of the five failure or "impossible to solve" anagrams used by Feather (1966), and five other failure anagrams specifically devised for this study. These latter anagrams were devised by taking four consonants and two vowels at random. These anagrams were then given to various people not connected to the experiment to determine if they were insolvable. Then five of these that were found to be insolvable were selected to form part of the task. For the Personality Psychology Ss, the ten anagrams in the booklet were comprised of the five success or "easy to solve" anagrams used by Feather and five other success anagrams devised by taking a simple six-letter word and moving one letter to a new position. Below each anagram was the phrase "The word is" followed by six blank spaces into which the Ss were required to place an English word. The success and failure anagrams used are contained in Table 1.

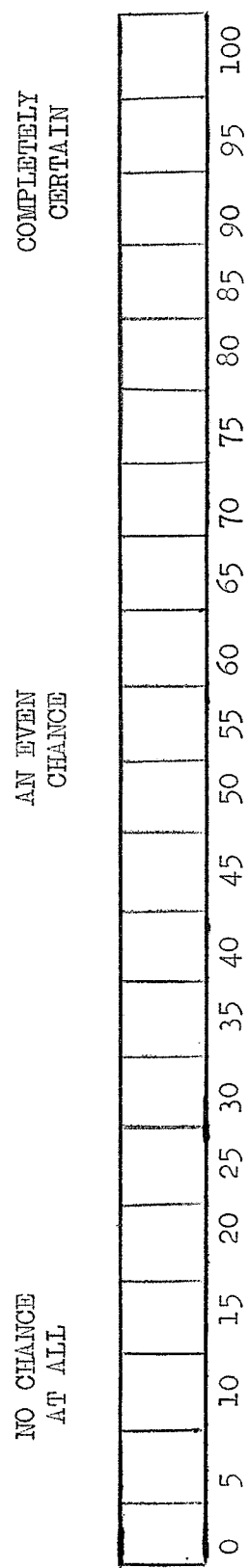


Fig. 1. Rating scale for estimating expectation of success.

TABLE 1
Anagrams*

SUCCESS		FAILURE	
FARTHE	USNLES	ALSEGT	SUNATP
MIDLDE	FRAMER	EMAGLE	GNOMAR
VERABL	EICRCL	FESLNI	KRIOUT
ESCNOD	PORPER	UPSLOH	BREAGI
INDNER	PAYMIL	OPUSGN	HENSRE

*Anagrams in the first and third columns are from Feather (1966).

Procedure

The sixty-four low self-esteem and fifty-seven high self-esteem individuals who were eligible to participate were indicated on posted class lists. All individuals taking the self-esteem scale were urged to check these class lists to determine if they were one of those eligible to participate. Two symbols were used to designate those individuals on the class lists who were eligible -- one for those who were part of the high self-esteem group and one for those of the low self-esteem group. There were eight experimental sessions in which Ss could participate. However, each S could only participate in one of four sessions, depending upon which symbol was beside his name. That is, four of the sessions were designated with one of the two symbols appearing on the class lists and four were designated with the other symbol. If a S were eligible he was requested to sign his name according to these directions. This procedure was followed to insure that there was no preponderance of one level of self-esteem signing up when a particular set of instructions was to be used. Each session was composed of approximately ten experimental Ss of one self-esteem level and ten "sham" Ss.

After a group had assembled for testing, each experimental S was presented with a failure anagram test booklet and each "sham" S was presented with a success anagram test booklet. The booklets were distributed so that no S knew that his booklet might differ from any other. The "sham" S's booklet consisted of "easy to solve" anagrams so as to enhance the notion that the failure

anagrams were possible to solve. After signing their names on the booklet, the following instructions were read in the four sessions receiving ego-involving instructions:

"The test you are about to perform is a test of your verbal intelligence. Please try to do your best as your scores will be taken as a good approximation of your intelligence level. In addition researchers have found, over the years, that this test has been useful in predicting an individual's future academic success.

The test consists of a set of disarranged words called anagrams. Your task is to rearrange each group of letters so that they make a meaningful English word.

There will be a series of ten of these, presented one at a time. You will be given thirty seconds to work at a given anagram.

In addition, would you please indicate prior to attempting each anagram what you feel your chances are of succeeding on the anagram to follow. This phase is merely designed to give us some insight into your reactions to the anagrams, and as such is not really part of the test.

To facilitate your estimate, you are provided with a scale, the first of which is on the top page facing you. Identical scales are provided prior to your solving each anagram. As you can see, the scale ranges from zero to one hundred. You are to indicate on this scale, by means of a check-mark in the appropriate square, your chances of succeeding on the anagram to follow. In other words, a rating of zero would indicate that you are predicting that you have no chance at all of succeeding on the anagram. The middle of the scale would indicate that you have an even chance of being successful, and the end of the scale, or a rating of one hundred, would indicate that you are predicting that you are completely certain of succeeding on the anagram.

REMEMBER: First, you are to estimate your chances of succeeding, then, when you have done that, you will turn the page at the signal and proceed to attempt the anagram. This is the procedure you will follow for each and every anagram.

Are there any questions? If you are ready, would you now please rate your chances of success on the first scale in front of you but do not turn over the page until I tell you to do so."

In the remaining four sessions the following neutral instructions were read:

"The test you are about to perform is in its experimental stages, and, as yet, nothing can be said about its suitability. However, we are endeavouring to clarify and improve the procedure as well as the actual content of the test.

The purpose of this session is to determine how the average college student will respond to some new items with which we are experimenting. Consequently, your responses will serve only as an indication of how favourably these items compare with those used in the past and will, therefore, have no reflection on you personally."

The remainder of the neutral instructions were identical to the ego-involving instructions.

All groups were given as much time as necessary to indicate their expectation of success on the rating scale, but they were only given thirty seconds to solve a particular anagram. After this time interval they were told, as a group, to turn the page to the next rating scale. Thus, the procedure was that everyone was to first rate their expectation, then turn the page to the anagram, attempt to solve the anagram (thirty seconds) and then turn the page to the next rating scale and so forth.

CHAPTER III

RESULTS

The dependent variable was ratings of expected success on each anagram, i.e., the probability estimates given by the Ss each of ten times. Although the Ss were told the solving of the anagrams was of primary importance, in actual fact their progress in anagram solution was of no consequence to the analysis. The mean probability estimate for each anagram was first determined for each of the four different treatment groups, and these means are presented in Table 2. On the basis of these means, an analysis was performed to determine the effects the independent variables (self-esteem, type of instructions and anagrams) had on the Ss expectation of success.

Each S was previously designated either high or low in self-esteem and, in addition, was given either instructions which enhanced ego-involvement or tried to neutralize it. Since the same set of anagrams was common to all Ss, the analysis involved one within-Ss variable and two between-Ss variables, i.e., a Type III mixed design (Lindquist, 1953) was employed. Table 3 presents a summary of this analysis.

In general, it was hypothesized that the group with high self-esteem and enhanced ego-involvement would rate their expectation of success initially high and continue to rate it high throughout the experiment even though subjected to failure. In contrast, the low self-esteem group was predicted to begin with a lower

TABLE 2

Mean Estimates of Probability of Success

Group	Anagram									
	1	2	3	4	5	6	7	8	9	10
Ego-involving instructions & Low self-esteem	.43	.38	.23	.14	.09	.09	.12	.11	.07	.07
Ego-involving instructions & High self-esteem	.56	.43	.31	.25	.21	.19	.14	.14	.12	.13
Neutral instructions & Low self-esteem	.47	.40	.25	.21	.16	.12	.09	.10	.09	.09
Neutral instructions & High self-esteem	.48	.34	.20	.16	.11	.10	.09	.09	.07	.06

TABLE 3

Analysis of Variance of Probability Estimates

Source	df	SS	MS	F
Between subjects	71	176261.25	2482.55	
Self-esteem (B)	1	1190.25	1190.25	n.s.
Instructions (C)	1	1295.68	1295.68	n.s.
B X C	1	4099.95	4099.95	1.64
Error (between)	68	169675.37	2495.23	
Within subjects	648	189677.50	292.71	
Anagrams (A)	9	123677.64	13741.96	130.86*
A X B	9	545.23	60.58	n.s.
A X C	9	229.42	25.49	n.s.
A X B X C	9	956.21	106.25	1.01
Error (within)	612	64269.00	105.01	

*significant, at $p=.05$, F with 9 and 612 df = 2.02

expectation of success than the high self-esteem group and to progressively lower their estimates with successive failures. These same effects should also occur in groups given neutral instructions except in a less pronounced way. In analysis of variance terms, this implies a significant interaction of the level of self-esteem and the anagrams and, in addition, a significant main effect due to instructions.

As indicated by the analysis presented in Table 3, neither the predicted interaction of the level of self-esteem and anagrams, nor the main effect due to instructions was significant. However, one variable was found to be significant, that one being the anagrams. As the analysis indicates, all groups, regardless of self-esteem and instructions, reacted in the same manner to failure. The mean estimates of the probability of success graphically illustrated in Figure 2, illustrates these findings. From this figure it can be seen that after each successive failure there is a tendency in all groups to gradually lower their expectation of success until finally, after failing nine anagrams, they estimate their probability of succeeding at virtually zero.

Because the initial rating of the expectation of success occurs prior to attempting the first anagram, these ratings may give some insight into the initial differences between groups. It was expected that low self-esteem individuals would have a higher expectation of succeeding on a task prior to attempting it than would those Ss with low self-esteem because they have had

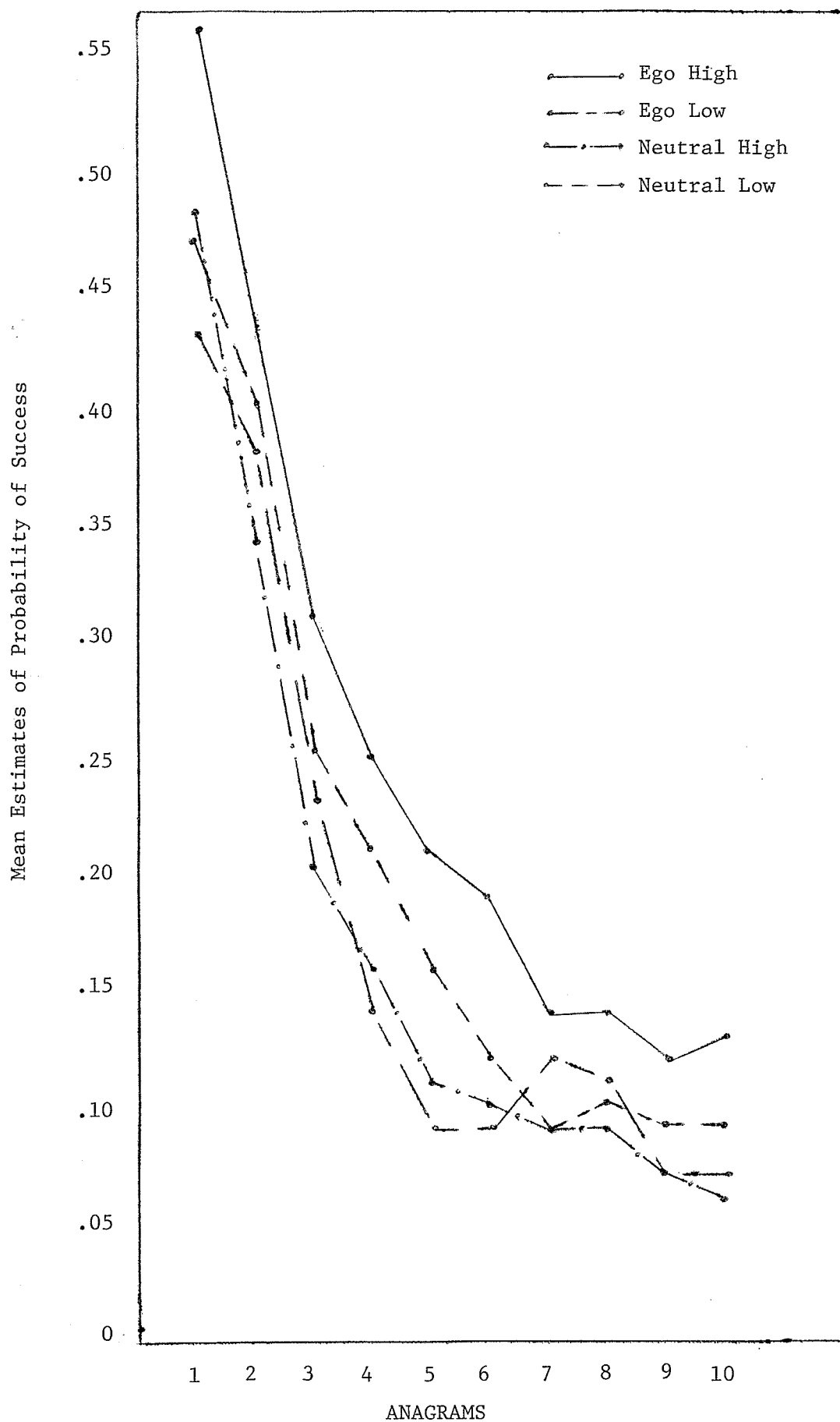


Fig. 2. Mean estimates of probability of success for the four groups.

more experience with success in the past. Thus a factorial analysis was applied to the data for the first probability estimate before any anagrams were presented. Table 4 summarizes this analysis. These results confirm the findings of the original analysis, i.e., neither self-esteem nor the type of instructions successfully differentiated among the groups on the first trial.

TABLE 4

Analysis of Variance of Initial Probability Estimates

Source	df	SS	MS	F
Self-esteem (A)	1	780.29	780.29	2.85 n.s.
Instructions (B)	1	134.10	134.10	n.s.
A X B	1	557.44	557.44	2.04 n.s.
Within groups	68	18602.83	273.57	

F at $p=.05$ with 1 and 68 df = 4.00

CHAPTER IV

DISCUSSION

The analysis of the effect of the three independent variables, level of self-esteem, type of instructions, and failure on successive anagrams, indicated that the only variable that influenced a S's expectation of success was his trial by trial failure on the anagrams. Since all individuals initially began with an approximately "chance" prediction of their likelihood of succeeding, i.e., the mean score for all groups on the first anagram was approximately 0.50, and after nine successive failures, ended with an expectancy of success of virtually zero, it may be concluded that after each failure the level of expectation was further depressed from the previous estimation regardless of the level of the other two variables. Hence, neither the level of self-esteem of the individual, nor the type of instructions given, has any predictive value as to how an individual will estimate his probability of success on the task.

The hypothesis was, however, that high self-esteem Ss would, in the face of persistent failure, tend to use avoidance defenses and disregard expectancies of success which were not confirmed, by maintaining a high expectancy of success throughout. Only the low self-esteem Ss, it was proposed, would lower their initial expectations. In addition, it was proposed that the individuals in each self-esteem group who received ego-involving instructions would demonstrate more of the effect expected for

that group than those individuals receiving neutral instructions because under ego-involving conditions failure should be more personally offensive and threatening. This prediction, however, was also not confirmed.

Several reasons may be suggested for the lack of agreement between the hypotheses and the actual findings. With respect to self-esteem, it is possible that Rosenbaum and deCharms' scale was not adequate in differentiating the Ss into distinctly high and low self-esteem groups. In support of this is the non-significant post-hoc analysis of the initial ratings of expectation of success prior to any failure. The initial ratings failed to differentiate the four groups on the basis of self-esteem. The observation that the Ss' initial expectations of success were not significantly different, suggests that all Ss are of approximately equal self-esteem. The apparent failure of the scale to differentiate the Ss into two distinct groups may be because self-esteem, as measured by the scale, was based on something other than a S's history of success and failure. That is, some investigators define the self-esteem as the discrepancy an individual demonstrated between how he evaluates himself and how he wishes he could evaluate himself, i.e., the congruence between self and ideal self. Still others have defined the self-esteem as being dependent upon how highly a S evaluates his attributes or how satisfied he is with himself. These definitions illustrate the varied conceptions of the self-esteem. Any given measure, therefore, may more or less successfully reflect those aspects or conceptions of the

self-esteem which are significantly related to the behaviour of concern in this study. It may be suggested, therefore, that Rosenbaum and deCharms' scale reflects a different aspect of self-esteem than is sensitive to the effect of failure on anagrams. Consequently, it may not be fair to say that the approximately equal ratings of expectation of success by all Ss is an indication that they are all of approximately equal self-esteem.

If, however, the self-esteem scale was appropriate then it may have been possible that, of the individuals eligible to participate in the experiment, only the highest of the low self-esteem group, and the lowest of the high self-esteem group, actually did participate. If this were indeed the case, then the two types of self-esteem tested would actually form a more homogeneous group than would be desirable or expected. However, an examination of this possibility, presented in the selection of Ss, found that the individuals who volunteered for subsequent experimentation were roughly representative of the larger high and low self-esteem groups that were eligible. In fact, an analysis of the self-esteem scores of the volunteers reveals that they were approximately equally distributed through the range of scores that formed the two self-esteem groups, with only a slightly greater representation from the lower portion of the low self-esteem scores and from the higher segment of the high self-esteem distribution. Therefore, there was more than a sufficient difference between the scores of the low and high self-esteem groups.

Another possible reason for the lack of differentiation

among groups is that the task of solving anagrams may not reflect past expectations of success upon which the self-esteem is dependent. Although used successfully by Feather (1966) as a means of inducing failure, the expectation of success required to be rated in this task may not be determined in the same way as when expectancies were the basis of the formulation of the self-esteem. In other words, the expectancies in this task may have been formulated by all individuals independently of all past experiences outside the laboratory. This would account for the apparent fixation on the centre of the scale in the initial rating. That is, most Ss not knowing what to expect, decided that they had an equal chance of succeeding or failing.

In addition, it may be possible that after the first two or three anagrams were failed, it became obvious to all Ss that success on any item would be impossible. As a result, the Ss may have "given up" attempting the anagrams as they became more and more convinced that this interpretation was correct. If the Ss were resigned to the fact that they were to fail all the anagrams, then this attitude may have nullified any effect of differential self-esteem or instructions. An evaluation of the extent to which a trial and error process of solving the anagrams gave way to no attempt at solving the anagrams, however, was not possible since almost all Ss used purely mental processes and hence there was no record of trial to trial efforts.

Regardless of the reason, however, the four supposedly different groups behaved as one homogeneous group throughout the

experiment. Since the mean expectation of success over all groups was approximately 0.50, the Ss were neither of high nor low self-esteem. Unfortunately, neither Cohen's hypothesis nor its alternative, the fear hypothesis of Gollob and Dittes, suggest how these "neutral" individuals would react to failure.

Although the self-esteem scale may have produced a homogeneous sample, the two types of instruction (ego-involving and neutral) should have differentiated the groups. That is, those given ego-involving instructions should have shown a faster decline in their expectation of success than those given neutral instructions since the former instructions were more threatening. However, although all efforts were made to make the instructions as different in motivational value as possible, there was no effect in reactions to failure from instructions. The most common reason for the lack of effect from instructions, says Ferguson (1962), is the fact that "the high ego-involving instructions are not ego-involving enough and that the low ego-involving instructions are too ego-involving (i.e., not low enough in ego-involvement)." While the two types of instructions for the present study may not have produced any difference in threat from failure, there is no conclusive data to support this interpretation. Perhaps in this case, however, the overwhelming effect of constant failure overrode any effect of instructions or self-esteem.

Although none of the predictions made were confirmed, it must be pointed out, in defense of Cohen's formulation, that the failure involved in this study was private in nature rather than

of the public variety which Cohen and his collaborators use exclusively. Hence, it may be argued that private failure is much less threatening and is thus less potent than open failure is among one's peers. Since private failure may just as easily be ignored as used as evidence that a high evaluation of one's ability is unrealistic, the high self-esteem individuals may not feel that their self-esteem is threatened. Hence, they may become more realistic by shedding their defense mechanisms and, as a result, report their "actual" expectation of success rather than some illusionary one. This is the point Stotland and Zander (1958) made when they said that "among the circumstances that may affect the nature of his reaction to failure are his opinions about how others evaluate his performance, and these opinions are determined by whether the others know about the failure." Thus, it appears that since Cohen's theory deals essentially with social influence, it may be unreasonable to generalize the theory to yield feasible predictions concerning reactions to private failure.

In sum then, neither the "defense mechanism" postulates of Cohen, nor Collob and Dittes' fear hypothesis offers a feasible explanation of the results. Perhaps the most important reason for the failure of either of these hypotheses to predict the results was that the self-esteem scale did not differentiate the sample into two distinct self-esteem groups on the basis of their expectation of success. Alternatively, the overwhelming effect of failure was so strong as to possibly counteract the

expression of any other variable. Private versus public failure, group testing of Ss, the nature of the task and communication among Ss are other variables which have been discussed and which may play a role in determining reactions to failure. A future test of Cohen's hypotheses should precisely control each of these variables in order to fairly evaluate the contribution of his theory in defining the reaction to failure of Ss of differing personality patterns.

CHAPTER V

SUMMARY AND CONCLUSIONS

The basic finding of level of aspiration studies is that success raises the level of aspiration and failure lowers it. In contrast to "typical" reactions, however, some individuals respond to success by lowering and to failure by raising the level of aspiration. These atypical reactions suggest that an individual's history of success and failure, as reflected in his self-esteem, is the most important determinant of his reactions.

Two theories offer contrasting predictions as to the relationship of self-esteem and reactions to failure. Cohen's (1959) "defense mechanism" theory states that high self-esteem individuals use avoidance defenses that allow them to block information which would deflate the self-esteem and are, therefore, not affected by failure. Low self-esteem Ss, however, use expressive defenses such as projection and regression which allow information that deflates the self-esteem to be accepted, and therefore failure has a very pronounced effect on them. Derived from this reasoning is the hypothesis that high self-esteem Ss will choose to ignore failure and maintain a high level of expectation of success with ensuing failure on a task, whereas low self-esteem Ss will tend to distort their failure on a task and considerably lower their expectation of success. In contrast to this, Gollob and Dittes, and Festinger propose that high self-esteem Ss should show the most change in their expectation of success whereas low self-esteem Ss

should demonstrate little if any change. However, because Gollob and Dittes manipulated the self-esteem rather than measuring the predispositional self-esteem, the hypotheses for this study were based on Cohen's formulation. Specifically, it was predicted that the effect of failure would be greatest on low self-esteem Ss as reflected in their expectations of success. In addition, it was proposed that because failure may not be considered as a threat to the self-esteem by some individuals, instructions which enhance ego-involvement should produce more pronounced effects than if the instructions were neutral.

The Ss were divided into high and low self-esteem groups. One half of each group was read ego-involving instructions while the others were read neutral instructions. The four resultant groups were tested separately with each S given a booklet consisting of twenty pages. The odd-numbered pages consisted of a rating scale upon which each S was required to estimate his probability of success on the anagram presented on each of the even-numbered pages. Ss were given thirty seconds to solve each six-letter anagram which, unknown to them, was unsolvable. The procedure of rating their expectation of success and attempt at solution was repeated for ten anagrams.

The data revealed that neither the type of instructions nor the level of self esteem caused any differential reaction to failure. All groups reacted uniformly by gradually lowering their expectation of success with subsequent failure. There was also no significant difference among groups prior to failing the first

anagram, suggesting that the personality scale may have failed to differentiate the Ss into high and low self-esteem groups. The potential effect of other variables, e.g., instructions, and the private nature of the failure, on the obtained results were also discussed. Although the hypotheses were not confirmed, a further, better developed study which provides for more control of these variables might allow for a more conclusive evaluation of Cohen's "defense mechanism" theory.

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