THE GENERALITY OF CAUTIOUSNESS AS A DEFENSE BEHAVIOR

DISSertation

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By

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CHAPTER I

INTRODUCTION

Any measure of psychological behavior would seem to be determined both by the antecedent-historical background of the individual and the nature of the psychological situation. These two factors are not independent, but would almost necessarily lead to an infinite variety of interactions. Therefore, a primary function of the psychologist should be to deal systematically with the more characteristic modes of the individual's behavior and the qualities of the psychological situation in order to understand the meaning of his current behavior. Although the importance of both factors seems ostensible to the author, this view has not usually been shared. The typologists, trait and factor psychologists all but ignore the presence of the situation in which the samples of behavior are obtained, gestalt psychology and its derivatives takes little cognizance of antecedent data. The Character Educational Inquiry study (28) classically illustrates how relevant the specific situations are in determining behavior. On the other hand, the situational approach of Lewin and his students is limited in the capacity to provide generalizations and predictions since they make
little provision for the influences of historic material.

It would seem to be a cardinal maxim for any psychological research or clinical assessment to attempt to evaluate the possible effects of the psychological situation on the response obtained. Rotter (61, 62) has lucidly discussed the theoretical importance for considering the situation and Sarason (66) has described some of the situational variables relevant in intelligence testing. However, continued failure to systematically consider the situation has led to much confusion, wasted effort and pointless controversy in psychology. This has become manifest through inconsistent findings, unsuccessful efforts to replicate experiments, and the inability to increase the predictability and validity of various tests. Documentation of this "state" is replete in the psychological literature. The problems invoked by not efficiently regarding the nature of the psychological situation becomes apparent in the following illustrative examples. Feshbach (15) has reported that hostility provoked in a group of insulted subjects was successfully diluted by permitting them to express their hostility in an intermediate task involving responding to TAT pictures. In subsequent measures these subjects showed less hostility than another likewise insulted group who were not availed of the intermediate task. He therefore concludes that hostility can be drained off in fantasy, or in other words by merely articulating these feelings. However, the question has advisedly been raised by McClelland that the person administering the TAT pictures may have been instrumental in reducing
feelings of hostility by being friendly and favorable toward the subjects and "because the instructions for the TAT (e.g., "feel free to write whatever you like") may have reduced their irritation with the experimenter at its source" (46, p. 53). He supports this criticism of Feshbach's interpretation by citing some research by McKeachie et al. (49) which demonstrated that the instruction "feel free to comment" in an examination significantly increased grades. Follow-up checks revealed that it was not that subjects acted out their anxiety by writing comments that improved grades so much as the fact that they felt the instructor to be more favorable toward them. Rokeach (59) concludes, from a series of studies on problem solving behavior, that people who attain high scores on the California scale of ethnocentrism are more rigid and concrete in their behavior. He further states that rigidity exists as a general trait. On the other hand, Schroder and Rotter (67) demonstrated in a learning experiment that subjects could acquire more flexible problem solving solutions by use of situational cues. This was demonstrated by training them to look for alternatives. Brown (3), in an effort to replicate Rokeach's experiment found no relationship between problem-solving rigidity and ethnocentrism when using the design described by Rokeach, but did find this relationship occurring when he induced ego-involvement in his subjects. Finally, Levitt and Zelen (44) were able to demonstrate a relationship between problem-solving rigidity and ethnocentrism
under neutral conditions but failed to do so when they attempted to introduce ego-involvement.

The position that one can interpret "projective test" results without considering the susceptibility of the responses to modification from situational variables has been decisively challenged. There are a number of studies suggesting that the situation can modify test behavior (5, 6, 13, 34, 45, 53). The individual characteristics of the examiner (45), the contamination of responses from suggestion by extraneous stimuli (6), and the set acquired by the subjects either from idiosyncratic interpretation of the functions of the test and/or specific instructions (34) have demonstrated that personalized responses are vulnerable to situational factors.

The research previously discussed strongly suggests that most individuals, when brought into a given situation and asked to respond are likely to exercise certain controls on their overt behavior. These controls are often considered as a class of defenses since they have a protective function for the individual. They are generally conceived of as protecting the individual from revealing non-desirable aspects of himself which might result in social rejection. All of these controls may be subsumed under the concept of an expectancy for social punishment or social failure. The defenses referred to do not exist in a vacuum, but are, on the contrary, protective measures utilized by the individual relating
to how he feels others think of him. It is likewise quite inappropriate to consider a psychological research or assessment program to be immune from such behavioral reactions. It would be more reasonable to presume that certain defensive reactions might be heightened under such circumstances since the individual would frequently feel that the very behaviors he is defensive about are under the skilled scrutiny of the psychologists. These potential situational reactions have constituted a concern for psychologists. However, rather than attempt systematically to understand these situationally evoked defenses, the tendency has been toward trying to neutralize or diminish this potential source of variance by creating "an atmosphere of rapport." The merits of such an orientation can easily be enumerated upon. Nonetheless, the produced behavior still remains subject to the same situational determinants and to the individual's expectancies of how his behavior will be regarded.

The likelihood for the occurrence of one particular form of defensive reaction seems to be maximized under testing conditions. The defensive reaction in mind might most conveniently be termed as cautiousness. For the purposes of this research cautiousness is thought of as a defense because of its protective quality and is defined as "the tendency to behave in a specific manner contrary to obtaining maximum satisfaction because of a fear of failure or disapproval. Cautiousness occurs where a number of alternative responses are available and the subject selects the one that offers
the least risk of failure. The safest alternative behavior can be represented by stating low goals, being descriptive rather than inferential, or giving the most obvious, commonplace response".

A construct such as cautiousness enjoys the theoretical advantage of being viewed as a possible characteristic mode of behavior which can vary in its intensity for different individuals. It can also be viewed as a form of behavior which can be elicited by definable situational cues. In other words, an individual may maintain a general expectancy that he is apt to experience failure and thus consistently defend against these anticipated experiences, or this reaction may be temporarily elicited by specific situational cues. In either case the situation has some meaning for the individual and consequently for the way he behaves.

It is felt that a more thorough knowledge and control of the potential sources of variance contributed by cautiousness in a situation would help reduce the disparity between the findings of psychological experiments. It would also increase the validity of the interpretations made from psychological test results.

The research to be discussed will be concerned with establishing construct validity for the concept of cautiousness and to demonstrate the effects of characteristic and situationally induced cautiousness on the process of concept formation and fantasy responses. The reason for selecting these two processes as dependent variables is that the willingness to abstract and provide novel and idiosyncratic responses appears to be highly related to the degree that the
individual feels free to expose a more personalized picture of himself and "run the risk" of criticism. Furthermore, the frequency with which responses on concept formation and fantasy material are used establishes the importance for a thorough knowledge of how these responses are affected by extraneous conditions.

The general hypothesis investigated is that people who have an expectancy or fear of failure are more cautious and will select an alternative response involving the least risk. Test materials which provide response alternatives ranging from concrete to abstract levels of conceptulization are presented to the subjects. It is predicted that the cautious individuals will give a greater number of concrete responses as a means of minimizing the possibility of failure. This is tested both for characteristic and situationally induced cautiousness. The Rotter Level of Aspiration Board (63, 64) and a Questionnaire are used to measure characteristic cautiousness. Situational cautiousness is inferred by producing a failure experience in the subjects on a task which they are told measures the same factor as the subsequent tests they are to take. The dependent measures of concreteness are based on the level of inference used by the subjects in sorting 22 cut-out figures into two groups according to one idea, and his descriptive-ness and originality in telling stories about TAT pictures.

The following section discusses the background and rationale of the characteristic measures of cautiousness, of
of cautiousness as a psychological defense, and the measures used to assess the inference level of the subjects' responses.
CHAPTER II

HISTORICAL BACKGROUND OF THE PROBLEM

Level of Aspiration

The level of aspiration is a method used for assessing certain types of behavior under specifically circumscribed situational conditions. The initial systematic expression of this technique has been attributed to Dembo with Hoppe (38) being credited with the first studies in this area. Rotter describes the typical levels of aspiration procedure as follows: "A subject is confronted with some task and, either before or after practice, he is asked to make a statement of how well he will do on the task. After failure or success in reaching this explicitly stated goal, he is asked to make another estimate. This may be repeated several times. Through this procedure it is possible to study, fairly objectively the effect of success and failure on the explicitly set goals of a subject, where success and failure are defined as reaching or not reaching the previously set goal" (61, p. 313). This behavioral definition of the level of aspiration technique has been quite strictly adhered to by other recent investigators (16) and quite clearly establishes the level of aspiration as a behavioral test. More generally, a behavioral test has been described as an "instrument in which the behavior being observed
in a test situation is the same as or similar to the behavior that
the investigator is concerned with predicting in the life situation" (61, p. 311).

The level of aspiration technique provides a sample of
behavior in a given situation during an observable sequence of
events. It furthermore affords the opportunity to see how real-
istically or defensively the individual reacts to failure and
success experiences. Lewin et. al. state that, "Lowering the values
of the failure scale means psychologically being less afraid of
failure. This would tend to move the resultant valence and there-
fore the goal line up relative to the achievement, resulting in
high positive discrepancy scores. In other words, the relative
weight of the success and failure scales determines what is usually
called the readiness of the individual to take risks or to be
cautious" (38, p. 373). They go on to point out that most of the
results regarding level of aspiration can theoretically be
classified in three categories: (1) the seeking of success, (2)
the avoiding of failure and (3) the cognitive factor of a
probability judgment.

Varying methods have been used for scoring and analyzing
the individual's responses to level of aspiration tasks. The
different methods of scoring range from utilizing highly specific
measures for describing level of aspiration behavior to the use of
broader categories or constellations of behavior. The more specific
scoring schemes are generally based on a single or the average of
several "goal discrepancy scores", whereas the broader methods of analysis attempt to take into account the sequence of events or patterns of level of aspiration behavior. The differences in scoring procedure appears to be a highly important consideration for a meaningful evaluation of the generality of level of aspiration behavior when predicting to other life situations. The use of patterns has greater generality than discrepancy scores (21, 38, 65, 68, 69).

The goal discrepancy score (D-score) represents the difference between the individual's actual performance on a completed test and his stated expectancy or estimate for his forthcoming performance on the next trial. When there are a number of trials in the task, each providing a performance score followed by a stated expectancy, a series of discrepancy scores is obtained. In this case, the final discrepancy score is the algebraic average of the discrepancy scores. In this way an individual can be assigned a positive discrepancy score if his expectancy statements are generally above his proceeding performances and a negative discrepancy score if his expectancies are generally lower than the antecedent performances. Hausmann (29) introduced the procedure of penalizing the individual for overestimating his performances and to credit him with a score no higher than he estimated even if he happens to score higher on his performance. This procedure seemingly has several advantages. It would tend to reduce capricious bidding, increase personal involvement, and would create a greater simi-
larity between the level of aspiration task and other life situations since individuals are often penalized in one way or another for over- or under-estimating their abilities. The reason for mentioning this contribution of Hausmann's at this point is that it would seemingly have clearly modifying effects on the nature of the goal discrepancy score which would lead to greater generality for this measure.

The goal discrepancy score has been the most commonly used measure for ascertaining individual differences in level of aspiration behavior. This measure is subject to error created from occasionally extreme discrepancy scores which may occur when the individual's performance on a few trials is inordinately out of keeping with most of his other trials and he ignores his performances on the poor trials in giving his subsequent estimate. This source of error is generally reduced by increasing the number of trials since performance usually becomes more stable with increased practice on a task.

Sears (68) has modified the strict usage of discrepancy scores by categorizing them into patterns based on three concentrated dispersions of discrepancy scores noted in the level of aspiration behavior of children. These three patterns are described as high positive discrepancy scores, low positive discrepancy scores, and negative discrepancy scores. Gardner (21) has used a similar method of analysis. This approach has been expanded by Rotter (61, 65), who describes nine patterns. He states that "the patterns
are to be thought of not as rigid types of response but as concentration points that appear naturally and are useful for descriptive purposes. Individual responses classified as belonging to one pattern differ in the degree to which they conform to the prototype of that pattern. Many of the patterns merge into other ones and some represent mixtures of patterns" (61, p. 319). Each of the nine patterns is characterized by the following three factors: (1) the obtained average discrepancy score, (2) the number of shifts the individual makes, that is, how frequently he changes his estimate after each performance, and (3) the unusual shifts made where he lowers his estimate after success or raises it after failure.

Considerable research has been carried out utilizing the level of aspiration paradigm. The focus of these studies have ranged from attempts to note typical level of aspiration behavior, changes in goal setting following success and failure, observing the generality of this behavior from one situation to another, and attempting to relate different measures of level of aspiration behavior to such things as personality ratings, indices of adjustment, effort exerted and to behavior purportedly characteristic of different criterion groups (38). The subsequent discussion will for the most part be concerned with the generality of this behavior and its possible relationship to more characteristic aspects of personality. The ultimate concern here is to determine the effectiveness of this technique for predicting to the presence and
use of certain personality defenses. This seems feasible since the level of aspiration paradigm demonstrates a behavioral process where defensive alternative responses are available to the subject.

Test-retest generality has been demonstrated by Rotter (63) for some of the sub-measures in a motor test developed for the clinical and research study of level of aspiration behavior. The subjects were given this procedure and then were retested on it one month later. A correlation coefficient of .46 was obtained for the number of times the subject reached or exceeded his estimate; .56 for shifts up or down following success or failure to reach the estimate; and .70 for frequency of shifts. These correlation coefficients are statistically significant and attest to the generality or stability of these measures on the same task over time. With the exception of the discrepancy score, these coefficients concern the variables which are used to describe Rotter's nine patterns.

Frank (17) correlated the discrepancy scores obtained on the same task for two different sessions. He found a correlation of .57 between the discrepancy scores of one task for different sessions and a correlation of .75 for another task. He also obtained coefficients ranging from .50 to .63 when correlating the discrepancy scores between different tasks (printing and spatial relations) given during the same session. Gould (23) used six tasks, three given in one session and three in another. She inter-
correlated the discrepancy scores within and between the sessions. The median correlation within one session was .46 and the median correlation of discrepancy scores for different tasks between sessions was .30. This led Gould to conclude that individuals respond more to the situation than to the task.

Heathers (30) obtained results which support the view that generality in the level of aspiration is in part a function of the objective similarities in the test situations. He used five tasks and gave 22 trials on each task. The subject was told his performance score after each trial and was asked to estimate his score for the next trial. Heathers varied three factors: shape of the performance curve by controlling the actual scores obtained; the unit scale reported to the subject; and motivation through using different instructions. He found significant differences between correlations of discrepancy scores on different tasks when these factors are held constant and when they are varied. When the shape of the curve, units reported, and instructions were all the same he obtained some very high correlations between discrepancy scores on different tasks ranging from .79 to .93. By varying any of these factors the correlations often dropped to a statistically significant degree. He concludes that "objective similarity" between tasks is an important factor for the occurrence of generality. However, he found moderately high correlations between discrepancy scores on different tasks even when he varied objective conditions. The fact that specific
situational factors are relevant is nicely illustrated in a study by Millstein and Witt (51). They found that lower class boys had high level of aspiration on puzzles (from Cattell's Culture Free Test) and middle class boys had low level of aspirations under neutral conditions. However, under "ego involving" conditions where the subjects were told that the puzzles were a measure of intelligence, lower class boys gave low level of aspirations and middle class boys gave high level of aspirations.

Another interesting and important factor regarding generality between level of aspiration tasks pertains to the transfer effect of one task or another. Jucknat (38) found that success or failure experiences on one task effected the initial estimate on a second task to the extent that this latter task resembles the first one. The beginning estimate for the second series was lower when the individual had experienced failure on the first series and just the opposite when he was provided with a success experience for the first task.

Dean (11) attempted to measure the amount of generality for discrepancy scores obtained on one task when trying to predict them from the behavior on other functionally related tasks or situations. He administered the Rotter Level of Aspiration Board to a group of subjects in order to obtain discrepancy scores (D-scores) between expectancy and performance on one task. He predicted that the D-scores obtained on this task could most
accurately be estimated from the D-scores obtained on a similar task which in this case was a modified version of the level of Aspiration Board, less accurately from interview ratings of expectancy for success in motor skills in general, and least accurately from interview ratings of expectancy for success on all behaviors with the exclusion of motor skills. These predictions were supported in that he found the following correlations between the D-scores on the Rotter Level of Aspiration Board and the measures from the functionally related situation: .70 for D-scores on the similar task; .42 for the interview ratings on expectancy for success in motor skills and .26 on interview ratings of expectancy for success in general when motor skills were excluded. This leads to the conclusion that accuracy of prediction for a specific behavior decreases when using a more general or inclusive situation to predict from.

These studies point out that a number of factors contribute to the generality among level of aspiration tasks. Evidence is present that the specific situation, the similarity of tasks, the type of instructions, difficulty level, scale units and level of abstractions or inclusiveness of the categories of behavior used are all factors which when varied decrease the observed relationship.

It would be expected that greater generality between tasks might be observed if one were to correlate patterns (as have been described by Rotter (65), Sears (68), and Cohen (7) of goal setting)
behavior rather than restricting these analyses to the more specific variables which have been used. This seems evident since the use of patterns could take into account the more specific situational nuances present and assess the individual's over-all approach to the task. In this way one could predict to more general behavior. However, with the use of fairly specific variables moderately high correlations still occur even when explicit situational factors are not maximally congruent. This suggests that certain pervasive personality factors persist as more or less characteristic modes of reaction to level of aspiration situations. The nature of the commonality for the individual between situations is suggested by Frank. He states "the level of aspiration situation is usually a threat to the subject's self-esteem in that he must not only exhibit his ability before someone else, but must openly commit himself as to his expectation of future achievement" (16, p. 223). A number of studies have attempted to observe to what extent different measures of (specific) level of aspiration tasks relate to broader, more general features of personality.

Gould and Kaplan (24) found quite low relationships between D-scores and various personality scales. The highest correlations obtained were between D-scores and dominance (r= .21) and extroversion (r= .19). Gruen (25) studied the relationship of goal setting behavior using a symbol substitution task and personality adjustment in adolescents as measured by the Rogers Test of Personality Adjustment. He found the negative D-scores to be characteristic
for only the maladjusted subjects and these subjects also tended to give the extreme D-scores (high and low), whereas the well adjusted subjects tended to give the more "realistic", low positive D-scores. The differences between D-scores for the well adjusted and maladjusted groups were significant at the 1 per cent level. Zelen (76) noted significant relationships between a measure of rigidity on a group level of aspiration task and some of the standard paper and pencil measures of rigidity (California E and F scales and a short form of the Wesley Rigidity Scale). Jost (40) compared the goal setting behavior of subjects classified as schizophrenics with a group of normals by using the Rotter Level of Aspiration Board. He found that extreme mean discrepancy scores (negative and positive) occurred much more frequently among the schizophrenics, 3\(\frac{1}{4}\) per cent of the scores obtained by this group falling outside the limits of the normal group. He also found that 52 per cent of the schizophrenics gave three or more unusual shifts (up after failure and down after success), while this was noted for only 24 per cent of the normals. This difference is significant at the .05 level. Hausmann (29) observed that schizophrenics made an inordinate number of unusual shifts. He also noted that paranoids attain unusually high D-scores by adhering to high estimates regardless of their performance and even when they are penalized for over estimating their scores. A number of other investigators have observed and commented on the
curvilinear distribution of D-scores found when studying goal setting behavior in relationship to personality variables and defenses (25, 40, 61, 68). Two salient defense patterns seem to frequently emerge as protection against failure. Either the individual cautiously makes his estimate very low so as to almost insure success in attaining it or he gives prohibitively high estimates where he avoids experiencing failure by not taking the task seriously or in a sense "leaving the field". This latter type of response could be deemed fantasy behavior since the individual may be providing his desired rather than expected goal. Low positive discrepancy scores have been observed to be the most typical and realistic scores attained by people in western cultures (38).

The level of aspiration technique has been a frequently used procedure for assessing defensive behavior. Gould (23) related goal setting behavior on six level of aspiration tasks to observations made on her subjects from intensive interviewing. From her results she concludes that goal setting behavior often serves as a "protection of the ego" in which the stated estimates are designed to shield the individual from failure. She indicates that for certain individuals their defensive behavior seems to be a pervasive characteristic whereas for others it is more situationally evoked or evident in specific tasks. Sheehan and Zelen used the Rotter Level of Aspiration Board for studying the goal setting behavior of stutterers. They state that "the defensive
nature of the stutterer's symptoms and the significance of unadaptive goals in the psychology of stuttering may differ from the non-stutterers in goal setting behavior" (70, p. 85). Their findings that stutterers had lower discrepancy scores than normals supports the hypothesis that this group defend against the threat of failure. Holt (36) attempted to determine whether level of aspiration responses represented incentive or defensive behavior for the individual. He studied a sample of undergraduates who were about to take examinations in college courses. One group of subjects were asked for their expectancies and another for their goals on the forthcoming exams. He reasoned that if level of aspiration represented "incentive" there would be a positive relationship between the estimates and performance on the exams, but if, on the other hand, these estimates were a reflection of defensive behavior no correlation would be present. No relationship was found for either the goals or the expectancies, thus supporting the "defense-hypothesis" of goal setting behavior. In another study Holt, noted consistent patterns of defense where the performance scores were controlled by the examiner. These patterns were based on "discrepancies between predictions and performances, shifts in estimates of ability, ranges of aspirations, and shifts in personal importance of abilities" (35, p. 457). He validated these patterns by the use of case studies on his subjects.

Yacorzynski found an inverse relationship between level of aspiration and "degree of effort" exerted by S's as measured by
an independent task. An increased "degree of effort" was associated with lower D-scores. He felt that "confidence" was the underlying variable effecting both of these behaviors and that people with less confidence exerted more effort and submitted lower discrepancy scores. He obtained some interesting anecdotal statements to support this thesis by questioning subjects with extreme scores as to their confidence. One of the subjects who exerted the greatest degree of effort and who had a low level of aspiration stated "I feel that I am not able to mix with crowds because I have had less opportunity, it makes me feel inferior that I cannot keep up with them" and another said "I have always felt inferior". Two subjects who had attained scores at the other extreme were likewise questioned as to their confidence and one stated, "I have average confidence", and the other, "I have a great deal of confidence" (75, p. 409-410).

Rotter (65) used his Level of Aspiration Board for studying the goal setting behavior of a number of groups. He found the mean D-scores of a group of crippled subjects to be significantly lower than those of normals. A group of prison inmates who had been rated on the basis of interviews and records as having a defeated evaluation of themselves gave an unusual number of extreme D-scores. Approximately one-third of the D-scores of this "defeated" group fell beyond the limits (in both directions) of the normal group. Rotter has also described nine patterns for characterizing the subjects general level of aspiration behavior and has used them
to categorize the above referred to groups. He says that patterns should be looked upon as points of concentration which can be used as flexible standards for understanding the different cases. Allocating a particular pattern to an individual is based on three factors: (1) his D-score, (2) the frequency of shifts, and (3) the occurrence of unusual shifts (up after failure and down after success). Briefly, the patterns are described as follows:

No 1. Low Positive D-score pattern. This is generally considered to be the most realistic response. Estimates are usually higher than past performances with an average number of shifts and an absence of unusual shifts.

No 2. Low Negative or Very Slightly Positive D-score patterns. Similar to pattern No. 1, only with lower D-scores in the direction of cautiousness or protection.

No 3. Medium High D-score. Subjects are responsive to success or failure and are characterized by high D-scores.

No 4. Achievement Followers. In this group there is a constant change of estimate to a score exactly the same or quite close to the previous estimate.

No 5. The Step Pattern. Here the subject refuses to lower his estimate.

No 6. Very High Positive D-scores Pattern. In this pattern the subject leaves the reality of the situation and gains his satisfaction from merely stating high goals.

No 7. High Negative D-scores Pattern. This is characterized by frequent shifts down after success and lower D-score.

No 8. Rigid Pattern. This response is defined by an absence of shifts.
No 9. The Confused or Breakdown Pattern. Here
there are high frequency of shifts with
unusual shifts of both kinds being frequent.
D-scores can be any size.

The distribution of patterns for some of his groups, as defined
in percentages of occurrence, is illustrated in the following table:

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As can be seen, the more realistic approach of pattern 1 occurs
at a very low frequency with the defeated group and they give a
higher proportion of some of the more unrealistic or avoidant
defensive responses (Patterns 5, 6, 8, and 9). On the other hand, the
crippled subjects are more often characterized by extreme cautious-
ness (Pattern 7), dependency (Pattern 4) and are too reality bound
to engage in the higher risk taking approaches inherent in Patterns
3 and 6.

Gardner (21) and Sears (68) have made use of a less
refined pattern analysis for predicting personality variables.
Gardner at first correlated subjects' D-scores with ratings on
personality variables and failed to observe any statistically
significant relationships. He then divided his subjects into
three groups; those with highest D-scores, lowest D-scores, and
an intermediate group. After ranking his subjects on the
personality variables he found that the ones in the low D-score group were rated highest on fear of failure, and lowest on sense of security and tendency to face reality frankly. Sears studied the level of aspiration behavior on reading and arithmetic tests for thirty-six school children. She related their behavior on these tasks to their academic achievement records and to personality ratings obtained from tests and intensive interviewing. The level of aspiration responses were trichotomized into three patterns: 1. Low Positive Discrepancy group, 2. High Positive Discrepancy group; 3. and a Negative Discrepancy group. The Low Positive group was made up primarily of the "academic success" subjects. "They are strongly involved in the school work, require success in it for gratification of self-esteem and on the whole seem to find such success rather readily. They do not react with feelings of failure on material which is clearly too difficult for them" (68, p. 324). The High Positive group came for the most part from the "academic failure" children. "They rather freely admit incompetence in achieving success. Self-confidence is low, although they show strong pressure and drive for success. In general they are not well adjusted socially, are tense, apprehensive, sensitive, insecure, worried, and usually seem to utilize persistent non-adjustive forms of reaction to problems of their school and social life". The Negative Discrepancy group was comprised of children who experienced success in one
academic area and failure in another. "The common elements in
their behavior are self-consciousness, embarrassment at disclosing
or being required to make a statement about their motivations or
aspirations, strong social reactivity and a desire to impress
others. They are unable frankly to admit either success or
failure, seem insecure, self-protective, and react defensively
to questioning. They appear to be anxious and to fear failure,
but this failure is conceived of primarily in terms of the social
aspects of situations in which they might succeed or fail" (68,
p. 325).

Neems and Scodel (54) found no relationship between
D-scores obtained on the Rotter Level of Aspiration Board and
authoritarianism as measured by the California F scale. However,
they did observe the curvilinear relationship where the "high F's"
exhibited extreme behavior (high and low) both on D-scores and
frequency of shifts. They then categorized their subjects according
to Rotter's nine patterns and dichotomized these patterns into
two groups. One group was made up of those subjects exhibiting the
defensive and cautious-like patterns and the other group was
comprised of the subjects whose behavior represented the more
realistic and risk taking approaches. This method of analysis
yielded a significant relationship between the defensive patterns
and high scores on the F scale.

The previously discussed research points out that a number
of factors contribute to the efficacy of level of aspiration tasks
for predicting characteristic aspects of personality. Equivocal results have been obtained using D-scores. This seems to in large be due to the often unaccounted for curvilinear distribution of D-scores and the fact that this measure is too specific to efficiently identify more general behavioral processes. Furthermore, it has been demonstrated that D-scores are not equivalent in different tasks but are subject to modifications from such things as type of instructions, difficulty level, etc. The findings reported suggest that the most clearly observed relationships are established by using a standardized task and to interpret the obtained behavior in terms of systematically defined patterns. The standardized task provides the investigator with a situational "frame of reference". The use of patterns can facilitate an examination of the on-going behavioral process through weighting all the variables that enter into the individual's explicit goal setting behavior.

The behavior observed in level of aspiration tasks seems to relate to a clearly circumscribed dimension of personality. At one extreme this dimension seems to be characterized by such terms as confidence, and risk-taking behavior, and at the other extreme by cautiousness, feelings of inferiority, inadequacy and expectancy for failure. The intermediate position appears to be best exemplified by moderately realistic probability judgments regarding one's behavior. This dimension seems quite broad in its implications since it involves a behavioral sequence which appears to be
operating in an infinite variety of situations. People are invariably observed performing in one way or another in goal directed activities. The individual differences in the approach toward environmental goals is suggestive of the generality of this dimension.

**Questionnaire**

No questionnaire has previously been developed for the purpose of measuring cautiousness. The closest approximation to such a questionnaire are the various attitude scales concerning "conservativism". However, these scales, deal for the most part, with socio-political attitudes and not with the specific cautious behavior relevant to this research. Consequently, we devised a questionnaire for measuring characteristic cautiousness. This scale is discussed in more detail in the methodology section.

**Cautiousness as a Defense**

Cautiousness has been considered chiefly as a descriptive term in psychological parlance and has gained limited theoretical attention as a central variable for determining human behavior. The peripheral consideration of this concept in psychology is in part verified by the absence of any reference to cautiousness in the indices of the past issues of the Psychological Abstracts. Consequently, there is very little literature regarding this topic and no direct theoretical espousing of cautiousness as a defense.
Cautiousness for the most part has been defined in terms of the operations of various tasks and it becomes manifest as a possible behavioral outcome when a finite number of alternative behaviors are available. This is apparent in the preceding discussion of level of aspiration research. It is felt that this variable warrants more serious consideration for evaluating human behavior. The reason for this feeling is that cautiousness is a behavioral alternative that is frequently available, and apparently often utilized, in dealing with a myriad of everyday life situations. The recent upsurge of concern with the wide-spread orientation toward conformity (20, 58) (which might well be considered as a special case of cautiousness) in the United States is supportive of the presence and importance of cautious behavior as a defensive alternative. The reason for considering it as a defense is that it has a protective function for the individual. For the purpose of this research cautiousness is defined in behavioral terms and is represented by the individual's adopting of a safe alternative in preference to one which might afford greater ultimate satisfaction in order to protect himself against an expectancy of failure, punishment or some other noxious experience. The tendency to seek the safe, protective alternative may represent a characteristic approach or may be specifically invoked by threatening situational cues.

In light of the paucity of literature directly regarding
cautiousness it might be helpful to survey the status of "defense mechanisms" in general and to see how cautiousness relates to this area of interest. Freud has generally been credited with introducing one of the first articulated expressions of defenses. He (19) initially used this term interchangeably with repression, but later extended it to account for other processes. Therefore, repression came to constitute only one form of defense rather than a synonym for this concept. In Freud's earlier and more recent statements defenses have their reference to biologically posited qualities of man. That is, they serve to protect him from "instinctual demands" which would otherwise disrupt his homeostatic relationship with his environment. This position is maintained but further developed by Anna Freud. She states that "the defensive methods so far discovered by analysis all serve in a single purpose - that of assisting the ego in its struggle with its instinctual life. They are motivated by the three principal types of anxiety to which the ego is exposed - instinctual anxiety, objective anxiety and anxiety of conscience", (18, p. 73). She further points out that psychoanalytic thinking has undergone a transition towards the study of more varied and differentiated forms of defenses. The earlier investigations were focused on the mechanisms adopted by the ego in its struggle with the id, next they were studied in terms of the strife between the ego and the superego, and currently interest has been extended to the protective devices evolved in
the conflict between the ego and the outside world. This view
holds that the ego not only "defends itself against the pain
arising from within" but that defenses are also invoked to protect
the ego from "pain which has its source in the outside world" (18,
p. 74). Although this current position suggests a trend toward
a more socio-psychological view of defenses, some continued
adherence to a biological basis for conflict is maintained. This
is illustrated by her statement that "in all these situations of
conflict the ego is seeking to repudiate a part of its own id"
(18, p. 73). At best this position seems to represent a compromise
between social and biological factors.

Adler's (1) conceptualization of defenses historically
parallels the work carried out by Freud. However, he takes an
entirely different point of departure by essentially focusing on
the social nature of man. Adler's "safeguarding devices" are
comparable to what has generally been described as "defense mech-
anisms". The functions of the safeguards are to "protect the self-
esteeem from threats by outside demands and problems of life" (1,
p. 265). The extreme dependency and inadequacy characteristic of
early development provide the basis for feelings of inferiority and
lack of self-esteem. Therefore, the need to develop safeguards is
established during childhood. For both Freud and Adler, all symptoms
are considered as a form of defense. Adler contends that there
are two rather frequent symptomatic reactions evidenced in the efforts
to safeguard oneself against the basic feelings of inferiority.
On the one hand the individual may exhibit unrealistic compen-
satory ambition and/or he may attempt to protect his self-esteem
by restricting his environment and thus avoid the threat of
failure. These two symptom patterns are not considered to be
independent of one another nor as characterizing opposite ends
of a continuum. A person could be inclined to restrict his
interaction with his environment even more so by upholding such
unrealistic goals that any active effort to pursue them could
only lead to failure and to further loss of esteem. However,
by restricting his behavior he could deceive himself into believing
that these goals were attainable if he only chose to act on them,
or that it was useless to pursue them since external circumstances
were deliberately opposing him. Social"distance"is the basic
defense underlying these more specific symptomatic reactions.
Distance refers to use of behavioral symptoms in order to avoid
self-debasing social situations. This position is illustrated by
the following statements of Adler's: "To some degree or other,
every neurotic restricts his sphere of action, his contacts with
the whole situation. He tries to keep at a distance the real
confronting problems of life and confine himself to circumstances
in which he feels able to dominate" (l, p. 278). "The goal of
supremacy will suggest itself if we ask, why so afraid of in-
adequacy? The answer can only be, because the individual has
set for himself so high a goal of success" (l, p. 279). "An
increased insecurity feeling in childhood causes a higher and more unilateral goal-setting, a striving which goes beyond human measure, and at the same time brings about the best suited efforts or safeguards for attaining the goal. This combination gives us a picture of those phenomena which we call neurosis, and from which the neurotic character rises strikingly and more prominently with either its whipped-up activity or its semblance of irreparable passivity, sometimes behind the mask of indecision and hesitation" (1, p. 245). "There is only one reason for an individual to side-step to the useless side: a fear of defeat on the useful side. In this fear, one can see the increased inferiority feeling of the patient and, added to this, his hesitation, his halting, or his flight from the solution of one of the social problems of life (there are no others)" (1, p. 157).

The eminence of Adler's theoretical contributions is evidenced by the widespread influence it has had on current psychological thought. A number of the prominent contemporary theories in psychology bear a striking similarity to Adler's earlier described views. The classification of "neo Freudianism" to the approaches adopted by Fromm, Sullivan, Horney and others appears to be a misnomer in light of recent discussions comparing these theorists with both Freud and Adler (1). For the most part, the resemblance of their thinking to Adler's is so marked, that he would almost explicitly have to be regarded as the historical predecessor of these current views. A theoretical tie to Adler
is also strongly suggested in the work of Lewin and his students. The far reaching influence of Adler's thinking and his social orientation has undeniably permeated present day psychology.

His observation that the course of human development, with its prolonged stage of helplessness in childhood, is conducive to making people particularly susceptible to "feelings of inferiority", appears to be a major contribution. Furthermore, the resultant safeguards adopted of "restricted" or "unrealistically high goal" settings remarkably parallels one of the more consistent findings of the level of aspiration research. That is, the results of this body of research repeatedly demonstrates a curvilinear distribution of D-scores, where both extremes are represented by the more maladjusted subjects. More specifically, some subjects appear to protect themselves against failure or loss of esteem by stating unrealistically low or unrealistically high goals. Many of the independent measures of personality used in level of aspiration studies characterize the lower extremes as lacking confidence, having feelings of inferiority, fearing loss of self esteem and as being cautious. These findings are suggestive of a constellation of functionally related behaviors which might well be designated as the construct of cautiousness. The construction of cautiousness as a defensive alternative seems to be in keeping with the Adlerian model and its derivatives.

Cautiousness is a defensive form of social behavior which is quantitatively defined both as to intensity in a given
situation and as to its generality for a variety of situations. It is predicted that the more intense the cautious behavior the greater anticipation the individual has of experiencing failure; and that the greater number of situations in which the individual manifests cautious behavior, the more general is his subjective expectancy that he will fail. A few illustrative studies may help clarify the distinction between situationally produced and generalized cautiousness.

Henry and Rotter (34) have demonstrated that specific situational variations in the administration of the Rorschach has extensive modifying effects on the obtained responses. They predicted that telling the experimental subject (in addition to the standard Klopfer instructions) that this test "is used to discover serious emotional difficulties" would result in more conforming and cautious test behavior. These hypotheses were confirmed. The experimental subjects exhibited a decreased total number of responses, and more form, good form level and popular responses. Klopfer states that findings in the obtained directions for these particular Rorschach variables is suggestive of "generalized constriction", (42, p. 270), "an overemphasis upon conventionality, perhaps through training or fear of error" (42, p. 313), and as "an indication of inhibition of productivity in the face of an external emotional challenge" (42, p. 331).

Block and Petersen (2) have taken some steps towards determining the psychological generality of cautiousness. As part
of an intensive assessment program they attempted to determine
the personality correlates of varying degrees of cautious behavior.
Cautiousness was measured by decision making behavior when different
levels of information was available. By using the constant stimuli
method subjects had to decide whether one line was longer or
shorter than another under varying levels of difficulty. They
also had to state the confidence they had for their decision in
terms of probability of accuracy. In this way they were able to
compare (a) subjects who had high confidence in all their decisions,
including decisions based on insufficient information, (b) subjects
who had low confidence in all their decisions, including decisions
based upon relatively complete information, and (c) subjects who
had high confidence when their information was relatively good and
low confidence when their information was poor. Complete person-
ality data was obtained on these subjects during a three-day
assessment program. These data consisted of projective test
findings, behavioral observations in various situations, interviews,
etc. Next a group of judges described each subject by means of a
Q sort and an adjective check list. The subjects were categorized
as "overly confident", "overly cautious", or as having "warranted
cautiousness" for their behavior on the constant stimuli task. They
felt, for example, if a subject expressed low confidence for de-
cisions made when he was operating well above his threshold of
discrimination, it was reasonable to consider this caution as
unwarranted. On the basis of the personality ratings the subjects
judged to be overly cautious are seen as lacking in self-reliance
and social perpectivity. Furthermore, these subjects were described as being introspective, self-abasing, feeling unworthy, guilty, humble and given to self blame. They state that the overly confident individual "defensively ignores or turns away from awareness of the self". The combined overly cautious and overly confident groups were described as being characterized by a narrow range of interests, as rigid and inflexible in thought and action, and stereotyped and unoriginal in approach to problems.

**Concept Formation**

Concept formation in this study is one of the behaviors used for assessing the effects of characteristic and situational cautiousness. It has previously been suggested that the cautious individual will attempt to minimize the possibility of failure by giving the most obvious and conventional response. The more obvious concepts would be those based on lower levels of inference and concerning concrete aspects of the stimulus material.

Inference levels are described along an abstract-concrete continuum and these behaviors have generally been investigated within the topic of concept formation. Responses at one extreme would be expressed by a higher level of abstraction to the stimulus material. Responses at the other extreme would be descriptive, concrete and related to the more obvious qualities of the stimulus. The behavior under consideration in this section pertains to this abstract-concrete dimension of the individual's responses.
Some investigators have felt the need to make a distinction between descriptive labeling (concrete) and concept formation (abstract), whereas others have considered both of these processes as different levels of conceptualization within the scope of concept formation. Osgood represents the former school of thought by stating that the definition of a concept as "a common response (usually verbal) made to a class of phenomena the members of which display certain common characteristics" is inadequate since it "does not distinguish between simple discriminative labeling and abstract conceptualization". In order to satisfactorily make this distinction he suggests that "the only essential common characteristic is that a group of discrete situations be associated through learning with the same mediating or symbolic reaction" (55, p. 666). Smoke takes a more inclusive view of concept formation. He provides an approach where concepts are defined in terms of their level of inference, from the descriptive-concrete to the higher level abstraction. He states that "concept formation is the process whereby an organism develops a symbolic response which is made to the members of a class of stimulus patterns, or to an aspect of such a class, but not to other stimuli. When such a generalized symbolic response represents the members of a class of stimulus patterns the organism has formed a class concept (for example, "chair"). When such a response represents an aspect of a class of stimulus patterns the organism has formed an abstract concept (for example, "justice")
(27, p. 97). Most of our investigations regarding concept formation and levels of abstraction are based on the use of language. Relevant contributions in this area have been provided by the semanticists. Johnson (39) points out that the structure of reality is much more complex and differentiated than the structure of language. Therefore, any use of language is going to involve some level of abstraction since certain details of reality are going to be left out. The more extensive the omission of details the higher the level of inference or abstraction. He also describes the process of abstracting as being potentially continuous, personal, and projective.

The different points of view in this area have influenced the type of experimentation on concept formation. Hull (37) held that a concept was formed when the subject could identify the "identical element" in a series of stimuli. He used a group of Chinese characters as stimuli. The characters contained "identical elements" by having "certain strokes in common" with other characters. When the subject found these "identical elements" a concept was considered to have been formed. "Identical elements" is limited in that you have no principle for dealing with identities once you take it out of the physical realm. A book, a radio, and a movie film have no "identical elements", yet they could all be included within the concept of communication media. Heidbreder defines a concept as a "logical construct which, through signs or symbols or both, is transferable from situation to situation and communicable from person to person" (31, p. 173). Using
this framework she studied (31, 32, 33) the differences in difficulty for attaining various types of concepts. She presented sixteen series of drawings on a memory drum. Each series contained nine drawings. The subjects were required to learn the correct nonsense syllable for each drawing in the series. Three types of concepts were present in the drawings: "concrete objects, spatial forms, and abstract numbers". She found highly significant differences between the rate of attainment for these different concepts. The concept for concrete objects was most easily acquired, next the spatial forms, and finally the abstract numbers. This appears to be a highly profitable experiential approach. It takes into consideration the different levels of inference employed and requires the use of mediating verbal symbols. The finding that the concrete concepts are more easily attained than the abstract ones is in keeping with the observations made from developmental studies of concept formation in children (57).

A large number of studies have focused on the "impairment" of conceptual abilities exhibited in pathological groups. Goldstein, in his study of brain damaged subjects, regards the ability to abstract or to conceptualize as being synonymous. He states that for the abstract attitude, "our actions are determined not so much by the objects before us as by the way we think about them; the individual thing becomes a mere accidental example or representative of a 'category'. Therefore, we also call this attitude the categorical or conceptual attitude". For him the abstract attitude
involves "taking initiative, shifting voluntarily from one aspect of a situation to another, keeping in mind simultaneously various aspects of a situation, grasping the essentials of a given whole and abstracting common properties," whereas the concrete attitude is described as "being given over passively and bound to the immediate experience of unique objects or situations. Our thinking and acting are determined by the immediate claims made by the particular aspect of the object situation" (22, p. 6). Goldstein's point of view classifies behavior as either abstract or concrete. Each of these behaviors is mutually exclusive of the other. This view does not lend itself to representing conceptual behavior on a continuum, from the concrete to varying levels of abstraction. His "either-or" approach probably stems from his basic concern with developing a scheme for differentiating brain damaged subjects from normals.

Hanfmann and Kasanir (26) studied the different conceptual levels exhibited by schizophrenics, brain damaged subjects, and normals. They found that although the normals attained the highest mean conceptual level there was considerable overlap between groups. The amount of education appeared to be another factor which was related to the conceptual level which the individual performed at.

McGaughran and Moran (47, 48) have recently suggested that the varied uses of the terms abstract and concrete represent a compounding of a number of conceptual variables. They have described four possible conceptual variables and have investigated
two of them. The two that they studied are referred to as: (1) "amount of social agreement or communality", and (2) "order (or degree) of conceptual classification". The "amount of social agreement" is defined in terms of a "public-private" dimension. Publicness refers to the degree with which a concept is shared with others and is easily communicated. The "order of conceptual classification" is defined on an "opened-closed" dimension. An "open" concept is one which is based on an abstraction that is highly inclusive of a number of objects or things whereas the closed concept is more restrictive of the variety of things it classifies. An example would be that the concept of "animal" is more open (since it is a more inclusive category) than the concept of "dog". In one study (48) they found no difference between schizophrenics and brain damaged subjects on the "public-private" dimension, but did observe significantly more closed concepts for the brain damaged group on the "open-closed" dimension. In another investigation (47) they found that schizophrenics were more open and private in their concepts than normals. Their attempts to systematically define concept formation in terms of the specific process involved is a theoretical advance.

Kelly (41) has used concept formation as a cornerstone for his "Personal Construct" theory of personality. He inquires into the concepts people use in evaluating or defining the roles and behaviors of others. Furthermore, these concepts (constructs) provide a basis for seeing how the individual views himself. His
Personal Repertoire Test is used for systematically analyzing the patterning of key personal concepts. Bruner (4) has also studied the knowledge we can gain about the individual from the concepts he forms about others.

The principle measure of concept formation used in this research was obtained from having the subjects sort 22 cut-out figures into two groups according to one idea. These figures were selected from Shneidman's MAPS test (71). Three sorts were obtained from each subject. By having the subject sort these figures into two groups we were essentially asking him to form a concept. These concepts were then analyzed as to their level of abstraction. A more detailed discussion of this procedure is given in the methodology section. Jessar and Rotter made similar use of the MAPS figures in an unpublished pilot study.

TAT

Four TAT pictures were also used as a dependent measure of the effects of cautiousness. The subjects were asked to "make up a story" for each of these pictures. The general theory is that the cautious individual would seek safety by providing the most obvious responses to these stimuli. There are two apparent approaches to the pictures which would seem to serve this purpose. First of all, the individual could minimize risk by simply describing the picture. A second moderately safe alternative would be for the subject to draw from his cultural experience and give what seems to be the most obvious theme suggested by the actions portrayed in
the picture. In this manner, an individual could be inferential and cautious at the same time by giving culturally common responses. The frequent use of pictorial presentations in advertisements is an example of how our culture can foster ready made associations to pictures.

This twofold criterion (inference level, normative frequency) of cautiousness for TAT stories is further suggested by certain research findings of Weisskopf's. She investigated and noted that differential "projections" are elicited by each of the pictures in the TAT series when subjects are asked to describe them. From these findings she formulated a "transcendence index" to indicate the degree of personalized and subjective responses that occurred for each picture. "In order to obtain the transcendence index of a picture, the number of comments about this picture which go beyond pure description were counted. The transcendence index of the picture is the mean number of such comments per subject. Pictures with low transcendence indices make it relatively easy for subjects to be factual and impersonal. Pictures with high transcendence indices make such impersonal observation difficult" (74, p. 379).

These findings suggest that we use some baseline in addition to descriptiveness as a measure of cautious behavior. This seems necessary in order to control for the "transcendence" effect of the pictures. The choice we made was to also consider the normative occurrence of frequent themes for each of the pictures.
A few studies do provide such normative data for the TAT pictures (14, 60). If a particular theme was found to occur 25 per cent or more of the time it was given an intermediate rating on the scale we used to measure cautiousness. The reason why it is given a higher score than description is that some element of risk is involved in determining what is an obvious and common theme.

Our scoring system essentially considers the formal aspects of the TAT stories. Most TAT studies have dealt primarily with analyzing the content and not the formal properties of the stories. Eron (14) does report that hospitalized neurotics give a significantly greater number of descriptive responses for TAT pictures than normals. Since defending against failure experiences is one of the generally recognized characteristics of neurotics, this find might be supportive of our reasoning concerning cautiousness on the TAT. However, unqualified generalizing from this finding would be unwarranted, since Eron did not attempt to control for the specific psychological processes associated with the greater descriptiveness.

A few TAT studies have demonstrated that content can reflect an expectancy for failure after an experimentally induced failure experience. One study which illustrates this type of relationship was done by Crandall (9, 10). He frustrated a group of subjects by telling them that their performance was considerably below average on a series of physical skill tasks that they had taken. This was done by providing the subjects with fictitious
norms that had prohibitively high standards. He then asked them to tell stories to some thematic-apperceptive type pictures. Pictures were used that dealt with physical skills recognition, academic recognition, and affection from opposite-sex peers. He found that the frustrated subjects gave significantly more themes involving an expectancy for punishment than control subjects. The significant differences occurred for the pictures depicting physical-skills and academic situations, but not for those concerned with affection. This study demonstrates that frustration in a given area is accompanied by an increased expectancy for punishment (or failure) in that area. Some basis is therefore established for understanding the effects and the generality of situationally induced failure experiences on TAT responses. He made no use of the formal features on which we based our analysis.
CHAPTER III

Statement of the Problem

The present research focuses on two problems. First, we are interested in demonstrating the effects of characteristic and situationally induced cautiousness on the processes of concept formation and fantasy responses. Secondly, we hope to establish construct validity for the concept of cautiousness. Cautiousness is defined as "the tendency to behave in a manner contrary to obtaining maximum satisfaction because of a fear of failure or disapproval. More specifically, cautiousness occurs where a number of alternative responses are available and the subject selects the one that offers the least risk of failure. The safest alternative behavior can be represented by stating low goals, being descriptive rather than inferential or giving the most obvious, commonplace response".

Theoretical discussions (61, 62) and research findings (3, 5, 34, 51, 53) indicate that situational cues can be instrumental in creating a defensive attitude on the part of the subject. Moreover, this type of attitude frequently results in the modification of test responses. Defensive behavior is most likely to
occur when the situational cues are structured to create a fear or expectancy of failure. This can be done by attaching a reinforcement value (positive or negative) to the cue and relating it to performance on the dependent measures. Under such circumstances, cautiousness is one of the most frequent defensive patterns to occur. The cautious approach is evidenced by the individual's selection of an alternative response which minimizes the probability of failure. When the individual is required to form concepts and provide imaginative productions, this defense should lead to the selection of concrete responses based on obvious aspects of the stimulus material. The above discussion suggests the following hypothesis:

1. When individuals are threatened by situational cues that create a fear or expectancy of failure, they will adopt a more cautious approach on tasks which have functional similarity to the threatening cue. This cautiousness is observed where the task provides a range of alternative responses involving varying degrees of risk. Under these circumstances the threatened subjects will defend against failure by selecting the most obvious alternative which involves the least risk.

Three groups are used to test this hypothesis. Group I was given a failure experience; Group II was provided with a success experience; and Group III was used as a control. The purpose of Group III was to have one condition where no artificial change in expectancy was created.
The main test of Hypothesis I is a comparison between Group I and Group II. It is predicted that the subjects in Group I would be more cautious and concrete in their test behavior than the subjects in Group II. The specific prediction regarding Group III (control group) was not as logically derived as the main test and thus remains somewhat speculative. However, it is suggested that the subjects in this group would be less cautious and concrete than those in Group I since no experimental failure experience was provided here.

Adler (1) contends that many people restrict their environment because of a fear of failure in a number of life situations. Furthermore, several studies have demonstrated that certain individuals are consistently cautious in their approach to different tasks (17, 23, 30). Other studies have shown a relationship between cautious task behavior and certain general aspects of personality (21, 25, 29, 40, 65, 68, 76). This leads to the next hypothesis:

2. Individuals who exhibit high degrees of characteristic cautiousness will continue to be more cautious under different experimental conditions. However, the most crucial test for predicting the effects of individual differences for characteristic cautiousness is where no artificial cue related to success or failure is given. Therefore, the comparison between the cautious and non-cautious subjects in the control group (Group III) provides
the best test for Hypothesis II. Under the control condition
the situation remains relatively constant and thus the indices
of characteristic cautiousness (Level of Aspiration and Question-
naire) should best predict cautious behavior on the dependent
variables (MAPS and TAT responses).
CHAPTER IV

Methodology

Basic Design

The subjects used in this experiment were randomly assigned to three groups. Each group was given a different experimental condition. Prior to exposure to the experimental condition each subject was tested on two measures of characteristic cautiousness. One measure was a Questionnaire devised for this purpose and the other was the Rotter Level of Aspiration Board. Following these procedures all of the subjects were given a brief form to fill out which they were told was a "test of social acceptability". For groups I and II the experimenter simulated the scoring of this "test" and then compared their results with false norms that he had in front of him. The subjects in Group I were told that they scored in the "lower 10th percentile" on this test, and the subjects in Group II were told that they scored in the "upper 10th percentile". This step of scoring and providing normative information was omitted for Group III in order to use this group as a control. After the administration of this "test" the subjects were asked to take two more tests. Before taking each of these
tests the subjects in all three groups were told that it was another measure of social acceptability. The first of the subsequent procedures was to "make up a story" from four pictures selected from Murray's Thematic Apperception Test (52). In the second procedure the subjects were asked to sort 22 cut out figures into two groups "according to one idea". These 22 figures were chosen from Shneidman's Make a Picture Story Test (71).

Subjects

The subjects were drawn from the students attending the introductory psychology classes at the Ohio State University during spring and summer quarters. The students taking this course are required to participate as subjects for three hours of psychological experiments. All the experimenters that are interested in recruiting subjects from this population place a sign-up sheet with a brief description of their experiment on a specified bulletin board. The students are given the option of choosing which experiments they wish to participate in from among the sign-up sheets that are posted. The description that was made on the top of the sign-up sheet for this experiment referred to a "Study of Attitudes and Personality". It was felt that this particular description would be both appealing and yet sufficiently neutral so that selective sampling would be minimized.

The total sample consisted of 109 subjects. This included 61 females and 48 males from 17 to 30 years of age. Nine of the
females and three of the males were Negroes and the remainder were White. The only qualification for participating in this experiment was that the subject not be over 30 years of age.

Two subjects were dropped from the sample. One was a Korean girl who had recently come to this country and it was felt that her behavior might not be comparable to the rest of the subjects because of extreme cultural differences. The other subject that was dropped was a male who verbally interpreted to the examiner the purpose of the experimental condition to which he was exposed.

The subjects were seen individually for two separate sessions with a maximum of one week elapsing between sessions. Upon their initial appearance each subject was randomly assigned to one of three groups. The first subject was assigned to Group I, the next to Group II, then Group III and so on until all groups were filled. This procedure was maintained separately for males and females, and for Negroes and Whites so as to keep the samples among groups equivalent.

**Tests**

Two measures of characteristic cautiousness were used in this study. One was the Rotter Level of Aspiration Board and the other was a Questionnaire devised for this purpose.

**Rotter Level of Aspiration Board:** This procedure is described in detail in a publication by Rotter (63).

**Questionnaire:** The Questionnaire was devised in the following manner. A list of 49 verbal statements (listed in Appendix A) were
selected that seemed to have face validity for measuring cautious behavior. The subject had to indicate whether each statement was true or false as applied to him. A group of ten judges each read through the list of items and checked the ones that they felt satisfied the criterion of cautiousness as defined on Pages 5 and 6. Fifteen of the items were checked by six or more judges. The entire Questionnaire of 49 items was then administered to 88 pre-test subjects. A subject was given a score of 1 for each item that he marked in the cautious direction. The statements were so phrased that marking certain items as true and other items as false would indicate cautiousness. The range of scores for the 15 criteria items for this group of 88 subjects was 1 to 14. The 88 subjects were then dichotomized as being low (scores of 1-6) or high (scores of 7-14) on these items. In order to determine which of the Questionnaire items were most sensitive an item analysis was done. For each of the 49 items a chi square was computed relating position in the criterion group (high or low) with the answer to each item (true or false). Sixteen of the 49 items were related to position in the criterion group at beyond the .03 level of significance. These 16 items included 11 of the items rated by the judges as measuring cautiousness. The original Questionnaire was administered to the experimental subjects, but only these 16 items were scored and this score was used as the measure of cautiousness. The items selected by the judges are listed in Appendix B. The final 16 items used to measure cautiousness are listed in Appendix C, and below
are three sample items from this list.

14. I feel unable to tell anyone all about myself.

19. I try to cover up my poor opinion or pity of a person so that he won't know how I feel.

26. When I leave home I do not worry whether the door is locked and the windows closed.

Four of the Murray TAT pictures and 22 of the cut out figures from Shneidman's MAPS test were used to measure the influence of characteristic and situational cautiousness on level of response.

**TAT pictures:** The subjects were required to make up a story for each of the following pictures: The description of the pictures is taken from Stein's TAT manual (73).

2. Country scene: in the foreground is a young woman with books in her hand; in the background a man is working in the fields and an older woman is looking on.

4. A woman is clutching the shoulders of a man whose face and body are averted as if he were trying to pull away from her.

17 GF. A bridge over water. A female figure leans over the railing. In the background are tall buildings and small figures of men.

20. The dimly illuminated figure of a man (or woman) in the dead of night leaning against a lamp post.

These four pictures include the two extremes on Weisskopf's (74) "transcendence index". Weisskopf found that pictures 2 and 20 had a very low transcendence (likely to elicit descriptive stories) while pictures 4 and 17 GF had high transcendence (likely to elicit inferential stories) (74). These four pictures were used since it was felt that the extremes in transcendence resulted in less
ambiguity in scoring the level of inference of each story.

MAPS figures: The 22 figures for this study are shown on page 57. The subjects were required to look the figures over and sort them into two separate groups according to one idea. This procedure was repeated three times. These particular figures were chosen since the results of pre-testing indicated that they had attributes which would lead to both concrete and abstract classifications. In the pre-testing a large spread was obtained on the abstract-concrete continuum for these figures.

Procedure

The subjects were seen individually for two separate sessions in one of the testing rooms used by the Psychological Clinic. The first session lasted about 45 minutes and the second averaged about 60 minutes. For the first session the subjects were seated at the end of a long rectangular table on which the Rotter Level of Aspiration Board was placed. The Board faced the subject in the appropriate position and was elevated at the far end by paper placed under it to increase the difficulty. This was regulated so that all subjects were obtaining average scores of about 30 for five hits at the end of the practice period.

The subject was asked to read the following instructions:

This is a test of motor control. The idea is always to aim for the 10. Your score will depend on how close to the ten you come. You will be given a series of trials in which you should try to get as high a total score as possible. Before you start each trial (a trial consists of your total score for 5 hits), however, you will have to tell me the
score you expect to get and you will not be credited with anything over that score. If your score is lower than your bid, then the score you will be credited with will be two points off your bid for every point you fall below in your actual score. For example, if you say you will score 15 and score 10, then you will get credit for 5. You can see that once your bid is made it is always to your advantage to score as high as possible.*

The examiner then orally repeated the instructions until it was clear that the subject understood the purpose of the task. The subject then took some practice trials and told the examiner when he felt ready to start. Each subject had twenty trials on this task. The differences between the performance score and the subject’s subsequent expectancy statement provided a D-score for each trial. The three variables used to assign a subject to one of the nine patterns described by Rotter (65) were (a) the mean D-score, (b) number of shifts, and (c) unusual shifts. Patterns 1 and 3 were grouped together as non-cautious patterns, and 2, 4, 7, and 8 were grouped together as the cautious patterns.

After the subjects completed this procedure they were asked to fill out the Questionnaire on cautiousness. They were given the following instructions: "Read each statement and decide whether it is true as applied to you or false as applied to you. Please do not leave any blanks".

*Taken from unpublished manual prepared by J.B.Rotter.
The Level of Aspiration and Questionnaire scores were used as two independent predictors of characteristic cautiousness and were completed at the first session. The subjects were then scheduled for another session. The time interval between the two sessions varied from one day to a week for different subjects.

At the beginning of the second session all of the subjects were given a list of 25 statements and were told, "this is a test of social acceptability which I would like you to take". They were asked to read the following instructions on the top of the form: "This is a test that measures attitudes people have. It has been found that the score one obtains on this test is a good measure of their social acceptability. That is, those who obtain a low score are apt to be rejected and disliked by others and those who obtain a high score are likely to be accepted and liked by others". The subjects were required to indicate the degree of their agreement or disagreement next to each of the statements by using a numerical scale described below the written instructions. The items used in this form seemed to have face validity for "social acceptability". The wording was made obvious in order to increase the credibility of the instructions. For the subjects in Groups I and II the experimenter included the additional step of simulating the scoring of this form by use of a key he had in front of him. The key consisted of a copy of the form with arbitrary scale numbers written in red along side each statement. After the scoring the
experimenter referred to a "false norm" sheet he had in front of him and told the subjects in these two groups their score and respective normative standing. The subjects in Group I were told that they obtained a score which placed them at the lower 10th percentile on this test; the subjects in Group II were told that they obtained a score which placed them at the upper 10th percentile. The exact procedure was: "Now, on this test of social acceptability which measures how likely you are to be accepted by others you obtained a score of ___, which places you at the ___ percentile". The subjects in Group III were administered the form, but the scoring and normative information was omitted. A copy of this form is included in Appendix D.

The subjects in all three groups were then told, "Now I have two other tests, which are also used as measures of social acceptability that I would like you to take. First, look at this picture and make up a story from it". Pictures 2, 4, 17GF, and 20 from the TAT were administered in that order. A verbatim record was kept. Each picture was scored as to the level of inference used in accordance with the manual in Appendix E. A total score was obtained by summing the scores for the 4 pictures.

The subjects were then told, "Now here I have another test which is also used as a measure for social acceptability. Look at these figures here (the 22 MAPS cut out figures were laid on the table in random order in front of the subject). What I want
you to do is to sort these figures into two separate groups or piles according to one idea. On the basis of one idea divide these figures into two groups". After the subject had sorted the figures they were reshuffled and he was asked to repeat this procedure, only now using another idea as a basis for sorting the figures. This was repeated a third time. After each sort the subject was asked to describe the two groups and a verbatim record was kept for the three trials. Each of the sorts was scored according to level of inference, using the manual described in Appendix F. A total score was obtained by summing the scores for the three trials.

After the experiment was completed the examiner stressed the importance to the subjects of not communicating to anyone any aspect of the experimental situation since many of the subjects were classmates. The subjects in the "failure" group were placated after the experiment was completed by telling them that the initial measure of "social acceptability" was not a "good and valid test" and that they did much better on the subsequent measures.

Ohio State Psychological Examination (OSPE) scores were obtained from the University records for all subjects for whom such scores were recorded. The OSPE scores were used as an estimate of intellectual abilities and they were correlated with the scores obtained on our experimental measures. This was done
in order to determine whether any of our measures and findings were related to intelligence.
CHAPTER V

Results

Table I lists the inter-rater reliabilities for the measures used in this study.

Table 1

Reliabilities of the measures used in this study.

MAPS Sorts
TAT (Picture 2)  
(Picture 4)  
(Picture 17 GF)  
(Picture 20)  
(Pooled rating for the four pictures)  
Level of Aspiration (using 9 patterns)  
Pooling cautious and non-cautious patterns  
Questionnaire (odd-even reliability)

\[
\begin{align*}
\text{MAPS Sorts} & \quad r = 1.00^+ \quad \star \\
\text{TAT (Picture 2)} & \quad r = 1.00^+ \quad \star \\
\text{(Picture 4)} & \quad r = .67 \quad \star \\
\text{(Picture 17 GF)} & \quad r = 1.00^+ \quad \star \\
\text{(Picture 20)} & \quad r = .95 \quad \star \\
\text{(Pooled rating for the four pictures)} & \quad r = .94 \quad \star \\
\text{Level of Aspiration (using 9 patterns)} & \quad 85 \text{ per cent agreement} \\
\text{Pooling cautious and non-cautious patterns} & \quad 97.5 \text{ per cent agreement} \\
\text{Questionnaire (odd-even reliability)} & \quad r = .50 \quad \star \star \\
\end{align*}
\]

*These represent product moment correlations that are corrected by a procedure described by Peters and Van Voorhis (56). This correction is used when one or both of the variables has 10 or less quantitative categories. The reason why some of these correlations are 1.00+ is that this correction is not precise, but provides a rough estimate of the existing relationship. These correlations do indicate reliabilities in the high .90's.

**Coefficient corrected for attenuation by use of the Brown-Spearman formula (50).

---

1. David Marlowe and the author were the two raters who obtained the MAPS and TAT reliabilities. Training in scoring was
established by studying the manuals in Appendices E and F. Julian B Rotter and the author similarly obtained the Level of Aspiration reliability by use of an unpublished manual prepared by Rotter.

The subjects in all three groups were dichotomized into cautious and non-cautious sub-groups. This dichotomy was made separately for behavior both on the Level of Aspiration task and responses to the Questionnaire. An independent analysis was made using each of the above predictor measures. For the Level of Aspiration, all subjects obtaining patterns of 2, 4, 7 and 8 were assigned to the cautious group and those obtaining patterns 1 and 3 constituted the non-cautious group. Patterns 5, 6, or 9 involve behaviors that are not related to the hypotheses being investigated. Ten subjects in the study obtained one of these patterns and they were omitted from this analysis. (The distribution of patterns within groups and for males and females is listed in Appendix H).

All the subjects who gave eight or more responses in the cautious direction on the Questionnaire comprised the cautious group for this measure and all those with less than eight such responses were assigned to the non-cautious group. Table II lists the number of subjects in each group with their respective mean and standard deviation for each measure.
Table II*

Size of sample, mean, and standard deviation for each group and sub-group as to the scores on the Sorts and TAT. These findings are listed separately for the Level of Aspiration and Questionnaire as predictors.

<table>
<thead>
<tr>
<th></th>
<th>Level of Aspiration</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SORTS</td>
<td>TAT</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Group I (Failure)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>6.45</td>
</tr>
<tr>
<td>Cautious</td>
<td>14</td>
<td>6.50</td>
</tr>
<tr>
<td>Non-cautious</td>
<td>17</td>
<td>6.41</td>
</tr>
<tr>
<td>Group II (Success)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>7.00</td>
</tr>
<tr>
<td>Cautious</td>
<td>14</td>
<td>6.79</td>
</tr>
<tr>
<td>Non-cautious</td>
<td>18</td>
<td>7.17</td>
</tr>
<tr>
<td>Group III (Control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>7.50</td>
</tr>
<tr>
<td>Cautious</td>
<td>15</td>
<td>6.13</td>
</tr>
<tr>
<td>Non-cautious</td>
<td>21</td>
<td>8.48</td>
</tr>
</tbody>
</table>

*The higher the mean score, the more abstract the behavior.
Each predictor measure (Level of Aspiration and Questionnaire) was used to predict behavior on the TAT pictures and the MAFS sorts. Therefore, four separate analyses were made for each comparison.

Hypotheses I is tested by comparing group differences in abstract behavior on the MAFS and TAT tasks. This hypothesis states that descriptive-concrete behavior will be most prevalent in a situation which is characterized by a negatively reinforced cue (Group I) and abstract behavior will occur to a greater degree with a positively reinforced cue (Group II). No specific prediction was made for the condition where no reinforcement value was attached to the situational cue (Group III). However, it was felt that the subjects in this group would be more abstract than those in Group I.

The F test was not used since it assumes normality of distribution and we have little assurance that our data is in keeping with this assumption. The Mann-Whitney U test, a non-parametric procedure, was used (72). This technique calls for a comparison between the dichotomized groups as to the rank order of their scores on the dependent measure. A rank value is given

---

1Seigel states that the power efficiency of the Mann-Whitney is close to 95 per cent of that of the F test, even for moderate sized samples (72). It therefore, appears to be a highly satisfactory procedure for analyzing our data.
to each score without regard to the dichotomy. Then the difference in rank values between groups is compared. As the $N$ in either group increases in size, the sampling distribution of $U$ approaches the normal distribution. Therefore, a formula is provided for converting the obtained $U$ into a z-score when the $N$ in either group exceeds 20 (72). This conversion is also recommended as a correction when the ranks occur for scores involving both groups. Since all of our observations meet either one or both of these conditions, all of the $U$'s are converted into z-scores. These scores are reported in terms of their level of significance.

Table III shows the comparisons among groups for each of the measures. The group exhibiting the most abstract-idiosyncratic behavior is indicated next to the reported significance level. The significance level (one-tailed) is underlined when the results did not occur in the predicted direction.

**Table III**

Differences in abstract behavior on the dependent measures (MAPS, TAT); tables values are for one-tail level of significance.

<table>
<thead>
<tr>
<th></th>
<th>Sorts</th>
<th>TAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups I and II</td>
<td>.18 II</td>
<td>.38 II</td>
</tr>
<tr>
<td>Groups I and III</td>
<td>.07 III</td>
<td>.19 III</td>
</tr>
<tr>
<td>Groups II and III</td>
<td>.25 III</td>
<td>.27 III</td>
</tr>
</tbody>
</table>

Hypotheses I is confirmed in part for all of the findings were in the predicted direction. However, only one of the results approached statistical significance.
Hypothesis I is further tested by comparing group differences separately for the non-cautious and cautious subjects. These findings are reported in Tables IV and V.

Table IV

Differences in abstract behavior on the dependent measures (MAPS, TAT) for the non-cautious subjects; tabled values are for one-tail level of significance.

<table>
<thead>
<tr>
<th>Level of Aspiration</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorts</td>
<td>TAT</td>
</tr>
<tr>
<td>Groups I and II</td>
<td>.22 II</td>
</tr>
<tr>
<td>Groups I and III</td>
<td>.008 III</td>
</tr>
<tr>
<td>Groups II and III</td>
<td>.07 III</td>
</tr>
<tr>
<td></td>
<td>.44 III</td>
</tr>
<tr>
<td></td>
<td>.42 II</td>
</tr>
</tbody>
</table>

The differences among the experimental groups are quite marked when the analysis is done only with non-cautious subjects. This is in contrast to the results in Table III where the cautious and non-cautious subjects were pooled. Only one of the twelve findings reported in Table IV does not occur in the predicted direction and this one finding is non-significant.

Table V

Differences in abstract behavior on the dependent measures (MAPS, TAT) for the cautious subjects; tabled values are for one-tail level of significance.

<table>
<thead>
<tr>
<th>Level of Aspiration</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorts</td>
<td>TAT</td>
</tr>
<tr>
<td>Groups I and II</td>
<td>.31 II</td>
</tr>
<tr>
<td>Groups I and III</td>
<td>.26 I</td>
</tr>
<tr>
<td>Groups II and III</td>
<td>.14 II</td>
</tr>
<tr>
<td></td>
<td>.20 II</td>
</tr>
<tr>
<td></td>
<td>.12 III</td>
</tr>
<tr>
<td></td>
<td>.23 III</td>
</tr>
</tbody>
</table>
In contrast to Table IV there were no significant group differences in TAT and sort behavior for the cautious subjects. This finding applies when cautiousness is defined either by the Level of Aspiration or the Questionnaire.

The findings reported in Tables III, IV, and V suggest that an interaction exists between the effects of situationally induced and characteristic cautiousness. The non-cautious subjects were least abstract when provided with a negative situational cue, exhibited intermediate abstractness with a positive situational cue, and were most abstract where no overt situational reinforcement was made. These findings are consistent with the stated hypothesis. However, no support for the effect of situational factors on abstract behavior was obtained with the cautious subjects. If one pools the TAT and MAPS responses for the cautious and non-cautious subjects, the group differences are minimized, although still observable (Table III).

Hypothesis II states that people who are characteristically cautious will be more concrete than non-cautious subjects. This hypothesis is tested by within group comparisons between cautious and non-cautious subjects. This comparison is most relevant for Group III (neutral condition) where the least situational variance is present. Table VI summarizes these results. A "C" (cautious) or "NC" (non-cautious) is placed after the reported significance level depending on which group was more abstract for that respective finding.
Table VI

Differences in abstract behavior on the dependent measures (MAPS, TAT) between cautious and non-cautious subjects; tabled values are for one-tail level of significance.

<table>
<thead>
<tr>
<th>Level of Aspiration</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Group I</td>
<td></td>
</tr>
<tr>
<td>C = 14</td>
<td>.49 C</td>
</tr>
<tr>
<td>NC = 17</td>
<td></td>
</tr>
<tr>
<td>Group II</td>
<td></td>
</tr>
<tr>
<td>C = 14</td>
<td>.39 NC</td>
</tr>
<tr>
<td>NC = 16</td>
<td></td>
</tr>
<tr>
<td>Group III</td>
<td></td>
</tr>
<tr>
<td>C = 15</td>
<td>.002 NC</td>
</tr>
<tr>
<td>NC = 21</td>
<td></td>
</tr>
</tbody>
</table>

Group III provides the best test of Hypothesis II since in this case characteristic cautiousness was not confounded with the situational cautiousness induced for Groups I and II. Absence of cautiousness on the Level of Aspiration task predicted abstract responses to a highly significant level when no situational cue was provided (Group III). There were no marked differences between the behaviors of characteristically cautious and non-cautious subjects when positive and negative situational reinforcements were given.

The Questionnaire did not successfully predict any within group differences.

There was no relationship between cautiousness on the Level of Aspiration and Questionnaire ($r_{bis} = + .16$). Since the behavior on each of these measures was dichotomized into cautious or non-cautious, a chi square analysis was also used and no significant relationship was obtained. A product moment correlation of $+ .30 (p < .01)$ occurred
between level of abstractness on the TAT and MAPS sorts.

For many of the subjects in the study, scores on the Ohio State Psychological Exam (OSPE) were available. The OSPE scores were considered to provide an estimate of intellectual abilities. These scores were correlated with the scores obtained on our experimental measures in order to determine whether any of our findings were influenced by intelligence. These correlations are reported in Table VII.

Table VII

Correlations between experimental measures and OSPE scores.

<table>
<thead>
<tr>
<th></th>
<th>TAT Abstract score</th>
<th>SORTS Abstract score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I (failure, N = 28)</td>
<td>r = -.10</td>
<td>r = -.02</td>
</tr>
<tr>
<td>Group II (success, N = 30)</td>
<td>r = -.02</td>
<td>r = .32*</td>
</tr>
<tr>
<td>Group III (control, N = 28)</td>
<td>r = -.52**</td>
<td>r = .02</td>
</tr>
<tr>
<td>Cautiousness on Level of Aspiration (N = 76)</td>
<td>r_{bis} = .16</td>
<td></td>
</tr>
<tr>
<td>Cautiousness on Questionnaire (N = 86)</td>
<td>r = -.06</td>
<td></td>
</tr>
</tbody>
</table>

*Less than the .05 significance level
** Greater than the .01 significance level

Two of the correlations between abstract behavior and OSPE scores are statistically significant. However, one of them (TAT, Group III) is in the negative direction and the other (SORTS, Group II) is positive. None of the other correlations between OSPE scores and our measures of abstraction and cautiousness approach statistical significance. Although it is difficult to determine the meaning of the two significant correlations, the
overall relationships expressed in Table VII suggest that our experimental findings are not a function of intelligence.
CHAPTER VI
Discussion

Several factors are relevant in considering the reported findings. These factors are the possible interaction between situational cues and characteristic modes of behavior, the differences between the two measures used for predicting characteristic cautiousness, and possible limitations in the method of scoring the responses.

The results pertaining to Hypothesis I indicate that the effects (descriptive-concreteness) of situationally induced cautiousness are in part dependent on characteristic modes of behavior. In the comparison between groups (failure, success, and neutral situations), where characteristic cautiousness was not considered, only suggestive support of the Hypothesis was demonstrated. However, when the group comparisons were made separately for the characteristically cautious and non-cautious subjects, clear-cut differences emerged. The responses of the non-cautious subjects adhered quite closely to the predicted situational effect (Table IV). That is, the non-cautious subjects were most descriptive when given a negatively reinforcing situational cue, less so with a positive cue, and exhibited the least descriptiveness where no situational cue was provided. Many of these findings are statistically significant, with the Level of Aspiration Task being the best predictor and the MAPS Sorts the most related response measure. On the other hand, no situational effect or trend is revealed in the responses.
of the characteristically cautious subjects (Table V). Therefore, Hypothesis I is substantiated only for those designated as non-cautious. By pooling the cautious and non-cautious subjects in analyzing for situational determinants, the group differences become somewhat attenuated (Table III).

There is no evidence which indicates the reason for this differential effect. There are a few speculative explanations why the characteristically cautious subjects do not respond in the predicted manner for the different experimental situations. One suggestion is that these subjects entered the experimental conditions with a generalized expectancy for failure and with the concomitant set to try and defend against such an experience. They were, therefore, pre-experimentally oriented to be descriptive and concrete in their responses. If such is the case, the negative situational cue only served to confirm their previously maintained defensive approach, and thus had no basic effect in altering their responses. The positive reinforcement given to Group II apparently is not potent enough to distinguishably mitigate the cautious subjects expectancies for failure. This should have been anticipated, since it is evident in almost any psychotherapeutic relationship, that characteristic defenses of prolonged duration are not appreciably reduced by a single verbal reinforcement. Furthermore, it is possible that a positive reinforcement on one task could evoke or reaffirm defensive cautiousness on subsequent functionally related tasks. This is so since a reinforcement (positive or
negative), distinctly structures the subsequent tasks as possible success or failure experiences. It is presumed that by providing a reinforcement, personal involvement is increased for the related tasks. This interpretation gains some support from a recent study. Lazarus et al. (43) state that "psychological stress involves the thwarting of a motive state" and that "a motive state has to be present in order for stress to occur". In this experiment subjects were required to listen to and reproduce a series of tape recorded paragraphs. The subjects could reproduce paragraphs verbatim (literalness) or use a conceptual approach. They had a pre-measure of need achievement which was used to determine motivation for the paragraph reproduction task. They found that "stressor conditions" served to make low motivated subjects more literal. In keeping with our results, they emphasize the importance of studying both personality and conditions.

A related reason why the behavior of the characteristically cautious subjects did not differ between conditions is that their initial response level may have approached some behavioral plateau for descriptive-concreteness so that situational conditions were unable to produce any further discriminable effect.

The mean scores listed in Table II indicates that the cautious subjects did not seem any more concrete when given artificial reinforcements. Since the Questionnaire proved to be a somewhat doubtful predictor, we will focus mainly on the scores obtained where the cautious and non-cautious groups were determined
by their Level of Aspiration performance. As can be seen, the
cautious subjects scores remain fairly stable from condition to
condition (actually they are slightly higher for both of the
conditions when artificial reinforcement was provided), whereas
the non-cautious subjects became more concrete when given a
positive reinforcement (Group II), and are most concrete for the
condition where a negative reinforcement is provided (Group I).
There is little indication from our data what the possible inter-
action might be between general expectancies for failure and single
positive and negative reinforcements.

It would seem likely that Hypothesis I would have been
more powerful if it had been stated in terms of the interaction
of predisposing personality factors for predicting to situational
responses. On the other hand, perhaps the response measures used
are not refined enough to discriminate further concreteness in
subjects already predisposed to be concrete. However, all of these
explanations are purely speculative. Further research is needed
to provide a more definitive understanding of the interaction
between conditions and personality defenses.

The importance of this interaction is further illustrated
by the findings concerning Hypothesis II, reported in Table V.
According to this hypothesis, characteristically cautious people
will be less inferential or abstract in their responses than non-
cautious people. This hypothesis is not at all upheld for Groups I
and II where the results are clearly chance findings. However,
for Group III, the non-cautious subjects are considerably more abstract. This is indicated by a high level of statistical significance where the Level of Aspiration Task is used as a predictor. Again, this is illustrative of the interaction between situational and personality factors. For Groups I and II characteristic modes of behavior are confounded with specific situational influences (positive and negative cues). The situational effect apparently served to mask characteristic differences for members of these groups. We cannot completely dismiss the presence of situational factors for Group III. However, we can reasonably presume that such factors were not maximized for this group as they were for the first two groups.

The Rotter Level of Aspiration Board and the Questionnaire are the two separate measures of characteristic cautiousness used in this study. The Level of Aspiration Board is a standardized behavioral task. The Questionnaire is comprised of 16 true-false items which explicitly concerns cautious behavior. No relationship was observed to exist between these two measures. The findings concerning Hypothesis I and II indicates that cautiousness on the Level of Aspiration Board was by far the better predictor of concrete-abstract behavior. The only instance where the Questionnaire provides statistically significant predictability is for the between group comparisons with the non-cautious subjects (Table III). Even in this case, the Level of Aspiration task is more highly related to responses on the MAPS sorts and the TAT. There appear to be some
good reasons for the differential efficiency of these two measures. First of all, the Rotter Level of Aspiration Board is a standardized technique with demonstrated reliability. Normative data is available for this technique concerning distribution of responses and patterns of behavior characteristic of different criteria groups. The patterns devised for analyzing the behavior in this task seem to have overcome some of the limited generality of more specific level of aspiration measures (D-scores). Moreover, grouping patterns into more inclusive categories seems to increase generality. This was demonstrated in a recent study (54). Of course, this applies only when the larger categories are functionally related to the predicted behavior. Another important advantage of this technique over the Questionnaire is that it is more comparable to the TAT and Sorting tasks in that they all are samples of the individual's actual, specific behavior in the situation. The Questionnaire is only able to inquire as to how the subjects state they would behave in different situations. The fact that the Questionnaire is made up of only 16 items may be a contributing factor to its lower predictability. Another possible limitation of this measure is that the "true-false" category may not be a refined enough scale to discriminate between different levels of cautiousness.

For the most part, the results of the Questionnaire do not lend to the substantiation of the validity of the construct of cautiousness. However, there is ample suggestion that this may
largely be a function of deficiencies in the construction of this measure. A few of these deficiencies are the moderate reliability coefficient ($r = .50$) of this measure, and the failure to control for the social desirability of the Questionnaire responses; a factor whose importance has been given recent attention in the psychological literature (8, 12). Evidence as to the validity of this construct would require improved measures and further research.

The subjects sorting behavior with the MAPS figures most clearly demonstrates the hypothesized relationship of concreteness to situational and characteristic cautiousness. The TAT behavior is also consistent with the hypotheses, but to a lesser degree. Both of these measures were analyzed as to level of inference of response. However, an additional factor was incorporated into the analysis of the TAT responses. For these responses, weighting was also given to the idiosyncratic level of response. This was determined by referring to the normatively common stories for the various TAT pictures, as reported in the psychological literature (14, 60). Stories that were inferential, but which occurred for 25 per cent or more of a normative sample were given an intermediate rating. The pooling of the normative and inferential factors in scoring the TAT responses may have reduced the observed relationships for this measure. The research of McGaughran and Moran (47, 48) seems relevant to this issue. They noted a certain degree of independence between a "public-private" and an "opened-closed" dimension of
concept formation. These two dimensions are comparable to the "normatively common" and the "level of inference" dimensions which we pooled in scoring the TAT responses. If their findings apply here, this could account for the lower relationships observed for the TAT.

The results of this research seems to provide moderate support for the generality and validity of the construct of cautiousness. The defensive quality of this construct is exhibited through the selection of behavioral alternatives where the possibility of failure is minimized. In utilizing this defense the individual is limited to the minimal rewards implicit in his lowered behavioral goals. Higher levels of inference are often of value in making important predictions about people and various life situations. If a person is unwilling to risk making these abstractions he may be reducing his ability to predict to different situations. Defensive cautiousness could also interfere with originality, creativity, and the ability to observe novel relationships.

The findings of this study helps to point out certain important methodological considerations. First, the ambiguity and inconsistency between various experimental findings might be reduced by considering both the situational conditions and characteristic modes of behavior. Also the interaction between these two factors seems relevant. Secondly, it is observed that
the presence of behavioral defenses can modify conceptual performance and "projective" responses. This emphasizes the importance for considering general defensive reactions in interpreting psychological test results.

The relationship of cautiousness to concrete behavior has implications concerning the evaluation of psychological test performance. The ability to form abstract concepts has generally been regarded as an indication of the individuals' "intelligence". However, our findings, that defensive cautiousness can be expressed by the selection of the more concrete alternative response, suggests that concept formation as well as other "intelligence test" behaviors may be modified by cautiousness. An estimate of the situational and characteristic cautiousness entering into the test performance should contribute to a better understanding of "intelligence" and provide a basis for improved predictability of these measures. Our results have similar implications for interpreting TAT responses. This is indicated since cautiousness was accompanied by increased description in responses to TAT cards.
CHAPTER VII

Summary

This study involves the investigation of two primary concerns. The first interest is in determining the construct validity of "cautiousness" as a psychological defense. A second purpose is to demonstrate the effects of characteristic and situationally induced cautiousness on conceptual behavior. Cautiousness occurs where a number of alternative responses are available and the subject selects the one that offers the least risk of failure. The safest alternative behavior can be represented by stating low goals and by being descriptive rather than inferential. Conceptual behavior was selected as the dependent variable since the willingness to abstract and provide novel responses appears to be related to the degree that the individual feels free to expose a more personalized picture of himself and risk criticism.

A pattern analysis of responses on the Rotter Level of Aspiration Board, and scores on a Questionnaire divided for this study were used as two separate measures of characteristic cautiousness. The degree of descriptiveness in telling stories to selected TAT pictures and the conceptual level used by the subjects in sorting an array of MAPS figures into two groups were used as
two separate measures of abstract-concreteness.

Theoretical considerations supported by research findings suggest two hypotheses:

1. When individuals are threatened by situational cues that create an expectancy of failure, they will adopt a more cautious approach on tasks which have functional similarity to the threatening cue, selecting the alternative which involves the least degree of risk.

2. Individuals who exhibit high degrees of characteristic cautiousness will continue to be more cautious under different experimental conditions. However, the most crucial test for predicting the effects of individual differences for characteristic cautiousness is where no artificial cue related to success or failure is given.

The subjects consisted of 109 male and female students (randomly assigned to three groups) at Ohio State University taking the introductory course in psychology. All the subjects were initially administered the Level of Aspiration Board and the Questionnaire. At a second session they were asked to provide scaled responses on a paper and pencil form which they were told was a "test of social acceptability". The examiner simulated the scoring of this form for Groups I and II. The subjects in Group I (failure group) were then told that they scored in the "lower 10th percentile" on this test; the subjects in Group II (success
group) were told they scored in the "upper 10th percentile", the scoring and normative information was omitted for Group III (control group). The subjects in all three groups were then asked to take "two other tests which are also used as measures for social acceptability". The TAT pictures and MAPS sorting task were then administered.

The concreteness exhibited by the characteristically cautious subjects remained quite stable for all three conditions. Therefore, conditions did not predict differences for these subjects. The characteristically non-cautious subjects were, in general, significantly more abstract for the control condition than they were for success and failure (success was intermediate). For the control group, where no artificial cue was provided, the characteristically non-cautious subjects were significantly more abstract than the cautious ones. No differences between cautious and non-cautious subjects was observed for Groups I and II, where the influence of situational factors was maximized. These findings are most clearly demonstrated when using the Level of Aspiration to predict to MAPS sorting behavior. The results point out the importance of considering the interaction between personality and situational factors in predicting behavior. The reported findings have implications for evaluating "needs" from TAT stories and for considering abstract behavior as an indication of intelligence.
APPENDIX A

Questionnaire administered to Subjects.

Read each statement and decide whether it is true as applied to you or false as applied to you. Please do not leave any blank.

T  F  1. I do not like to do anything dangerous for the thrill of it.

T  F  2. I feel that it is certainly best to keep my mouth shut when I do not know how my ideas will be taken.

T  F  3. In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

T  F  4. I usually "lay my cards on the table" with people that I am trying to correct or improve.

T  F  5. I refuse to play some games because I am not good at them.

T  F  6. I usually have to stop and think before I act even in trifling matters.

T  F  7. At times I feel that I can make up my mind with unusually great ease.

T  F  8. When I get bored I like to stir up some excitement.

T  F  9. I wish I were not so shy.

T  F  10. I shrink from facing a crisis or difficulty.

T  F  11. I have often lost out on things because I couldn't make up my mind soon enough.

T  F  12. I am usually pretty quiet when I meet new people.

T  F  13. The future is too uncertain for a person to make serious plans.

T  F  14. I feel unable to tell anyone all about myself.

T  F  15. I enjoy a race or game better when I bet on it.

T  F  16. I am certainly lacking in self-confidence.

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T  F  17.  I usually work things out for myself rather than get someone to show me how.

T  F  18.  It is unusual for me to express strong approval or disapproval of the actions of others.

T  F  19.  I try to cover up my poor opinion or pity of a person so that he won't know how I feel.

T  F  20.  My table manners are not quite as good at home as when I am out in company.

T  F  21.  I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.

T  F  22.  I frequently ask people for advice.

T  F  23.  I am very careful about my manner of dress.

T  F  24.  What others think of me does not bother me.

T  F  25.  I usually expect to succeed in things I do.

T  F  26.  When I leave home I do not worry about whether the door is locked and the windows are closed.

T  F  27.  While in trains and busses, etc., I often talk to strangers.

T  F  28.  I must admit that I have at times been worried beyond reason over something that really did not matter.

T  F  29.  I frequently stand up for what I think is right.

T  F  30.  I work under a great deal of tension.

T  F  31.  I like to let people know where I stand on things.

T  F  32.  I am apt to pass up something I want to do because others feel that I am not going about it in the right way.

T  F  33.  I enjoy gambling for small stakes.

T  F  34.  When my friends consider some new undertaking I generally take an optimistic view of it.
T F 35. I am often afraid of saying the wrong thing to a new acquaintance.

T F 36. I am careful not to make mistakes in just about everything I do.

T F 37. I usually find myself acting on first impulse.

T F 38. When a person is not feeling well he should immediately seek medical attention.

T F 39. I would rather be sure of a lower income with which I could live comfortably than take a chance on earning either a great deal or very little.

T F 40. I generally find myself going along with the ideas of others even when my own ideas differ somewhat from theirs.

T F 41. I prefer taking a test based on memory or factual material to one in which you have to think and present your own ideas.

T F 42. Small children should be carefully watched or else they might hurt themselves.

T F 43. It is o.k. to drive fast on a straight, good highway when there is little traffic.

T F 44. I am often afraid of saying or doing something that will embarrass me.

T F 45. I like to attempt something even if I have no idea what the outcome will be.

T F 46. I am naturally retiring and self conscious in the presence of people in high positions (i.e. of superior experience or rank).

T F 47. My natural reserve generally stands in my way when I want to start a conversation with an attractive stranger of the opposite sex.

T F 48. I would prefer doing something concrete where I can tell whether I am right or wrong rather than deal with uncertainties.

T F 49. I am accustomed to make up my mind quickly rather than to come slowly and carefully to a decision.
APPENDIX B

Criteria questionnaire items selected by the judges.

1. I have never done anything dangerous for the thrill of it.

3. In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

5. I refuse to play some games because I am not good at them.

6. I usually have to stop and think before I act in even trifling matters.

11. I have often lost out on things because I couldn't make up my mind soon enough.

21. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterward.

32. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.

35. I am afraid of saying the wrong thing to new acquaintances.

36. I am careful not to make mistakes in just about everything I do.

37. I usually find myself acting on first impulse.

39. I would rather be sure of a lower income with which I could live comfortably than take a chance on earning either a great deal or very little.

43. It is O.K. to drive fast on a straight, good highway when there is little traffic.

44. I am afraid of saying or doing something which will embarrass me.

45. I like to attempt something even if I have no idea what the outcome will be.

49. I am accustomed to make up my mind quickly rather than to come slowly and carefully to a decision.
APPENDIX C

The final questionnaire items used to measure cautiousness.

3. In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

6. I usually have to stop and think before I act even in trifling matters.

11. I have often lost out on things because I couldn't make up my mind soon enough.

14. I feel unable to tell anyone all about myself.

19. I try to cover up my poor opinion or pity of a person so that he won't know how I feel.

26. When I leave home I do not worry whether the door is locked and the windows are closed.

33. I enjoy gambling for small stakes.

35. I am afraid of saying the wrong thing to new acquaintances.

36. I am careful not to make mistakes in just about everything I do.

37. I usually find myself acting on first impulse.

39. I would rather be sure of a lower income with which I could live comfortably than take a chance on earning either a great deal or very little.

43. It is O.K. to drive fast on a straight, good highway when there is little traffic.

44. I am afraid of saying or doing something which will embarrass me.

45. I like to attempt something even if I have no idea what the outcome will be.

48. I would prefer doing something concrete where I can tell whether I am right or wrong rather than deal with uncertainties.
49. I am accustomed to make up my mind quickly rather than to come slowly and carefully to a decision.
APPENDIX D

Test of Social Acceptability

This is a test that measures attitudes people have. It has been found that the score one obtains on this test is a good measure of their social acceptability. That is, those who obtain a low score are apt to be rejected and disliked by others and those who obtain a high score are likely to be accepted and liked by others.

Please mark each one of the following statements in the left margin according to the amount of your agreement or disagreement by using the following scale:

+1. Moderate agreement 0. Undecided -1. Moderate disagreement
+2. Strong agreement -2. Strong disagreement

___ 1. In a social gathering one should not talk shop.
___ 2. It is perfectly O.K. to hold hands and occasionally kiss in public.
___ 3. It is important to have a large number of acquaintances.
___ 4. People who are well brought up always show consideration for others.
___ 5. Beauty and intelligence rarely occur together.
___ 6. In a democracy the government is always working toward the greatest good for the greatest number.
___ 7. Love is an inborn trait.
___ 8. When the chips are down everyone begins to think in terms of their own interests.
___ 9. Getting the right breaks in life is the most important thing in being successful.
___ 10. Italians are very emotional people.
11. Going to college always improves one's mind.

12. Participation in sports is essential for being a well-rounded person.

13. Formal education can never be a substitute for practical experience.

14. Music can only be enjoyed by people who are capable of relaxing.

15. Military strength is the only way to insure maintaining peace.

16. Different religious can never be in harmony with one another.

17. Familiarity always breeds contempt.

18. It is proper to say that criminals lack a conscience.

19. One must maintain a well-balanced diet in order to remain healthy.

20. All people past 40 are mature.

21. Hard work is a guarantee for personal satisfaction.

22. A person should not be criticized when he is trying to do his best.

23. All men are born equal.

24. There is no good reason for believing what the Bible tell us.

25. Intellectuals should have much more authority in the running of our government.
APPENDIX E

Manual for scoring TAT responses

Each of the subjects in this study told a story for pictures 2, 4, 17 GF, and 20 from the TAT. This manual provides the procedure to be used for scoring the stories given for each of these four pictures.

The stories are to be scored on a continuum ranging from those which emphasize the more obvious aspects of the picture to those which contain predominantly an idiosyncratic, inferential discussion of the picture; the presumption being that those who stress the obvious are more cautious since they play it safe by adhering close to the data, whereas those who are not so cautious become increasingly abstract and imaginative in their productions. The cautious subjects thus exhibit defenses which limit them to producing stories which are most likely to be considered culturally acceptable and "safe". Each story is to be given a single score on this continuum ranging from 1 to 4 points. The most obvious and descriptive stories are given a score of 1 and the most idiosyncratic and inferential stories are given a score of 4. Scores of 2 or 3 are given for stories that fall within these two extremes.

A story is classified as obvious and given a score of 1 if it is simply a description of the picture with the subject adhering to the more objective, concrete qualities of the stimulus material.

A score of 4 is given to the more idiosyncratic stories where the subject minimizes the use of description in the telling of his story, but rather engages in producing predominantly abstract, imaginative, symbolic, projective and inferential comments.

The end of the scoring continuum used for scoring the obvious and the descriptive stories also includes the scoring for the culturally common comments or responses a subject may give for a particular picture. The reason for including these stories at the descriptive end of the scoring continuum is that they also represent a relatively cautious approach to telling stories from the pictures. Culturally common responses may be defined as those comments about each of the pictures which occur with a frequency well beyond the level of chance by subjects in our culture. For the most part, normative data is used to determine whether a response is culturally common or not. Culturally common responses may be given a weighting in keeping with a score of 2 since their referent in the picture is usually somewhat less obvious than pure description. Where a story is solely made up of one or more culturally common responses it is
given a score of 2. If the elaboration is in the direction of description, it is scored a 1. If the elaboration is in the direction of abstraction it is scored a 3, and when the elaboration is pronouncedly abstract and idiosyncratic, a score of 4 is given.
A list of these culturally common responses and a discussion on how to score them is provided below with the instructions and scoring examples for each of the 4 pictures used in this experiment.

The length of a story should have little to do with the way it is scored. A subject can give a very short story or a very long story, and still receive a score of 1 (if it is predominantly a descriptive story) or a score of 4 (if it is predominantly an inferential or abstract story).

(Below is a precise discussion of each of the scoring categories.)

A score of 1 - This score is given to a story which is completely or almost completely a description of the picture. Here the subject notes the concrete details and more objective and more obvious aspects of the picture. He describes what is in the picture and what the people are doing. An occasional statement may be present (a small proportion of the total story) which is an abstraction of the actual stimulus picture. However, for the most part, any such statements are absent. Information such as the age of the people in the picture, the season of the year, the time of day, and any other spatial or temporal comments regarding the picture would be considered as descriptive behavior and thus, be consonant with this scoring category. A subject would also be given a score of 1 if he gives a story which deviates from the stimulus picture, but which is clearly a narration of some school lesson (like relating a specific historical event), television program or movie which he has recently seen. However, in such cases, there has to be a clear and verbalized reference to the event which he is using to develop his story from. Evaluative statements such as "this is a pretty picture," "I like this picture," or "the artist is obviously attempting to create a depressing effect by the use of black" are in keeping with a score of 1. Culturally common responses where the elaboration is primarily descriptive are also given a score of 1.

A score of 4 - This is the category used for scoring the more idiosyncratic stories and thus, represents the opposite extreme of stories which would be given a score of 1. The type of responses that fall in this category would be references to feelings, thoughts, future plans or past experiences of the characters in the picture. These types of responses constitute inferences and abstractions from the stimulus picture. However, statements that one of the characters in a picture is just thinking is usually only warranted a score of 1 unless the subjects elaborate on what he or she in the picture is thinking about. Inferential type responses would also include comments regarding what happened before, what happens after-
wards, discussion of events happening outside of the picture and any other comments which denote that the subject is using his own imagination and ideas rather than just describing the objective, concrete aspects of the picture. A subject should not be taken literally when he says that something is symbolic in one of the pictures. In such instances, the statement itself will have to be evaluated to determine how much inference is actually involved. For example, a subject may say that a figure in one of the pictures "symbolizes the working man." However, if the picture is of a working man the subject would then, more or less, just be describing what he sees in the picture. Such comments would still be in keeping with a score of 1. On the other hand, a statement from a subject that "the beams of sun" in one of the pictures "symbolizes hope and prosperity" would be quite inferential and thus, be consistent with a score of 4.

The subject may use some brief initial description to set the stage but the body of the story must essentially be made up of inference and abstraction in order to be given a score of 4. A score of 4 may be also given, even if a culturally common response is contained in the story, as long as the elaboration becomes pronouncedly inferential and abstract.

A score of 2 – This score would be given to stories which are predominantly descriptive (that is those stories that fulfill the scoring criterion for a score of 1), but where some inferential or abstract statements are occasionally interjected in the telling of the story. This score is also given to stories composed mainly of culturally common responses.

A score of 3 – This score would be given to stories which are predominantly abstract and inferential (that is those stories that fulfill the scoring criterion of a score of 4), but where some concrete or descriptive statements are occasionally interjected in the telling of the story. Culturally common responses, where there is some elaboration in the direction of inference are in keeping with this scoring category.

Scoring examples for Picture 2: Culturally common responses for this picture:

1. The girl wants to leave the farm.
2. The girl wants to better herself
3. The girl is in conflict with her parents over her wish to leave the farm.
4. The girl is attending school
5. The mother is happy and satisfied.
6. The family is striving for a livelihood on the farm.

These culturally common responses are to be scored as a 2 when
considered by themselves, as a 1 when the elaboration is descriptive, as a 3 when the elaboration is abstract, and as a 4 when the elaboration is pronouncedly abstract and inferential.

Examples for a score of 1: This is a farm scene. It takes place in Europe about 75 years ago. The girl there is going to school. She is absorbed in thought. Her brother is working hard, plowing the field while the mother is looking on. The mother seems to be pregnant. It is a very hot day. The brother has gotten strong working on the farm since he is so muscular.

There’s a girl that is going to school. She has books in her hand. There’s a man with a horse plowing the field. At the far end of the field is another man that has a horse. He is also plowing. Just beyond him is a barn. Beyond that are two other buildings. There’s a woman on the right-hand side leaning against a tree. She has her hands folded against her stomach. There are rocks here in the foreground. Beyond the house, there is, I’d say a lake or part of the ocean. It almost reminds me of New Foundland. Just behind the girl there are mountains or hills. This picture seems to represent a poor, but hard-working family.

Examples for a score of 2: It looks like western scenery. This is the farmer, his wife, and his mother-in-law. Well, this wife doesn’t seem to be very happy with the surroundings. She is looking far away, probably toward home, thinking of her past life before this marriage. She seems to be more intelligent than anybody. I would say that because she’s holding the books. She is holding on tight and the other woman seems to be content with the country farm and this man. He is working hard. He is trying to build a home in the wilderness. Well, they seem to be getting along because either they have hired help or their father-in-law is along there helping with the farming. Besides that they have big barns – a couple of them and in the background you see a house which is pretty big in size.

The girl wants to leave the farm and go to school in order to better herself. She is in conflict with her parents over this since they feel that she should stay on the farm and help with the work. (Here the subject used somewhat inferential, but all culturally common responses in telling this story).

Examples for a score of 3: This farm girl is very interested in books because she is carrying some in her hand. She seems to want to get away from the toil and labor in the background and go read her book. She seems to be looking toward a nice quiet place where she might get a little enjoyment out of reading and a little relaxation from the toil and farm work. The man in the fields seems to be working very hard and the girl thinks that if she had a better education she might not have to work as hard as that. There is the girl’s mother standing on this side. She looks sort of pregnant.
The mother and father probably want the girl to work and she doesn't want to work. Instead she wants to read her books.

This young girl is in love with the boy in the foreground. However, the mother has come between them, since she is afraid that the girl may take him away from his farm work. He is a hard worker and this farm requires much working, since the land is so bad. There are many rocks in the foreground and hills in the background. There is the father working in the background. The girl remorsefully walks away from the boy. There is a look of finality in her eyes, since she knows deep down that his true love is in tilling the soil and observing the fruits of his labor. She will find solace in her books.

Examples for a score of 4: This girl just finished teaching school in a little country house. On her way home she's been thinking of wonderful places she'd like to go, things she'd like to do and then she comes now to her home which is a peasant village and she sees the beautiful country and fields and people she loves. She realizes that although she has these dreams, she would never pick herself up and go, and then she knows she will continue to dream, but these dreams will never become an actuality. She continues on her way home, puts her books down and her dreams vanish as she begins to help with dinner.

The girl in the foreground has just told this young man that she is forsaking their romance in order to pursue a career in the big city. He has just turned away in anger. She feels sad, but inwardly acknowledges that their relationship could never have been more than a passing affair since their basic values were too far apart from one another.

Scoring examples for Picture 4: Culturally common responses for this picture:

1. The man is anxious or determined.
2. The man is angry.
3. The man and woman are in conflict.
4. She is pleading with him.
5. The woman is trying to prevent the man from leaving her.
6. The woman is trying to restrain him from violent action.
7. She is trying to help him.

These culturally common responses are to be scored as a 2 when considered by themselves, as a 1 when the elaboration is descriptive, as a 3 when the elaboration is abstract, and as a 4 when the elaboration is pronouncedly abstract and inferential.

Examples for a score of 1: This looks like a scene from a
movie. The woman is pleading with the man about something. They are a very good-looking couple. There is a picture in the background of a scantily-clad woman. This must be his apartment. I don't think they are married since she doesn't have a wedding band on her finger.

This is a picture of a husband and wife. He is trying to leave and she is trying to stop him. They are of lower social class. He is probably a blue-collar worker. He seems quite determined. She is quite sexy with those long eyebrows. She uses quite a bit of make-up. I don't like this picture very well.

Examples for a score of 2: This looks like a very serious man who has been angered and is about to do something rash. This beautiful woman is trying to restrain him. She is looking out for his welfare. There is another woman in the background. I don't know how she fits into the story.

This man is anxious to leave this woman and she is doing her best to try and stop him from leaving her. He wins out and leaves her. (Here the subject used somewhat inferential, but all culturally common responses in telling this story).

Examples for a score of 3: He had an argument with his wife. He wants to leave and she's begging him to stay. The picture in the background shows that he's probably going to his mistress. She tells him she was faithful for five years while he was overseas. She's the clinging-vine type. He is probably not satisfied. He is probably not satisfied with her and that's why he has a mistress.

The husband feels upset and the wife is trying to console him. He probably had a fight with his boss and is now afraid of losing his job. She is telling him that all will turn out all right and to try and relax and forget it. They are very much in love, they look like movie stars. She looks like Linda Darnell and he looks like Richard Eagen.

Examples for a score of 4: He is the strong silent type. He's being asked to do something against his principles by this rather exotic-looking creature. Until he met her, he had probably been in love with some sweet thing from his home town. He might be on a ship where these two people have met. She looks like the adventurous type. His appeal lies in the fact that he has principles which she can't overcome. His face too, is full of seriousness. He's afraid of what might happen if he does listen to her. Little gal back home doesn't have to offer what she has to offer. That's probably why he is on ship, anyway. These two, more meted than appear to be. He knows it and she isn't sure of it. He knows nothing else but this girl. If he'd listened to her, all else would leave. Ending, says hell with it all, and goes with the girl, come what may, stronger than the both of us.
This man has been unfaithful to the woman he loves. He's been caught in the act - and because he feels so guilty is trying to rush away. She is trying to hold him back and be understanding. Like the average man he is trying to run away from a situation in which he has been wrong. Eventually, the woman will forgive him and he'll come back to her.

Scoring examples for Picture 17 GF: Culturally common responses for this picture.

1. This girl on the bridge is contemplating suicide.
2. She is thinking of jumping into the river.

(These two suicide responses are weighted as a score of 2 when they occur by themselves. However, if the subject states why the person is going to commit suicide, a score of 4 may be considered).

3. One of the figures below the bridge is seen as a boss, foreman, authority figure, slave driver, overseer, or domineering figure of some sort.
4. The workers are described as being slaves.
5. The darkened sun represents gloom, despair and sadness; or the beams of sun showing through suggests hope and cheerfulness.

(Minor elaboration or extensions of these thoughts may bring their scoring up to 3 or 4.)

These culturally common responses are to be scored as a 2 when considered by themselves, as a 1 when the elaboration is descriptive, as a 3 when the elaboration is abstract and as a 4 when the elaboration is pronouncedly abstract and inferential.

Examples for a score of 1: These men are unloading grain from the boat and carrying it into the warehouse or grainery. It is a hot day and they are working very hard. This one guy here is the overseer. It looks like it might be getting ready to storm. It is quite a darkened and gloomy day out. This girl here, standing on the bridge, has stopped to watch the river and the men working. She is just standing there thinking.

This looks like a scene in Germany about 50 years ago. This is a canal with a quaint bridge over it. There is someone on the bridge and a group of men are working below. The straw boss is assuming a very domineering pose. This scene represents toil. It is late in the day. The sun is blotted out by an eclipse casting shadows all over.

Examples for a score of 2: This girl has stopped on this bridge
and is just looking into the water. She can't see these men working below since they are under the bridge. They seem to be slaves and this person is the overseer. He is very strict and is making sure that they all work hard. They are unloading something from the boat which has just come in. The girl on the bridge is waiting for one of the workers. The bridge is wood, but has a concrete base. There is a large storehouse of some sort here. The men are probably taking supplies from the boat and carrying them into the storehouse. It looks like it is early morning. The sun is breaking through the clouds. This suggests hope.

This girl is getting ready to jump into the river. She is contemplating suicide. The dark and gloomy quality of the picture supports this idea. (Here the subject used inferential, but culturally common responses in telling this story).

Examples for a score of 3: A storm is brewing and these men are hurrying to unload the grain from the boat before the storm breaks. They are carrying the grain into the warehouse and the boss is standing there, not doing anything himself, but making sure the men work. This girl is waiting for her husband who is one of the workers. This picture is filled with despair and hardship.

This is a scene from the Old South. The slaves are bent over from their toil and the master is driving them. The sun breaking through symbolizes hope and a brighter life to come for them.

Examples for a score of 4: This girl is contemplating suicide. She has been rejected by her boyfriend and now feels that there is nothing more to live for. While she is debating whether to jump in or not, she sees the men working below and suddenly realizes that she has just been sorry for herself, but that all in all she has had a pretty good life. The sun breaking through the clouds represents a new awakening of maturity in her and she goes on to lead a useful life.

This picture shows the two sides to life. On the one hand you have hardship and strife: this is characterized by the men working in the shadows and darkness. On the other hand, you have prosperity, cheerfulness and optimism, which is indicated by the rays of sun and the leisurely pose of the girl.

Scoring examples for Picture 20: Culturally common responses for this picture:

1. He is waiting for someone; or he is waiting for a bus or taxi.
2. He looks like a criminal or suspicious character.
3. This is a lonely, troubled or dejected person.
4. He is thinking.

Examples for a score of 1: This is a man standing in the fog in London. He is leaning against a lamppost and looking at the lights in an apartment building. There is also light reflecting off nearby trees and bushes. He has his hands in his pockets and is just thinking.

This picture seems to be taken at night. It is a cold, wintry evening and it is snowing out. There's a lamppost with a bright light coming out of the lamppost. He seems to be waiting for someone. His face is blotted out so that it is hard to tell much about him. This isn't very good photography. I don't like this picture too well.

Examples for a score of 2: It's the middle of night and this man is out taking a stroll. There are stars up in the sky. It's a cold winter night since he's wearing a heavy overcoat and hat. He's a stranger just spending the night in town. He's lonely and is thinking about his wife and kids and is looking forward to being back together with them tomorrow. Right now, he is stopping under a street light in a park. There are some bushes in the background.

There is a lonely man waiting for someone on a street corner. He's a suspicious-looking character. Almost reminds you of the picture of a criminal on the cover of a detective magazine. He is just standing there thinking to himself. (Here the subject used inferential, but culturally common responses in telling this story.)

Examples for a score of 3: This young man is waiting under a lamppost in the center of Central Park, looking up into the tall skyscrapers surrounding the park and the hotels and apartments of the rich. He dreams of the day when someday he might be as rich as they are and he might be able to do the things they do.

This is a picture of a tramp out during a damp and foggy night. He is all by himself and is lonely and dejected. He is thinking about the way he has messed up his life, failed, and now is left with nothing. He is quite down and out and is thinking of how it may have been.

Examples for a score of 4: This guy here is a hired killer. His victim is in the building across the street. He is waiting for the lights to go out in his apartment and then he will go do what he is being payed for. He doesn't know his victim or why he is to die. All he knows is that he has a job to do.

It's Christmas eve and this old man is all alone. His wife has died and his children have moved away. This is the first
Christmas that he will be by himself. His son invited him to come and spend Christmas with him and his family and although he wanted to, he was too proud to let on that he couldn't afford the cost of the transportation. So instead he said that he had made some plans with friends in town. Now he is miserable and lonely as he slowly plods on toward home. As he approaches his house he is surprised to see the lights all on. As he walks through the door he is welcomed by all of his children and grandchildren who are busy decorating the Christmas tree. He was overjoyed and relieved to see that he hadn't fooled them with his white lie.
APPENDIX F

Manual for scoring sortings of 22 MAPS figures into two groups

Each response is to be scored on a 4-point continuum. The scoring will be based on how abstract, imaginative and inferential a concept the subject formed in providing each grouping of figures.

A score of 1: This score is given when the subject makes reference to the concrete, literal aspects of the figures in making his groupings. Examples of this would be reference to sex (males and female), age (old and young), dress (dressed and undressed or costume and ordinary dress), details of the figures (with faces and without faces) and so on. This score is also given to groupings where one of the groups is moderately inferential but when the subject is not able to meaningfully account for the other group (the remaining figures), and consequently describes the other group as miscellaneous, and odd assortment, the ones that are left over, etc.

A score of 2: This score is employed where the subject uses two different abstract concepts in making his groupings. Examples of this would be an orphanage and a murder, a costume party and a family, a profession and a dejected-looking bunch and so on. This score is also given to concrete groups where some abstract elaboration is present (such as males and females with their different values). This score is given to groupings which are apparently inferential, but where the subject indicates he is developing his concept from specific and concrete qualities of the figures (unusual – the two nudes and common).

A score of 3: This score is given to groupings which are primarily inferential but where there is still some obvious relationship to the stimulus material. Examples of this would be fiction and non-fiction, real and unreal, actors and average people, tragedy and everyday living, involved in crime and not involved in crime, modern and old fashioned, etc.

A score of 4: This score is given to groupings where the concept utilized is highly inferential and not in any observable way related to the stimulus material and where the subject uses both poles of the concept in forming his groups. Examples of this would be adjusted and maladjusted, those who need and those who assist others, immoral and moral, authority figures and those who submit to authority figures, weakness and strength, individualists and common people, happiness and sadness, leaders and followers, passive and assertive, etc.

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### APPENDIX G

**Raw Data - Group I (Females)**

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APPENDIX H

Frequency Distribution of Level of Aspiration Patterns

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# Frequency Distribution of Level of Aspiration Patterns

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Cautious Patterns: 5 3 5 13

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BIBLIOGRAPHY


AUTobiography

I, Howard Alan Moss, was born in Cleveland, Ohio, April 2, 1929. I received my secondary school education in the public schools of Cleveland, Ohio, and my undergraduate training at Miami University, which granted me the Bachelor of Arts degree in 1951. From the Ohio State University I received the Master of Arts degree in 1955. While in residence there, I was a Research Assistant during the scholastic year 1953-54. In October 1954, I was awarded an United States Public Health stipend. For the year 1955-56, I served as a clinical intern in the Colorado General Hospital's program for clinical psychology. I held the position of Assistant Instructor for the academic year 1956-57 in the Department of Psychology of the Ohio State University. I am currently a Research Associate in the Department of Psychology of the Fels Research Institute.