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THE EGO-IDEAL, DEFENSIVE STYLE, AND ACHIEVEMENT-RELATED BEHAVIOR

by

Irving Bernard Weiner

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of the requirements for the degree of
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CHAPTER I

Introduction: The Concepts of Ego-Ideal and Ego-Ideal Anxiety and Their Relation to Failure

Although the ego-ideal has made frequent appearances in psychoanalytic literature since Freud (1953) first mentioned it, it has never been the acknowledged base of departure for an experimental study. The main reason for this has probably been the lack of an unambiguous definition of the ego-ideal which bridged the gap between psychoanalytic models and the experimental study of personality. Many discussions of the ego-ideal do not go beyond metapsychological controversy (Alexander, 1930; Alexander, 1944; Jekels and Bergler, 1949; Jones, 1948). However, in recent years some contributions have appeared which clarify the relevance of the ego-ideal concept to the prediction of human behavior (Flugel, 1946; Novey, 1955; Piers and Singer, 1953). From these papers emerges a definition of the ego-ideal as the source of those standards of behavior which operate independently of moral considerations. The ego-ideal is seen as complementing the super-ego. That is, the super-ego includes standards which relate to morality and are expressed primarily through prohibitions and feelings of necessity, and the ego-ideal consists of non-moral standards which are expressed mainly in the form of aspirations and feelings of desirability. Briefly, as Reich (1954) states, while the super-ego is what one ought to be, the ego-ideal is what one desires

to be. Since conflicts between necessity and desirability are readily demonstrable (Lindzey and Hall, 1957, p. 170; Ottenheimer, 1955), two concepts, super-ego and ego-ideal, are needed to express these contrasting kinds of behavioral standards.

The concept of super-ego has already been operationally defined for research purposes in several different ways. One approach has focused on defensive maneuvers instituted to combat anxiety engendered by super-ego standards. Such anxiety arises from tensions between the super-ego and the ego; that is, out of discrepancies between what the individual feels he ought to be and what he perceives himself to be. This kind of anxiety may be called super-ego anxiety; its more common appelation is guilt. There is reason to believe that one's preferred ways of coping with the negative affect of guilt is a significant dimension of his personality (Allinsmith, 1954; Greening, 1958). The current study is based on a similar application of the ego-ideal concept. The ego-ideal consists of behavioral standards. Tensions arise between the ego-ideal and the ego when there are discrepancies between what the individual desires to be and what he perceives himself to be. These tensions are experienced as a negative affect which may be called ego-ideal anxiety. Ego-ideal anxiety is essentially the negative self-attitude which has elsewhere been called shame (Piers and Singer, 1953), feelings of inferiority (Adler, 1927), and lack of self-regard (McDougall, 1921). Ego-ideal anxiety, like super-ego anxiety, is distressing to the individual and gives rise

to defensive maneuvers by which he seeks to allay or "bind" the anxiety. The significance of the ego-ideal in this study lies in the nature of the defensive maneuvers to which ego-ideal anxiety gives rise.

Whereas demonstration of defenses against super-ego anxiety is contingent upon situations where moral standards are transgressed, defensive maneuvers instituted to deal with ego-ideal anxiety are to be observed in situations where non-moral standards are not achieved. In short, the prototype for ego-ideal anxiety is the failure experience, an experience in which an individual fails to attain a desirable goal. The major premise of this study is that the nature of an individual's defensive reactions to failure is intimately connected with his methods of dealing with achievement-related situations; further, that from knowledge of the former, aspects of the latter can be predicted. This study will attempt to predict goal-setting behavior in a level-of-aspiration setting and dispositions to commensurate achievement and under-achievement in an academic setting on the basis of differences in modes of reacting to failure.

Delineation of the design and hypotheses of the study requires further introductory material on several fronts. It is necessary to identify the modes of reaction to failure, that is to develop a classification scheme which includes all possible modes of coping with ego-ideal anxiety. Secondly, there must be devised a means of assessing individual differences in preferences for the various modes of defense. And finally, a rationale, both empirical and conceptual, must be presented for

basing predictions of achievement-related behavior on individual differences in preference for the modes identified. The following three chapters are respectively concerned with these tasks.

CHAPTER II

Modes of Reacting to Failure: A Review and Integration of the Literature

Several researchers have carefully described modes utilized to cope with the negative affect accompanying failure experiences. These contributions will be reviewed, and from them will be derived a comprehensive categorization of reactions to failure. Initially, it is necessary to clarify the meaning of the terms failure and frustration. Writers who have dealt with defensive reactions to frustration differ in their use of this term. Rosenzweig (1938a, p. 126) defines frustration as "a phenomenon created either through privation, deprivation, or conflict...." This usage is supported by Symonds (1946, p. 52), who says, "We shall use frustration...to indicate any interference in the satisfaction of a want...." Criticism of this definition has been raised by Maslow (1941, p. 364), who comments as follows: "The usual definitions of frustration are in terms simply of not getting what one desires...Such a definition fails to make the distinction between a deprivation which is unimportant to the organism and...a deprivation which is at the same time a threat to the personality; that is to the life-goals of the individual, to his defensive system, to his self-esteem, or to his feeling of security." Zander (1944, p. 36) echoes these sentiments by saying that "frustration should be defined as that condition which exists when a response

toward a goal believed important and attainable by a given person suffers interference...."

Failure as conceived in this study is identical with the interpretation of frustration subscribed to by Maslow and Zander. Previous papers by D. R. Miller (1951) and R. R. Sears (1942) have already described failure in essentially this way. In the review which follows, frustration and failure are used interchangeably, and the research literature on frustration is drawn on freely. Nevertheless, the focus will remain on individual behavior in situations where important and attainable goals are not achieved and the failure constitutes a threat to the personality. Furthermore, since reactions to failure are viewed in this study as learned, anxiety-reducing behavior, the theory of frustration-instigated behavior propounded by Maier (1949) is not relevant to the following discussion.

The first categorization of reactions to failure which bore experimental fruit was proposed by Rosenzweig (1934; 1935; 1938b). Rosenzweig described three modes of dealing with failure, the extrapunitive, the intropunitive, and the impunitive. In an extrapunitive reaction, the individual experiences anger and indignation and blames others for his failure. When responding intropunitively, he feels humiliation and guilt and blames himself. The impunitive mode involves a sense of embarrassment and shame and the condonement of the failure. Rosenzweig asserted that the extrapunitive and intropunitive modes are related to aggressive needs, while the impunitive mode is not. In these early papers Rosenzweig allowed for individual differences in preferences for these modes, but at the

same time made it clear that his categories apply to mechanisms and not to individuals.

Other early contributions tended to identify a single kind of reaction as the inevitable and, one is inclined to infer, exclusive reaction to failure. R. R. Sears (1937) concluded that failure, which he saw as "the development of mutually incompatible anticipatory goal responses," initiated a repression sequence. Barker, Dembo, and Lewin (1941) pointed to regression as the end result of frustration. Dollard, Doob, N. E. Miller, Mowrer, and R. R. Sears (1939, p. 1) asserted that "...frustration always leads to some form of aggression."

These narrow, unidimensional approaches were short-lived. Sherman and Jost (1942) reported observations which failed to affirm either aggression or regression as the typical response to frustration. The Miller group, having received heavy criticism, revised its original statement to the following: "Frustration produces instigation to a number of different types of response, one of which is an instigation to some form of aggression" (N. E. Miller, R. R. Sears, Mowrer, Doob, and Dollard, 1941, p. 338). R. R. Sears (1941) provided a list of non-aggressive responses to failure which included repetition, selection of new acts in performance of the same goal response, selection of new acts in the performance of a new goal response, and leaving the field. With regard to repetition, however, he endorsed the earlier position of Hamilton (1925, pp. 249-259) that persistive and non-adjustive reactions to frustration, with no change in behavior, are seldom characteristic of adult humans.

In a study by Zander (1944) further consideration was given to aggression, regression, repression, fixation, and other previously suggested outcomes of frustration. Zander's data indicated that no one form of behavior is a typical occurrence subsequent to frustration. He stressed the importance of individual differences and, in contrast to Rosenzweig's arm-chair method, developed a categorization based on the actual responses of subjects who underwent experimentally induced failure. His categories were defense, which included aggression, rationalization, and egocentrism (attracting attention); withdrawal, which consisted of inattention and regression; non-adaptive activity, which included anxiety and tension; and co-operation.

McClelland and Apicella (1945) also developed a classification based on subjects' verbal reactions to experimentally induced failure. They delineated four types of reaction, two of which they considered goal-oriented behavior aimed at increasing success and the other two of which were seen as defense-oriented and aimed at decreasing failure. The goal-oriented types were labelled attack, which included any intensified or aggressive response aimed at overcoming obstacles to achievement, and substitution, which consisted of any response aimed at getting some secondary satisfaction out of the situation. The defense-oriented types were called withdrawal and limitation. Withdrawal was defined as an attempt to escape by reducing the instigation to act, and limitation was applied where the subject modified his interpretation of the situation to avoid painful implications of the failure, as by rationalizing.

The classification schemes of Rosenzweig, Zander and McClelland and Apicella are the most elaborate in the literature. However, they are subject to certain criticisms which justify attempting to formulate a more comprehensive scheme. One basis of criticism is provided by Rosenzweig's (1941; 1943) distinction between need-persistive and ego-defensive reactions to frustration. Need-persistive reactions occur invariably following frustration, according to Rosenzweig, and concern the fate of the frustrated segmental need. Ego-defensive reactions occur under special conditions of threat and concern the fate of the individual as a whole. In other papers concerning the concept of frustration tolerance, Rosenzweig (1938a; 1944) indicates that when an individual experiences frustration in excess of his tolerance level, his reactions become inadequate. Since the extrapunitive, intropunitive, and impunitive modes are considered ego-defensive reactions (Rosenzweig, 1938a), and ego-defensive reactions are considered inadequate (Rosenzweig, 1944), Rosenzweig's system does not allow for differences among need-persistive, adequate reactions under conditions of mild frustration. Indeed, he states merely that need-persistive responses are reminiscent of the psychoanalytic concept of sublimation (1944).

One may choose to argue that the label defense should not be applied to adequate behavior. Nevertheless, it is reasonable to assume that people may differ in their modes of reacting even when their frustration tolerance has not been exceeded. The current study is concerned with defenses as broadly viewed, that is, as synonymous with modes of reaction or coping behaviors.

Thus it is felt a shortcoming of Rosenzweig's scheme that he does not provide a basis for differentially describing responses subsequent to failure in which the individual remains intent on doing something about the frustrated need. This shortcoming has been tacitly recognized by Foulds (1958), who in constructing a multiple-choice test based on Rosenzweig's categories included both need-persistive and ego-defensive instances of the extrapunitive and intropunitive modes. Foulds maintains, for example, that a reaction consisting entirely of self-blame is indeed intropunitive and ego-defensive, but a self-critical response may also express or imply intention to correct the fault, in which case it would be need-persistive while still being intropunitive.

McClelland and Apicella mirror Rosenzweig's distinction between need-persistive and ego-defensive reactions by separating reactions intended to increase success from those aimed at decreasing failure. Improving upon Rosenzweig, they devote equal attention to goal-oriented and defense-oriented types of response. However, in doing so they identify with separate labels those modes of defense which are utilized to increase success and those which are employed to decrease failure. This distinction is satisfactory if one desires merely to categorize isolated situational reactions. However, it is less adequate for characterizing individuals.

An individual experiencing a mild or moderate degree of frustration would be expected to respond need-persistively and in a manner McClelland and Apicella would code as attack or

or substitution. If this individual's anxiety were to mount in the face of unabated failure, exceeding his tolerance level, he would be expected to respond ego-defensively, and his behavior would be coded by McClelland and Apicella as limitation or withdrawal. Yet a theory of personality must assume that this person has characterological ways of responding to failure from which his behavior in both situations could be predicted. The use of separate labels to describe a person's behavior in the two situations does not contribute to an appreciation for the unity of his characterological trends. When one thinks of people rather than of slices of behavior, the distinction between need-persistive and ego-defensive modes becomes superficial and secondary. McClelland (1950, p. 508) seems to recognize this when he comments that aggression, which he had originally interpreted as attack, a mode aimed at increasing success, may also function as a defense-oriented reaction. He allows that such a circumstance could not be fitted into the McClelland-Apicella scheme.

This difficulty can be resolved by distinguishing between a mode of defense and the <u>phase</u> in which that particular defense is operating. As Foulds' (1958) measure suggested, an individual who characterologically reacts to failure intropunitively may in one situation devote all of his energy to self-castigation, but in another situation plan for or anticipate improvement in the face of his admission of responsibility for the failure. Both of these responses are intropunitive; their difference can be seen only in the manner in which the defense finds expression.

It is to these differences in the form of expression to which the notion of phase may be applied. When an individual is functioning within his tolerance levels, his modes of reaction are expressed in a persistive phase; when tolerance levels are exceeded, all energy is bound up in defense, and modes of reactions are expressed in the defensive phase.

Thus Rosenzweig's scheme may be criticized for paying insufficient attention to the nature of need-persistive reactions to failure, and the McClelland and Apicella approach falls short of reaching into the characterological determinants of modes of reacting to failure. Zander's categorization is subject to an additional criticism, the essence of which further prescribes the requirements of an improved scheme. Three of Zander's categories - defense, withdrawal, and cooperation - have a place within the other two frameworks which have been discussed. However, his fourth category, non-adaptive activity, under which he includes anxiety and tension, seems of a different nature. This difference is highlighted by Sargent (1948), who states that frustration is in all cases followed by a patterned sequence of behavior involving first an emotional response, secondly, the invoking of habitual coping mechanisms, and finally overt behavior.

Hence, according to Sargent, frustration never leads directly to aggression or any other behavior pattern; for a given individual, frustration may produce an emotion which calls forth the characteristic defensive modes of that person which in turn dispose him to behave aggressively or in some other way.

Similarly, inasmuch as anxiety is psychologically an affective state, the frustration sequence would never terminate in anxiety; habitual reactions and some overt behavior would follow. Individual differences at any stage of the reaction sequence may of course be studied. However, to describe different stages in the reaction sequence as different modes of defense, such as by referring to anxiety as a unique defense against failure, may lead to inferences about individual differences where none exist. Emotional reactions do not belong in a categorization intended to discriminate people in terms of their characterological defenses.

In this brief review certain guidelines for the formulation of a modified categorization have emerged. First, if personality is to be viewed as a consistent, integrated, and predictable phenomenon, defensive modes should characterize individuals and cut across the situations of greater or less stress to which the individual is responding at a given time. Secondly, a person's varying behavior under different intensities of frustration should be viewed as different phases, or forms of expression, of his characterological modes of defense, rather than as different modes themselves. And finally, defensive modes should not be confused with the emotions which elicit them or the overt behaviors from which they are inferred.

The phases of defense have been adequately described by Rosenzweig and McClelland and Apicella. Correspondingly, two phases of defense are to be identified in the present scheme. One of them, which is observed when an individual is operating

within his frustration tolerance level, is need-persistive and aimed at increasing success. In this phase the person maintains necessity for or interest in doing something about the frustrated need. In short, his behavior, regardless of his defense preferences, expresses optimism with regard to the future. Consequently, this phase shall be labeled optimistic. In the other phase, frustration is excessive, and behavior is ego-defensive and aimed at decreasing failure. The person typically decreases or obviates the necessity for doing anything about the frustrated need. In this case, the prevailing attitude is one of pessimism, and this phase shall be called pessimistic.

The previous literature points to two general kinds of modes of defending against ego-ideal anxiety which can be labeled aggressive and non-aggressive. In an aggressive reaction to failure, the individual seeks some outlet of blame to which responsibility for the failure can be assigned; the goal itself is not reconsidered. Non-aggressive responses subsequent to failure are aimed at gaining some distance from the goal which was originally responsible for the failure experience; there is no concern with the reason (assignation of blame) for the failure. There are two aggressive modes of defending against failure-induced anxiety. One of these involves placing the blame on one's self and may be called intropunitiveness, after Rosenzweig (1934). The other consists of blaming someone or something external to the self and is to be called externalization. Two non-aggressive modes, differing mainly in the degree

to which distance from the situation is sought, can be identified. Withdrawal may be moderate, in which case the mode is to be called restriction of the ego, after A. Freud (1946). If the withdrawal from the frustrating situation is complete, the relevant mode may be labeled leaving the field, following R. R. Sears (1941).

Further description of these four modes of defense, especially as they are expressed in optimistic and pessimistic phases, will make more clear the kinds of behavior from which they can be inferred. Intropunitiveness involves blaming the self for the failure. When intropunitive defense is optimistic, the fault in the self is seen as amenable to correction in the future; when intropunitiveness enters the pessimistic phase, the fault is considered inherent, permanent, and irreversible. Externalization consists of blaming some aspect of the situation external to the self. Optimistic externalization views the faulty aspect of the frustrating situation as one which is relatively circumstantial and transient; pessimistic externalization sees the blameworthy aspect as personally and permanently determined. The following possible remarks by students subsequent to failing an examination are illustrative: "I didn't study hard enough this time" (optimistic intropunitiveness); "I'm not smart enough" (pessimistic intropunitiveness); "It was too noisy in the room" (optimistic externalization); "The professor always gives unfair exams" (pessimistic externalization).

Restriction of the ego involves a moderate withdrawal from the situation. In the optimistic phase ego-restriction is manifest by depreciation of the value of the intended goal, some-

times so that a lesser amount of the same goal is seen as acceptable, while activity goes on as before; in the pessimistic phase, ego-restriction induces a decrease in the intensity of the goal response itself. Leaving the field signifies complete withdrawal from the situation. In the optimistic phase of this defense, a substitute goal is selected; in the pessimistic phase all energy is devoted to escape and no substitutes are considered. The following are again illustrative remarks which might be made by students after failing an examination: "I don't need a high grade in that course" (optimistic restriction); "I might as well not work so hard on that subject" (pessimistic restriction); "I think I'll switch to _____instead" (optimistic leaving the field); "I think I'll drop the course" (pessimistic leaving the field).

As a final means of clarifying the nature of the proposed categorization scheme, and also of gaining some guarantee of its inclusiveness, the modes described in previous literature can be fitted into the present scheme. Rosenzweig's categories are very clearly related to those identified here. His intropunitiveness is identical with pessimistic intropunitiveness, and his extrapunitiveness is equivalent to pessimistic externalization. Rosenzweig's impunitive mode is an expression of restriction of the ego. Since Rosenzweig considered his modes ego-defensive, one's first inclination is to interpret impunitiveness as pessimistic restriction of the ego. However, since the main characteristic of impunitiveness is condonement of the failure, impunitiveness seems to be optimistic restriction, in

which the individual mitigates his failure by depreciating or denying the value of the goal, rather than pessimistic restriction, which involves an actual decrease of the intensity of the goal response.

An analysis of the McClelland-Apicella categories requires utilization of further subdivisions they propose. Withdrawal in their scheme consists of ego extrication, in which the subject detaches his ego from the need to continue his goal response, and rejection, which involves trying not to continue the goal response. These reactions appear to represent increasing degrees of withdrawal; ego extrication in the present scheme would be called pessimistic restriction of the ego, and rejection would be identified as pessimistic leaving the field. McClelland and Apicella's limitation is separated into rationalization, isolation, and humor. Rationalization in the present scheme would be either the optimistic or pessimistic mode of externalization, depending on whether the excuse offered applied to transient or permanent circumstances. Isolation and humor, which McClelland and Apicella describe as the subject's referral of failure to unimportant or inappropriate standards, respectively, would both be coded as optimistic restriction of the ego in the current system. Attack, which they define as an instrumental act aimed at increasing success, would be labeled either optimistic intropunitiveness or optimistic externalization, depending on whether the object of the aggressive behavior were the self or the external world. Finally, the McClelland-Apicella category

of substitution may be included under optimistic leaving the field.

Zander's categories lack the specificity of McClelland and Apicella's. His category of defense, under which he includes aggression and rationalization, might be coded either as optimistic or pessimistic intropunitiveness or externalization, depending on the specific nature of the response. Zander's withdrawal mode could belong in any of the non-aggressive categories of the current scheme; again specificity is impossible without further detail. Cooperation, as described by Zander, might represent the optimistic phase of any mode, depending on the specifics of the behavior pattern. The previously mentioned categories of R. R. Sears can also be fitted into the present scheme. Sears' leaving the field is identical with pessimistic leaving the field. His selection of new acts in the performance of a new goal is like optimistic leaving the field. His category of new acts in the performance of the same goal applies to optimistic intropunitiveness and optimistic externalization, in both of which there are maintained interest in the goal and in doing something about failure to attain the goal.

Recent literature has produced some new terms which also can readily be included within the currently proposed scheme. Katz (1950), in accounting for changes he observed in graphic productions of subjects subsequent to experimentally induced failure, referred to <u>covering-up</u>, or self-concealment, and <u>apathy</u>, or depressed functioning. From his description, these modes seem equivalent to optimistic and pessimistic restriction

of the ego, respectively. Diggory (1949) asked subjects to provide reasons for their failure on difficult tasks he asked them to do. Naturally, responses to an approach which requires subjects to determine a source of blame can be scored only in the aggressive categories of the current scheme. It is interesting to note, however, that Diggory's judges were able reliably to sort excuses on dimensions of "blame of self versus blame of external circumstances" and "specific to situation versus general." A specific self-blame would correspond to optimistic intropunitiveness; general self-blame resembles pessimistic intropunitiveness. Similarly, specific and general blame of external circumstances corresponds to optimistic and pessimistic externalization. Thus the four types of blame responses coded by the present scheme were all clearly represented in Diggory's results.

One factor analytic study of reactions to failure is reported in the literature. Stafford and Hsu (1948) had subjects fill out an adjective check list following experimentally induced failure. The forty adjectives were felt to cover feelings, emotions, attitudes, moods, decisions, actions, and movements. Four factors emerged from their rotation. The first loaded highly on "daydreaming," "indifferent," "whole thing is silly," and "undisturbed." Although the authors named this factor <u>rationalization</u>, it seems very similar to optimistic restriction of the ego. The other three factors and their high loadings were <u>withdrawal</u> ("inferior," "worried," "ashamed," and "ready to quit"); <u>neurotic-depressive</u> ("tired," "tearful,"

"hopeless," and "ridiculous"); and normal-depressed ("depressed," "puzzled," "anxious," and "discouraged"). All three of these factors can be included under pessimistic externalization. The use of only a single forty item check list obviously limits the contribution of factor analytic techniques to the development of a comprehensive picture of reactions to failure.

Table 1 on the following two pages depicts the categorization scheme which has been developed for this study. Previous categories are listed where they might be most appropriately placed. Two points are clarified by this chart. First, all of the previously described categories are included; secondly, no previous scheme encompasses the full range of possibilities offered by the suggested model.

Table 1

Categorization and Description of Modes of Defense Subsequent to Failure

(Similarities to previously used labels indicated)

Mode of Defense	Phase of defense expression	
	Optimistic	Pessimistic
All Modes	Trend toward need-persistive; aimed at increasing success; maintains necessity and interest in doing something about the frustrated need.	Trend toward ego-defensive; aimed at decreasing failure; decreases or obviates necessity for doing anything about the frustrated need.
Aggressive Modes: (Source of blame for the failure identified; no consideration of the goal)		
Intropunitiveness (Some aspect of self blamed)	Fault seen as amenable to correction in the future. Attack (McClelland) New acts, same goal (Sears) Specific self-blame (Diggory)	Fault seen as inherent, permanent, irreversible. Intropunitive (Rosenzweig) General self-blame (Diggory) Withdrawal, depression (Stafford and Hsu)

(Table continued on next page)

Externalization (Some aspect of situation external to self blamed)	Frustrating circumstances seen as circumstantial, transient. Attack (McClelland) Rationalization (McClelland) Specific external blame (Diggory)	Frustrating circumstances seen as personal, permanent. Extrapunitive (Rosenzweig) Rationalization (McClelland) General external blame (Diggory)
Non-Aggressive Modes: (Goal, goal response considered; withdrawal; no assignation of blame)		
Restriction of Ego (Moderate withdrawal from situation; goal considered, retained)	Value of goal depreciated; lesser amount of goal acceptable. Isolation, humor (McClelland) Covering-up (Katz) Impunitive (Rosenzweig) Rationalization (Stafford)	Intensity of goal response decreased. Extrication (McClelland) Apathy (Katz)
Leaving the Field (Complete withdrawal from situation; goal considered, given up)	Substitute goal selected. Substitution (McClelland) New acts, new goal (Sears)	No substitute goal selected. Rejection (McClelland) Leaving the field (Sears)

CHAPTER III

Assessing Individual Differences in Responses to Failure: The Failure Reaction Test (FRT)

No currently available measures lend themselves readily to assessment of differential preferences for the modes of reacting to failure which have been described. After considering a wide number of possibilities, the investigator concluded that attempts to score any existing measures for the dimensions in question would encounter serious difficulties. Consequently, a new measure was constructed, the express purpose of which would be to evaluate tendencies toward aggressive and non-aggressive reactions to failure. The form of the contemplated measure was suggested by two recently developed tests which seek to characterize people in terms of their defensive style. These tests are Goldstein's (1952) Defense Preference Inventory based on the Blacky (Blum, 1950) and Foulds' (1958) adaptation of Rosenzweig's Picture Frustration Test (Rosenzweig, Fleming, and Clarke, 1947). In both of these measures, four alternate interpretations or outcomes of a depicted situation are provided, and subjects are asked among other things to indicate the one which they feel is most probable. Each alternative response is designed to represent a mode of defense.

In the Defense Preference Inventory, for example, the four alternative interpretations are examples of regression, projection, reaction formation, and repression. Respectable

test-retest reliabilities have been reported for these categories (Goldstein, 1952; Sinnett, 1953). Blum (1956) describes a revision of the Inventory to include a fifth defense, intellectualization, and reports additional reliability studies involving the technique. Although this type of test requires careful item construction, it has the advantage of eliminating scoring problems; the scoring of responses having been built into the construction of the items, virtually unanimous agreement among scorers is possible.

The proposed measure, to be called the Failure Reaction Test (FRT), was constructed to consist of sentence completion type items in which each stem depicts a failure situation and is followed by four alternate completions, one each for the four modes of reacting to failure. The content of the items was influenced by the feeling that an individual's response to any attitude questionnaire or personality measure is significant only to the extent that the test stimulus to which he is responding is meaningful and important to him. For example, a person's statement that he is a poor singer is of little significance as an indication of his self-esteem if singing well is not an important value for him, i.e. if singing well is not one of his ego-ideal standards. Consequently, if one wanted to know how this person deals with ego-ideal anxiety, it would not be pertinent to ask him how he reacts in situations where his lack of singing ability is revealed. In short, to determine the nature of a person's reaction to failure, it is necessary to sample those situations relevant to

his ego-ideals.

It therefore appeared mandatory that the item stems of the FRT be designed to represent ego-ideals of the subjects. Since it was expected that the subjects for the study would be college students, item stems were chosen which seemed relevant to the ego-ideals of a college population. This procedure naturally limits the generality of the measure for other populations, but such limitation was felt justifiable on two grounds: (a) it is of prime importance that the items touch on significant aspects of the subjects' lives, as previously indicated; (b) the general characteristics of the test, including the categorization scheme on which it is based, is of greater import than the specific content of the items; should the FRT prove of merit, items appropriate to any group of people can readily be constructed by an investigator familiar with the goals and problems of the particular group to be studied.

The item stems of the FRT depict failures in three central aspects of student life. The three types of item stems are the following:

W stems--depict failure in academic and work situations.

S stems--depict failure in the establishment or maintenance of satisfying heterosexual relationships.

F stems--depict failure in the establishment or maintenance of satisfying friendships.

With regard to the item completions, a possible difficulty was envisioned were subjects asked to choose between completions

expressing optimistic phases of a defense and completions representing pessimistic phases. Were such a choice necessary, the apparent social desirability of an optimistic, in contrast to a pessimistic, response might easily predispose a subject to endorse the former, regardless of the mode of defense it represented. Hence, it was decided that each item stem would be followed either by optimistic (O) or by pessimistic (P) expressions of the modes, but never by a combination of the two.

Sixty items were constructed by the investigator on the basis of his familiarity with student experiences and values. Ten each represented the six possible kinds of items: items with O completions and W, S, and F stems; and items with P completions and W, S, and F stems. These six categories may be referred to as WO, SO, FO, WP, SP, and FP. The sixty items were divided into two lists, each containing five items from each of the six item categories. Each list of thirty items was randomized, as was the sequence of item completions, and the two forms of the test were administered to twenty-five and twenty-two subjects respectively. The pretesting was carried out with three goals in mind: (a) to determine if the FRT had the capacity to differentiate among people, i.e., whether there is a sufficient range of scores to allow inferences of qualitative differences in defense preferences; (b) to perform an item analysis and choose that half, or thirty, of the items which best differentiate between aggressive and non-aggressiveness defenders, should such a differentiation

be achieved; (c) to assess the internal consistency of the measure.

The details of the pretesting procedure as well as a list of the original items are provided in Appendix I. Certain significant findings are pertinent here. Since the crucial differentiation among subjects is whether they endorse an aggressive or non-aggressive alternative, a score of one was assigned for each instance of the former and a score of zero for the latter. Thus on each of the forms pretested, the possible range of scores was from zero to thirty; the higher the score, the greater propensity to endorse aggressive item completions, and vice-versa. On form Y, which was taken by twenty-five Ss, the range of scores was from eight to twenty-two, with a mean of 14.84 and a standard deviation of 6.38. For form X, completed by twenty-two Ss, the range was nine to twenty-four, the mean 15.64, and the standard deviation 3.48. The two forms had identical even-odd split-half reliabilities of .61.[1] The wide range of scores and the reliability co-efficients appear to achieve goals (a) and (c) above.

An item analysis was carried out by assessing the degree to which each item differentiated between extreme high and low scorers. Of the thirty items selected for the final form, twelve separated extreme groups at the one per cent level of

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[1]The Spearman-Brown formula was used to compute the reliability co-efficients reported in this study.

confidence, ten at the five per cent level, six at the ten per cent level, and two at the fifteen per cent level. It was hoped that the better items would be fairly equally distributed among the item categories, since the coverage of different aspects of life adjustment could then be preserved in the final form. Of the thirty selected items, three were from the WO category, four from the FP category, five each from the SO and FO categories, six from the WP and seven from the SP categories. Further attention will be paid to the parameters of the FRT during the experimental phase of the study, and data concerning the final form of the test appear in Chapter VI. In organizing the final form, notice was taken of the suggestions by Gulliksen (1950, pp. 198-201) for avoiding spurious split-half reliabilities. Thus the odd and even-numbered items were paired as closely as possible on the basis of both their item category and the confidence level with which they distinguished extreme scorers.

CHAPTER IV

Hypotheses and Predictions: The Significance of Modes of Defense Subsequent to Failure

People may be placed in one of three classifications on the basis of their responses to the Failure Reaction Test (FRT) which has been described. They may be classed as rigidly invoking aggressive defenses (blaming) subsequent to failure, as rigidly resorting to non-aggressive defenses (withdrawing), or as being flexible in their choice of response. The number of items on the FRT for which aggressive alternatives are endorsed provides a ready index of these three defensive styles. A high score indicates a rigidly aggressive defender (Agg), a low score points to a rigidly non-aggressive defender (Non-agg), and a middle score reflects a flexible response pattern. The significance of these score ranges is to be studied in two ways:

1. Relationships will be examined between high, middle, and low scores on the FRT and scores on other achievement-related measures which have been previously used to predict goal-setting behavior and academic performance, the major dependent variables of this study.

2. Predictions will be made from scores on the FRT to some aspects of goal-setting behavior and academic performance which other achievement-related measures have thus far been unable to predict with any degree of consistency.

Relationships Between the Failure-Reaction Test (FRT) and other Achievement-Related Measures

A basis for exploring the relationship of the FRT to other achievement-related measures exists in the basic fact that the high scorers (Agg group) and low scorers (Non-agg group) on the measure are both rigid in their modes of reaction, while the middle scorers (flexible group) are not. A number of studies indicate that rigidity is an observed consequent of induced anxiety (D. W. Taylor and McNemar, 1955), and arguments have been presented for viewing situational rigidity as an effect of situational anxiety (Wolpert, 1955). Therefore, let it be asserted that the rigid defenders, the Agg and Non-agg groups, are anxious in achievement settings and experience a marked fear of failure in competitive endeavors, whereas the flexible group is relatively free from such fears. This assertion is subject to direct experimental test and will be tested in this study. But it is possible partially to judge the validity of the assertion by recourse to existing data. If it is correct to infer a fear of failure propensity from rigidity, it follows that people who are evaluated as having a marked fear of failure, or a strong motive to avoid failure, should score high on measures of rigidity.

Assessing Fear of Failure

Two widely-used tests, the test of need for achievement (n Achievement) described by McClelland and his associates (McClelland, Atkinson, Clark, and Lowell, 1950), and the

Mandler-Sarason Test Anxiety Questionnaire (S. B. Sarason and Gordon, 1953), appear to measure fear of failure. Individuals who receive low n Achievement scores have been described as anxious about achievement and failure (de Charms, Morrison, Reitman, and McClelland, 1955). They have also been found to be slower than people who receive high n Achievement scores in recognizing tachistoscopically presented words connoting failure (McClelland and Liberman, 1949), and they recall fewer incompleted tasks in studies of the Zeigarnik effect when the tasks are likely to be considered personal failures than do high scorers (Atkinson, 1953).

Individuals who score high on the Mandler-Sarason Test Anxiety Questionnaire show performance decrements on perceptual-motor tasks when they are given either positive or negative feedback concerning their performance; low anxiety subjects, on the other hand, improve in performance after feedback (Mandler and S. B. Sarason, 1952). High anxiety subjects on the Mandler-Sarason do better on perceptual-motor tasks when they are told they are not expected to finish the tasks than when they are told they are; the reverse is true for subjects low in anxiety (S. B. Sarason, Mandler, and Craighill, 1952). Ego-involvement has been found to produce performance decrements for high anxiety subjects, but performance increments for low anxiety subjects (S. B. Sarason et al., 1952). From these studies it seems reasonable to infer that low scorers on the n Achievement measure and high scorers on the Mandler-Sarason are characterized by fear of failure in achievement settings.

Fear of Failure and Rigidity.

Brown (1953) discovered a significant negative relationship between n Achievement and rigidity. His high need-achievers were less rigid than the moderate or low need-achievers on such measures as the F-scale (Adorno, Frenkel-Brunswick, Levinson, and Sanford, 1950) and the Einstelling water-bottle problems. Since a significant negative correlation has been found between n Achievement and scores on the Mandler-Sarason (Raphelson, 1957), it is reasonable to expect that people high on the Test Anxiety Questionnaire would score high on measures of rigidity. There is admittedly a paucity of evidence here. However, what there is lies in the direction deduced from the assertion that the rigid defenders experience fears of failure; no controverting evidence has been reported. Therefore, it is justifiable to expect that the rigid defenders, in contrast to the flexible group, will have a marked fear of failure and will score high on the Mandler-Sarason and low on McClelland's n Achievement measure.

Predictions Beyond Present Knowledge

Some predictions beyond present knowledge from scores on the FRT are suggested by the fact that the two groups of rigid defenders, the aggressive (Agg) and non-aggressive (Non-agg) groups, while similar in the relative strengths of their motives to avoid failure, are different in their modes of expressing, or reacting to, their fears. Let it be asserted that these groups differ, in fact are opposite, in

their means of avoiding the subjective experience of failure in achievement situations; specifically, that the Non-agg group sets unrealistically low levels of aspiration and restricts output in an academic setting, whereas the Agg group sets unrealistically high levels of aspiration and demonstrates commensurate academic achievement. The justification for these assertions can be evaluated by answering two questions:

1. Is there reason to believe that the Agg and Non-agg groups are different in their goal setting behavior and academic performance?

2. Is there reason to believe that these differences are of the nature which has just been specified?

The Existence of Differences Between Agg and Non-Agg Groups

If it is true that the rigid defenders, a population characterized by strong fear of failure, are a distinctly heterogenous, dichotomous group, one would expect to find in the literature repeated instances of diverse and apparently opposite, or at least contrasting, behavioral trends in achievement settings within a group identified as high in fear of failure. The following four studies examined relationships between measures of fear of failure and level-of-aspiration behavior; each found distinct heterogeneity within the fear of failure group. Clark, Ricuitti, and Teevan (1956) asked college students what grades they aspired to and would settle for in a particular course. They found that subjects low in n Achievement were at one or the other end of a

continuum; some aspired to very high grades, while others were willing to settle for very low grades. The middle range of the continuum was composed of high need-achievers.

McClelland (1958) found that grade school children who are low in n Achievement prefer to take either small or large risks in an achievement setting; children high in n Achievement take intermediate risks. Atkinson and Litwin (1958) discovered that college students low in n Achievement and/or high on the Mandler-Sarason take large or small risks; high n Achievement and/or low Mandler-Sarason scorers prefer intermediate risks. Mahone (1958) found that college students both high on the Mandler-Sarason and low in n Achievement have unrealistically high or unrealistically low vocational aspirations; again, the low fear of failure group (high in n Achievement and low on the Mandler-Sarason) is intermediate and realistic. Atkinson (1957) has presented a model which accounts for this data. The model demonstrates how both large and small risks serve to avoid the subjective experience of failure for the person who is plagued by fears of failing. These four studies make it clear that people high in fear of failure may choose either method of avoiding failure.

With regard to goal-setting behavior the present assertions require that both Agg and Non-agg groups differ from flexible defenders. In an academic setting, however, the Agg group is expected to resemble the flexible defenders, in that neither group will fail to achieve at least commensurately with their ability. The Non-agg group, on the other hand, is

expected to be characterized by under-achievement. That is, those people high in fear of failure comprise a dichotomous group, but in the case of academic achievement one part of them, the Agg group, will perform at least as well as individuals not troubled by achievement-related anxiety. If this assertion is true, it would be expected that studies which have attempted to predict aspects of academic performance on the basis of measures of fear of failure would yield varying results. Only in instances where the high fear of failure group happened to contain a preponderance of Non-agg defenders would differences from a low fear of failure group in academic performance be found; but where the fear of failure group contained any sizeable proportion of Agg defenders, differences from low fear of failure people would not be observed.

Studies of the relationship between n Achievement and grade-point averages have in fact yielded a variable picture. McClelland et. al. (1950, pp. 237-241) report three such studies. In a group at Wesleyan, a significant product-moment correlation of .51 was found between n Achievement and grade-point average; at Trinity College, an insignificant correlation of .05 was found between the same two variables; and a third sample showed an insignificant correlation of -.14. Morgan (1952) ran a careful study in which he first selected students who had scored at the ninetieth percentile or higher on the American Council of Education Psychological Examination (ACE) and then divided them into three groups according to

their grade-point averages. The high third of the grade-point distribution were considered commensurate achievers and the low third under-achievers. The commensurate achievers were found to have a significantly higher mean n Achievement score than the under-achievers.

Morgan's use of the ACE raises another aspect of the academic achievement question. Many studies have predicted from fear of failure measures to achievement and aptitude tests, rather than to grade-point averages. The ACE has repeatedly correlated between .45 and .55 with grade-point averages (Kirk, 1952). It may reasonably be stated that any effect which fear of failure has on grade-point average, which is a function of performance on course achievement tests, should be evident on a given achievement or aptitude measure, such as the ACE. Hence, it seems requisite in terms of the assertions under consideration that contrasting predictions from fear of failure measures to the ACE and similar tests should also be demonstrable. Two studies involving the n Achievement measure are relevant to this question. Krumboltz and Farquhar (1952) report varying relationships between n Achievement and ACE scores or other achievement predictions. Mahone (1958) found no relationship between n Achievement and ACE.

Relationships between scores on anxiety measures and academic achievement also demonstrate the expected variability. S. B. Sarason and Mandler (1952) selected from a large group those in the upper and lower thirty per cent of the distribution

on the Mandler-Sarason Test Anxiety Questionnaire. No significant differences in grade-point averages were found between these two groups. Further investigation revealed that whereas the lower thirty per cent was a fairly homogeneous group with regard to academic performance, the upper thirty per cent, the high fear of failure group, consisted of two distinct subgroups. The more anxious half of this group, that is, the upper fifteen per cent of the distribution, was found to have lower ($p = .08$) grades than the less anxious half, which consisted of subjects located between the seventieth and eighty-fifty percentiles of the distribution. Yet these two fear of failure subgroups did not differ on two tests of aptitude (the Scholastic Aptitude Test and the Mathematics Aptitude Test). This is exactly the type of heterogeneity which would be deduced from the present assertion that the two kinds of rigid defenders differ in academic performance. Indeed, Mandler and Sarason suggest that the distinct dichotomy within their high fear of failure group may be attributable to differences in defense mechanism.

Further studies of the Mandler-Sarason in this area have not been reported. However, for additional indications of the accuracy of the assertion under consideration, studies employing the Taylor Manifest Anxiety Scale (J. A. Taylor, 1953), which has shown a significant positive correlation with the Mandler-Sarason (Raphelson, 1957), may be summarized. Morgan (1952) and Matarazzo, Ulett, Guze, and Saslow (1954) report no relationships between increasing levels of anxiety

and grade-point averages. I. G. Sarason (1956), Davids and Eriksen (1955), and Klugh and Bendig (1955) report no significant changes in either grade-point or ACE as a function of anxiety. Yet Matarazzo et. al. (1954) find that scores on the Taylor correlate with the ACE, and Grice (1955) and Kerrick (1955) report significant correlation between the Taylor scale and such aptitude measures as the Air Force Qualifications Test. In rebuttal, Schulz and Calvin (1955) and Mayzner, Serson, and Tressalt (1955) fail to find significant relationships between the Taylor and the ACE. The evidence from studies utilizing the measure and the Mandler-Sarason or Taylor scales, that is the lack of consistent results, is in accord with the asserted dichotomous heterogeneity of the fear of failure group (rigid defenders).

The Nature of Differences Between Agg and Non-agg Groups

If the posited associations between rigid adherence to aggressive reactions, unrealistically high levels of aspiration, and at least commensurate academic achievement on the one hand, and between rigid adherence to non-aggressive defenses, unrealistically low levels of aspirations, and academic under-achievement on the other hand exist, there should be both conceptual explanations and empirical evidence to support such assertions. In the absence of the latter, there should at least be no controverting evidence. With regard to goal-setting behavior, the following rationale may be offered:

Non-agg group. This group is characterized by withdrawal and restriction of interest subsequent to failure. Inasmuch

as low goal-setting is a restriction of ambition and involves a minimum of attachment to or involvement with goals, it seems likely that such behavior in an achievement setting would be characteristic of this group. The subjective experience of failure is avoided by guaranteeing that an objective, or actual, failure will not take place.

Agg group. This group is characterized by maintenance of the goal subsequent to failure and provision of reason or excuse for the failure. Inasmuch as high goal-setting maximizes the possibility of contriving an acceptable excuse for failure, it seems likely that this group would be characterized by high goal-setting behavior. The subjective experience of failure is avoided by the plausibility of the excuse, and secondary rewards from high goal-setting itself, a phenomenon described by P. S. Sears (1940), may be gained.

On the empirical side, there is a definite chain of evidence which justifies the expectation that the Non-agg group will set low goals in a level-of-aspiration setting. Rosenzweig (1934; 1938b; 1944) classifies all reactions to frustration which are non-aggressive, that is, which do not involve blame, as impunitive. The preference for impunitive defense has been associated with reliance on the mechanism of repression (Rosenzweig and S. B. Sarason, 1942). Reliance on repression is typically associated with hysterical trends in the personality (Cameron, 1947, p. 345; Noyes, 1953, p. 464; Schafer, 1948, p. 32). D. R. Miller (1951) and Eysenck and Himmelweit (1946) report that individuals with hysterical

personality trends, in contrast to people in whom such trends are absent, set unrealistically low goals in a level-of-aspiration setting. Therefore, the Non-agg group should be low goal-setters. There is no similar chain of empirical evidence available with regard to the Agg group, nor is there any controverting evidence. However, evidence has already been presented which indicates that individuals characterized by fear of failure set either high or low goals, and since flexible defenders should not be fearful of failure, people high in fear of failure should fall into either the rigidly aggressive or rigidly non-aggressive categories of defensive style. Since the evidence suggests that it is the Non-agg portion of the fear of failure group which sets low goals, it follows that the remainder, or the Agg portion, must comprise those who set high goals.

A rationale may also be presented for the assertions that Agg defenders will achieve at least commensurately and Non-agg defenders will under-achieve. The nature of the non-aggressive reactions to failure, which involve withdrawing, relinquishing goals, and being easily satisfied, when combined with the existence of low goals, seems conducive to a minimum expenditure of energy. Consequently, the Non-agg group is expected to achieve well below capacity. In the Agg group, however, the ability to find excuses, plus the setting of very high goals, makes possible an appropriate output of energy. An appropriate output of energy is consistent with the aggressive pattern of defenses and does not

endanger the individual's peace of mind, since his goals are never closely enough approached to arouse anxiety in him. Thus the academic performance of the Agg group is not expected to be poorer than their ability indicates.

Supporting empirical evidence for these assertions is sparse; nevertheless, some exists, and no controverting facts have been reported. Kirk (1952) summarizes the observations made of large numbers of academic under-achievers at the Berkeley counseling center. She concludes that these people can be characterized as repressors. Evidence has been presented which suggests that the Non-agg group are more likely to be repressors than either the Agg group or flexible defenders. Kirk adds that under-achievers are unable to express hostility directly. In this vein, Shaw and Brown (1957), studying college students, and Shaw and Grubb (1958), evaluating high school students found indications that under-achievers have hostile impulses which they do not necessarily direct into overt behavior. Since the Agg group freely expresses hostility in assigning blame for their failures and the Non-agg group rigidly avoids direct expression of hostility, it follows that the Non-agg group will be more likely to under-achieve.

Re-evaluation of Anxiety Measures

The evidence just summarized suggests that a Non-agg group, relying on repressive defenses, would be similar to an hysteric population. Reasons have also been presented

for viewing a Non-agg group as anxious and fearful of failure. These two premises, however, lead to opposite predictions of scores on tests of anxiety such as the Mandler-Sarason TAQ or the Taylor MAS. If the Non-agg group is anxious, its members should score higher than a group of flexible defenders on an anxiety scale. However, if this group also manifests hysterical trends in their personalities, they could be expected to receive relatively low scores on a pencil and paper test of anxiety. This expectation has been clarified by the studies of Purcell, Druedhall, and Purcell (1952), among others, which have found the Hysteria scale of the Minnesota Multiphasic Personality Inventory (Welsh and Dahlstrom, 1956) to have little relevance to the detection of anxiety. Hysterics in general are expected to repress the kinds of concerns and complaints which contribute to high scores on self-report tests of anxiety. Since Non-agg defenders are both fearful of failure and reliant on repression, their scores on the Mandler-Sarason will be a function of what the test measures. If the TAQ gets at underlying, anxiety-provoking conflicts, the Non-agg group should score high. On the other hand, if the TAQ measures residual manifest anxiety after repressive defenses have been instituted, the Non-agg group should receive low scores.

These alternatives influence predictions involving the Mandler-Sarason in the following way: if the test measures underlying anxieties and concerns, high scorers will be a fear of failure population and reveal such fears in their

behavior, whereas low scorers will not be fearful of failure, nor act fearfully; however, if the test is influenced by defensive behaviors and measures only residual, manifest anxiety, the high scorers will still be a fear of failure population, but the low scorers will consist both of people without fears of failure and of a fear of failure group who repress their concerns but reveal their fears in such settings as level-of-aspiration tasks.

Specific Predictions

Parameters of the Failure Reaction Test (FRT)

Prediction of actual scores on the FRT is not a part of the current experimental design. Nevertheless, certain desirable features of the test may be identified, and the degree to which these characteristics are approached can aid in evaluating the test. It is desirable that the final form of the FRT have a split-half reliability deemed adequate for research purposes. It is desirable also that scores on the test have a wide range and be so distributed that those people in the middle range have scores around fifteen, which is the midpoint of the scale. This would guarantee that flexibility as defined normatively, or by group scores, is equivalent to flexibility as defined absolutely in the construction of the scale.

Prediction of Goal-Setting Behavior

In a level-of-aspiration setting, high scorers on the FRT will set unrealistically high goals for themselves, middle

scorers will set realistic goals, and low scorers will set unrealistically low goals.

In a level-of-aspiration setting, high need-achievers will set realistic goals for themselves, and low need-achievers will set either unrealistically high or unrealistically low goals.

In a level-of-aspiration setting, low scorers on the Mandler-Sarason Test Anxiety Questionnaire will set realistic goals, and high scorers will set either unrealistically high or unrealistically low goals, if the test measures underlying anxiety. Or, alternatively, low scorers will set either realistic or unrealistically low goals, and high scorers will set unrealistically high goals, if the test measures manifest anxiety.

Prediction of N Achievement Scores

High and low scorers on the FRT will receive relatively low n Achievement scores, and middle scorers on the FRT will earn relatively high n Achievement scores.

Prediction of Mandler-Sarason Scores

High and low scorers on the FRT will receive relatively high Mandler-Sarason scores, and middle scorers on the FRT will get relatively low Mandler-Sarason scores, if the test measures underlying anxiety. Or, alternatively, high scorers on the FRT will get high Mandler-Sarason scores, middle scorers on the FRT will receive middle anxiety scores, and low FRT scorers will have low scores on the Mandler-Sarason, if the test measures manifest anxiety.

Prediction of Commensurate and Under-Achievement

High and middle scorers on the FRT will earn grade-point averages commensurate with their ability, and low scorers on the FRT will earn lower grades than high and middle scorers of equal ability.

CHAPTER V

Procedures

Data were collected from three separate samples of male undergraduate students at the University of Michigan. Due to differences in the methods of selecting the samples, in their make-up, and in the procedures to which they were submitted, each group will be treated separately in this chapter. Of note is the fact that the data from Sample A, although not intended to serve merely exploratory purposes, were collected and analyzed before the data from Samples B and C became available. Hence, Sample A provided a basis for establishing cutting points for scores on the Failure Reaction Test which were subsequently used in dealing with the rest of the data. The treatment of the data is described in the following chapter. Below are reported the procedures for each sample.

Sample A

Sample A consisted of thirty-five male undergraduate students enrolled in an introductory psychology course at the University of Michigan. This group participated in a single experimental session during which n Achievement, Failure Reaction Test (FRT), Mandler-Sarason and level-of-aspiration measures were administered in that order. The subjects

were told initially that the experimenter was interested in learning more about students' reactions to and feelings about various college experiences. It was further explained that all responses would be kept confidential and that the value of the study depended on the candor of the subjects. The subjects were not asked to identify themselves by name, but merely to use a code number for each of the forms.

Four TAT-type pictures, projected successively on a screen by means of a slide projector, were used to measure n Achievement. The pictures used were, in order, cards two, eight, one, and ninety-six as listed and described by Atkinson (1958, App. III). Subjects were first given a booklet on the first page of which were contained instructions relevant to the n Achievement measure. Pages two through five were blank except for the four standard questions which serve as guides for writing stories about the pictures. The instruction sheet and an answer sheet are reproduced in Appendix II-C. The stories were scored by the investigator, for whom a coding reliability above .90 had previously been established.

Nothing further by way of instruction was given, and it was felt that the neutral condition described by McClelland et. al. (1950) had been used. After the instructions had been read, the room was darkened, and the first picture was flashed on the screen for twenty seconds. Then the lights were turned on, and four minutes were allowed for writing a story. The experimenter gave notice when only thirty seconds reamined. The same procedure was repeated for each of the ___

four pictures. The n Achievement forms were then collected, and subjects were given the FRT. They were asked to read the instruction sheet and proceed to fill out the test. The instruction sheet and a copy of the FRT may be found in Appendix II-A. When all subjects had completed the FRT, the forms were collected and a short form of the Mandler-Sarason, consisting of the first part, was distributed. Again, the experimenter merely indicated that the subjects were to read the instruction sheet and then respond to the items. This measure is reproduced in Appendix II-D. The Mandler-Sarason was scored by dividing the scale for each item into five equal intervals and assigning scores from one (least anxious) to five (most anxious) according to the location of the check mark for the item.

The experimenter next told the subjects that as the final procedure of the session he would like their help in getting norms for a short group intelligence test still in the developmental stage. This statement was intended to ego-involve the subjects. He added that the test consisted of two parts, one verbal and the other numerical. Subjects were then given a copy of the scrambled words test used by Lowell (1952). On each of five pages appeared twenty four-letter nonsense syllables which could be made into sensible words by rearranging the order of their letters. There was an instruction sheet which subjects were asked to read. They then were told that they would have forty-five seconds to work on each page. At the start of the first trial, subjects were asked to indicate

on the page the number of words they were going to attempt to unscramble in the forty-five seconds allowed. At the conclusion of the trial, they were instructed to write down the number they had actually completed. This procedure was repeated for each of the five trials. Finally, the subjects were given a booklet containing five pages of three-step arithmetic problems, twenty-five on each page. Instructions for solving these problems was given on a face sheet, and the procedure described above was repeated for each of the five trials, except that two minutes were allowed per trial. Instruction sheets and examples of the scrambled word and arithmetic tests are in Appendices II-E and II-F.

Sample B

Sample B consisted of fifty-three male undergraduate students enrolled in an intermediate level laboratory course in psychology at the University of Michigan.[1] The experimental procedures were administered to this group by the course instructors as a regular part of their class participation and with the knowledge that some of the data would comprise a laboratory experiment which they would be responsible for analyzing at a later date. During the first laboratory session of the semester, the students were told that they were going to be administered some widely used tests of motivation without any introduction which might unduly influ-

[1]The course is entitled Motivation and Behavior.

ence their responses. After adding that the nature of the tests and the results would become an integral part of the course as the semester progressed, the instructors proceeded to administer the n Achievement measure exactly as the investigator did with Sample A. A single exception was the use of card seven(Atkinson, 1958, App. III) as the fourth picture in the n Achievement battery instead of picture ninety-six which was used for Sample A.

At the end of the laboratory session, the students were given the short form of the Mandler-Sarason Test Anxiety Questionnaire and asked to fill it out at home. The instruction sheet was the same as that used for Sample A. The students turned in the forms at the next session a week later, and at that time they were given Lowell's scrambled word test in the same manner as has been described for Sample A. Several weeks later during a laboratory session, the FRT was distributed by the course instructors and completed by the students. Although some data are available for each of the fifty-three students, not all of them completed every procedure. Hence, as may be noted in the next chapter, the sample size reported for Sample B varies slightly with the particular measures which are being compared.

Sample C

Sample C consisted of thirty-three male undergraduates at the University of Michigan selected in various stages from the entire freshman and sophomore classes of the College of

Literature, Science, and the Arts. The purpose of this sample was specifically the comparison of commensurate and under-achievers. As a first step, all male freshman and sophomores in the College who had scored at the ninetieth percentile or above on the American Council of Education Psychological Examination (ACE) upon entrance to the University were identified through the records of the Evaluations and Examinations Division of the University. The grade-point averages earned by these students during each of their semesters in college was then noted. Standards for identifying commensurate and under-achievers were established on the basis of the general performance of literary college students. The distribution of grade-point averages in the College has a mean of 2.5 and a standard deviation of 0.7, approximately. It was decided that any sophomore with an ACE percentile rank of ninety or better who had earned a grade-point average of 2.5 or less for each of his first two semesters was an under-achiever and that a student of similar capacity who earned an average of 3.2, which one standard deviation above the mean, for each of his first two semesters would be considered a commensurate achiever. Similar standards were used for freshmen based on their grades for their first semester.

Using these criteria, thirty-three sophomores and forty freshmen were classed as commensurate achievers, and sixteen sophomores and sixteen freshmen as under-achievers. Of these 105 students, ninety-seven (sixty-nine commensurate and twenty-eight under-achievers) were still enrolled in school. To ——

each of them was sent a letter of introduction and a copy of the FRT with its instruction sheet, all of which are contained in Appendices II-A and II-B. The students were asked to return the forms to a campus office. Twenty-six commensurate achievers and seven under-achievers filled out and turned in the FRT. A brief examination indicated that the returning group was a representative sample of the total population to whom letters had been sent. Of the twenty-six commensurate achievers who responded, fourteen were freshmen and twelve, sophomores. The seven responding under-achievers included four freshmen and three sophomores. The range of grade-point averages within the responding commensurate and under-achievers was similar to that of the total population, 3.2-4.0 for the commensurate and 1.8-2.5 for the under-achievers. The derivation of the sample is depicted in Table 2.

Table 2

Derivation of Sample C

(Commensurate and under-achievers)

Status	Male students with ACE Percentile rank of ninety or above				
	Freshman GPA 3.2 or above		Freshman GPA 2.5 or below		Sum
	Fresh	Soph	Fresh	Soph	
Enrolled	40	33	16	16	105
No campus address	1	3	2	2	8
Letters sent	39	30	14	14	97
No response	25	18	10	11	64
Sample C	14	12	4	3	33

CHAPTER VI

Results

The results of the study can be presented under the five headings which were used to group specific predictions in the preceding chapter. These headings are the following: parameters of the Failure Reaction Test (FRT); prediction of goal-setting behavior; prediction of n Achievement scores; prediction of Mandler-Sarason scores; and prediction of commensurate and under-achievement. The data gathered from the three samples will be considered separately for the predictions on which they bear.

Parameters of the FRT

The FRT was scored in each case by assigning a value of one for each item on which an aggressive alternative was endorsed and a value of zero for each instance of a non-aggressive response choice. Thus the possible range of scores was from zero to thirty, as was indicated in Chapter III. The parameters of the test for Samples A, B, and C are summarized in Tables 3 and 4, which are described below.

Sample A

For the thirty-five subjects in Sample A, the range of scores was from seven to twenty-five. The distribution had a mean of 15.06 and a standard deviation of 3.34. The even-odd split-half reliability was .72. Investigation of the

FRT protocols revealed numerous instances in which subjects had indicated through written comments that particular items had presented difficulties in selecting a response. Since approximately ninety per cent of these comments occurred on P items (items with only pessimistic alternatives), it was decided to investigate the significance of scores on those thirteen items of the scale which contain only optimistic alternatives. The possible range of the O score, based on these thirteen items, was from zero to thirteen. The O scores for Sample A ranged from three to eleven, with a mean of 6.40 and a standard deviation of 1.83.

Sample B

Forty-eight of the fifty-three members of Sample B completed the FRT. Their total scores ranged from seven to twenty-six and had a mean of 15.35 and a standard deviation of 4.11. The even-odd split-half reliability of the total score for this sample was .77. The O scores for Sample B had a range from two to twelve, a mean of 6.40, and a standard deviation of 2.10.

Sample C

For the thirty-three subjects in Sample C the range of total scores on the FRT was from eight to twenty-eight. The distribution had a mean of 15.69 and a standard deviation of 4.81, and the even-odd split-half reliability for this group was .70. The O scores for this sample ranged from three to thirteen and had a mean of 6.58 and a standard deviation of 2.48.

Table 3

Parameters of The Failure Reaction Test for Samples A, B, and C

Sample	N	Range	Mean	S.D.
Total Score:				
Sample A	35	7-25	15.06	3.34
Sample B	48	7-26	15.35	4.11
Sample C	33	8-28	15.69	4.81
O Score:				
Sample A	35	3-11	6.40	1.83
Sample B	48	2-12	6.40	2.10
Sample C	33	3-13	6.58	2.48

Table 4

Reliability Coefficients of The Failure Reaction Test for Samples A, B, and C

Sample	Odd-even reliability coefficient	O score-P score correlation
Sample A (N-35)	.72	.16
Sample B (N-48)	.77	.27
Sample C (N-33)	.70	.61

These data are consistent with the desirable features conceived for the FRT in Chapter V. The wide range of scores in all three samples indicates appreciable differences among people. Since for all three samples the mean score was less than one unit from the midpoint of the scale range, flexible defenders as defined by the distribution of scores are flexible defenders as defined in the construction of the scale. The even-odd split-half reliability coefficients of .72, .77, and .70 for the three samples are considered adequate and encouraging for a new measure. For additional reference purposes, Table 4 includes the product-moment correlations between the O and P scores for Samples A (.16), B (.27), and C (.61). The variance of the O scores is somewhat larger in Sample C than in Samples A and B. Therefore, estimated correlations between the O and P scores for Samples A and B, were the range of O scores for these samples not relatively restricted, were computed using the method described by Guilford (1956, p. 320). The resultant estimates were .22 for Sample A and .32 for Sample B.

Prediction of Goal-Setting Behavior from the FRT

Sample A

Standards were established for identifying groups of aggressive (Agg), flexible, and non-aggressive (Non-agg) defenders on the basis of the distribution of scores on the FRT. Subjects who received scores of fourteen, fifteen, and sixteen (which represented the middle of both the distribution

of scores and the FRT scale range; see Table 25) were assigned to the flexible group. Those with scores of eighteen or above were designated the Agg group, and those who scored twelve or below constituted the Non-agg group. For each of these subjects a goal discrepancy (GD) score was computed by adding algebraically the numerical discrepancy between the number of items completed and the number attempted next on each of the eight trials of the scrambled words and arithmetic tests for which such a discrepancy was indicated.[1] The mean total GD score for six subjects classed as Agg defenders was 15.48; for twelve flexible defenders it was 12.13; and seven subjects identified as Non-agg defenders had a mean total GD of 8.00. Although these mean values relative to one another lie in the predicted direction, an analysis of variance yielded an F-ratio of 0.07, which is not significantly different from chance.

Predictions based on O scores. Cutting points were also established for identifying Agg, Non-agg, and flexible defenders on the basis of FRT O scores alone. Scores of six and seven (which again represented the middle of both the distribution of O scores and the O scale range; see Table 26) were used to identify flexible defenders. The Agg group consisted of subjects scoring nine or above, and the Non-agg group was composed of those with scores of four or below.

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[1]Consideration was given to D. R. Miller's (1951) discussion concerning the advantages of using the median GD score for each subject rather than a mean or total GD score. However, following Miller's procedure, total GD scores were used in order to facilitate statistical treatment of the data.

As would be expected, the make-up of these groups was somewhat different from that based on the FRT total score. The mean total GD score for five subjects in the Agg group was 19.40; for fourteen flexible defenders it was 7.94; and for five members of the Non-agg group it was 0.40. These differences indicate that flexible defenders on the average attempted on each of eight trials to improve their score slightly, whereas Non-agg defenders predicted virtually no improvement on the average, and Agg defenders consistently predicted marked improvement. These results are in the predicted direction, and an analysis of variance yielded an F-ratio of 3.68, which is significant at the five per cent level of confidence.

For additional analysis, the FRT scores for Sample A were divided into component scores based on items of the W, S, and F types. This analysis is described in Appendix IV. The main conclusion drawn is that items of these three kinds operate similarly with regard to the prediction of goal-setting behavior. Each contributes to the results reported above, but none is solely responsible for those results.

Sample B

In Sample B twelve subjects received total scores of eighteen or above on the FRT (Agg group), fourteen scored between fourteen and sixteen (flexible), and thirteen were at twelve or below (Non-agg group). GD scores were computed for each of these subjects on the basis of their response to the scrambled words test, which offered four partial GD scores in contrast to the eight which were available for Sample A.

For purposes of comparison with Sample A, it would seem on an arbitrary basis justifiable to multiply the GD scores of Sample B by a factor of two, inasmuch as an analysis of Sample A revealed a product-moment correlation of .67 between partial GD scores on the scrambled words and arithmetic tests. The Agg group of Sample B had a mean total GD of 5.08, the flexible group a mean total GD of 2.43, and the Non-agg group a mean total GD of -0.62. These mean values relative to one another are in the predicted direction, and an analysis of variance yielded an F-ratio of 6.73, which is significant at the .005 level of confidence.

Predictions based on 0 scores. On the basis of FRT 0 scores, three subjects in Sample B were classed as Agg defenders (scores of nine or above), eighteen as flexible defenders (scores of six and seven), and eight as Non-agg defenders (scores of four or below). The mean total GD scores were 6.67 for the Agg group, 1.16 for the flexible group, and -0.60 for the Non-agg group. These mean values relative to one another are in the predicted direction, and an analysis of variance yielded an F-ratio of 3.36, which is significant at the five per cent level of confidence. A summary of the analysis of goal-setting behavior as predicted from the FRT is contained in Tables 5 and 6.

Table 5

Mean Total Goal Discrepancy Score of Agg, Flexible, and Non-Agg Defenders for Samples A and B

Sample	Agg group		Flexible group		Non-Agg group	
	N	Mean	N	Mean	N	Mean
Sample A[a]:						
Total Score	6	15.48	12	12.13	7	8.00
0 Score	5	19.40	14	7.94	5	0.40
Sample B[b]:						
Total Score	12	5.08	14	2.43	13	-0.62
0 Score	3	6.67	18	1.16	8	-0.60

[a] Scores based on eight trials.

[b] Scores based on four trials.

Table 6

Analysis of Variance of Total Goal Discrepancy Scores of Agg, Flexible, and Non-Agg Defenders for Samples A and B

Sample	Mean Square	df	F
Sample A:			
Total Score	90.07/1288.96	2/24	0.07
0 Score	462.48/126.10	2/23	3.68*
Sample B:			
Total Score	101.80/15.12	2/38	6.73**
0 Score	68.13/20.25	2/28	3.36*

*Significant at .05 level.

**Significant at .005 level.

Prediction of Goal-Setting Behavior from n Achievement Scores

Sample A

Subjects were grouped as high and low need-achievers on the basis of the median value of the distribution of their n Achievement scores. Seventeen receiving scores of seven and below comprised the low need-achievers, and eighteen with scores of eight or above made up the high need-achieving group.[1] The subjects were also divided into thirds on the basis of their total GD score over the eight trials. Eleven subjects with total GD scores ranging from minus eighteen to plus four were considered low goal-setters; thirteen with scores from six to sixteen were classed as realistic goal-setters; and eleven who had scores from seventeen to thirty-four were considered high goal-setters. The high and low goal-setters were combined to comprise an unrealistic group, and a two-by-two table was set up to examine the association of n Achievement and GD scores. The high need-achievers tended to bunch in the cell for realistic goal-setters, while the low need-achievers were located almost entirely in the cell for unrealistic goal-setters. This trend is in the expected direction, and an X^2 ratio computed by Mood's Likelihood Ratio test (Mood, 1950, ch.8) was 5.61 which is significant beyond

[1] N Achievement scores have proved quite sensitive to variations in the test battery (Birney, 1958; Jacobs, 1958). Unfortunately, therefore, since no standard battery has been extensively used, there is no normative data against which the median n Achievement score for Samples A and B can be compared.

the two per cent level of confidence, utilizing a one-tail test. The cell entries for this analysis are reproduced in Table 7.

Table 7

Contingency Table for High and Low n Achievement and Realistic and Unrealistic Goal-Setting Behavior for Sample A

Goal-Setting Behavior	n Achievement score		
	(-1) -7	8-18	
Realistic	3	10	$X^2 = 5.61$
Unrealistic	14	8	$p < .0125$[a]

[a]One-tail test.

Sample B

In Sample B twenty-seven subjects had n Achievement scores of two or below and were labeled low need-achievers, while twenty-five received n Achievement scores of three or above and were called high need-achievers. On the basis of total GD scores over four trials, seventeen subjects were considered low goal-setters (scores from minus ten to zero), twenty realistic goal-setters (scores from one to four), and fifteen high goal-setters (scores from five to ten). The high and low goal-setters were combined, and a two-by-two table was again set up to examine the association of n Achievement and GD scores. The low need-achievers tended more than the high need-achievers to be unrealistic goal setters, but the resulting X^2 value of

0.62 does not differ significantly from chance. A further analysis was done in which the high (five to eighteen) and low (minus four to minus one) thirds of the n Achievement distribution were compared. The expected cell distribution was still not realized, and the X^2 value of 0.36 is not significantly different from chance. The cell entries for these analyses are reproduced in Tables 8 and 9.

Table 8

Contingency Table for High and Low n Achievement and Realistic and Unrealistic Goal-Setting Behavior for Sample B

Goal-Setting Behavior	n Achievement score		
	(-4) - 2	3-18	
Realistic	9	11	$X^2 = 0.62$
Unrealistic	18	14	$p < .25$[a]

[a]One-tail test.

Table 9

Contingency Table for Extreme High and Low n Achievement and Realistic and Unrealistic Goal-Setting Behavior for Sample B

Goal-Setting Behavior	n Achievement score		
	(-4) - (-1)	5-18	
Realistic	5	7	$X^2 = 0.36$
Unrealistic	10	9	$p < .375$[a]

[a]One-tail test.

Prediction of Goal-Setting Behavior from Mandler-Sarason Scores

Sample A

The median of the distribution of Mandler-Sarason scores was used to separate high and low anxiety subjects. Seventeen members of the low anxiety group had scores ranging from fifteen to forty; eighteen high anxiety subjects had scores from forty-one to sixty-two. The association of high and low anxiety scores with high, realistic, and low goal-setting (as defined above for Sample A) was examined by means of a three-by-two table. There was some tendency for low scorers on the Mandler-Sarason to set either realistic or low goals and for high scorers on the anxiety measure to set high goals. This is the expected direction if the Mandler-Sarason is a measure of residual, manifest anxiety. However, the X^2 for the distribution was 3.86, which is not significantly different from chance. The cell entries for this analysis are reproduced in Table 10.

Table 10

Contingency Table for High and Low Test Anxiety and High, Realistic, and Low Goal-Setting Behavior for Sample A

Total Goal Discrepancy Score[a]	Mandler-Sarason Score		
	15-40	41-62	
(-18) - 4	8	3	
6-16	5	8	$X^2 = 3.86$
17-34	4	7	$p < .25$

[a]Based on eight trials.

Sample B

Nineteen subjects who received scores between sixteen and thirty-one and twenty-four with scores from thirty-three to forty-eight comprised the low and high anxiety groups, respectively, for Sample B. The association of high and low anxiety scores with high, realistic, and low goal-setting (as defined above for Sample B) was examined by means of a three-by-two table. No clear relationships could be seen from studying the table, and the resulting X^2 was 0.91, which does not differ significantly from chance. A further analysis was attempted in which the high (thirty-nine to forty-eight) and low (sixteen to twenty-six) thirds of the Mandler-Sarason distribution were compared. However, no clear trends appeared, and the X^2 value for the comparison was 0.51, which is not significantly different from chance. The cell entries for these analyses are reproduced in Tables 11 and 12.

Table 11

Contingency Table for High and Low Test Anxiety and High, Realistic, and Low Goal-Setting Behavior for Sample B

Total Goal Discrepancy Score[a]	Mandler-Sarason Score		
	16-31	33-48	
(-10) - 0	6	9	
1-4	9	8	$X^2 = 0.91$
5-10	4	7	$p < .75$

[a]Based on four trials.

Table 12

Contingency Table for Extreme High and Low Test Anxiety and High, Realistic, and Low Goal-Setting Behavior for Sample B

Total Goal Discrepancy Score[a]	Mandler-Sarason Score		
	16-26	39-48	
(-10) - 0	6	6	
1-4	6	4	$X^2 = 0.51$
5-10	3	4	$p < .90$

[a]Based on four trials.

Prediction of n Achievement Scores from the FRT

Sample A

For Sample A the six subjects classified as Agg defenders on the basis of their FRT total score had a mean n Achievement score of 9.44. The mean n Achievement scores for the twelve flexible and seven Non-agg defenders were 8.00 and 6.71, respectively. Although the means for the flexible and Non-agg groups relative to one another lie in the predicted direction, the mean n Achievement score for the Agg group is larger, rather than smaller, than that for the flexible group, in opposition to the prediction. However, an analysis of variance yielded an F-ratio of 0.57, which is not significantly different from chance.

Predictions based on 0 scores. The five subjects of Sample A labeled Agg defenders on the basis of their scores

on the O scale of the FRT had a mean n Achievement score of 6.20. For the fourteen flexible defenders the mean n Achievement score was 9.79, and for the five Non-agg defenders it was 4.40. These mean values relative to each other are in the predicted direction. An analysis of variance yielded an F-ratio of 4.55, which differs significantly from chance at the two and one-half per cent level of confidence.

Sample B

In Sample B the thirteen Agg defenders as determined by total scores on the FRT had a mean n Achievement score of 1.70. The mean n Achievement score for the fourteen flexible defenders was 1.90, and for the twelve Non-agg defenders it was 5.10. These mean values, the Agg and flexible groups being similar and the Non-agg group scoring higher than both, are quite dissimilar from the predictions. However, an analysis of variance yielded an F-ratio of 0.48, which does not differ significantly from chance.

Predictions based on O scores. The four Agg defenders, eighteen flexible defenders, and eight Non-agg defenders of Sample B, as determined by their O scores on the FRT, had mean n Achievement scores of -1.00, 2.45, and 3.5, respectively. Although the mean values for the Agg and flexible groups lie relative to one another in the predicted direction, the mean score for Non-agg defenders, being larger than that of the flexible group, is contrary to the prediction. However, an analysis of variance yielded an F-ratio of 1.42, which is not significantly different from chance. A summary of the

analysis of n Achievement scores as predicted from the FRT is contained in Tables 13 and 14.

Table 13

Mean n Achievement Score of Agg, Flexible and Non-Agg Defenders for Samples A and B

Sample	Agg group		Flexible group		Non-agg group	
	N	Mean	N	Mean	N	Mean
Sample A: Total Score	6	9.44	12	8.00	7	6.71
0 Score	5	6.20	14	9.79	5	4.40
Sample B: Total Score	13	1.70	14	1.90	12	5.10
0 Score	4	-1.00	18	2.45	8	3.50

Table 14

Analysis of Variance of n Achievement Scores of Agg, Flexible, and Non-Agg Defenders for Samples A and B

Sample	Mean Square	df	F
Sample A: Total Score	13.97/24.46	2/24	0.57
0 Score	56.02/12.30	2/23	4.55*
Sample B: Total Score	10.85/22.44	2/38	0.48
0 Score	27.77/19.52	2/29	1.42

*Significant at .025 level.

Prediction of Mandler-Sarason Scores from the FRT

Sample A

The six Agg defenders of Sample A, as determined by total scores on the FRT, had a mean score on the Mandler-Sarason Test Anxiety Questionnaire of 51.0. The mean Mandler-Sarason score for the twelve flexible defenders was 38.0, and for the seven Non-agg defenders it was 33.0. These mean values lie in the direction expected if the test is a measure of residual, manifest anxiety and not of underlying conflicts or fears. An analysis of variance yielded an F-ratio of 6.96, which is significantly different from chance at the .005 level of confidence.

Predictions based on O scores. On the basis of FRT O scores, the five Agg, fourteen flexible, and five Non-agg defenders of Sample A had mean Mandler-Sarason scores of 48.00, 38.57, and 31.60, respectively. These mean values are also in the direction expected if the test measures residual, manifest anxiety. An analysis of variance yielded an F-ratio of 5.90, which is significant at the one per cent level of confidence.

Sample B

For Sample B the nine subjects classified as Agg defenders on the basis of their total score on the FRT had a mean score of 37.00 on the Mandler-Sarason. The thirteen flexible defenders and nine Non-agg defenders had mean scores of 32.23 and 30.11, respectively. These mean values lie in the direction expected if the test measures residual, manifest anxiety. However, an analysis of variance yielded an F-ratio of 1.48,

which does not differ significantly from chance.

Predictions based on O scores. Two subjects identified as Agg defenders in terms of their score on the O scale of the FRT had a mean Mandler-Sarason score of 39.50. Fourteen flexible defenders had a mean score of 38.14, and six Non-agg defenders had a mean score of 34.67. The difference between these values is negligible, though in a direction consistent with the findings reported above. An analysis of variance yielded an F-ratio of 1.04, which is not significantly different from chance. A summary of the analysis of Mandler-Sarason scores as predicted from the FRT is contained in Tables 15 and 16.

Table 15

Mean Mandler-Sarason Score of Agg, Flexible and Non-Agg Defenders for Samples A and B

Sample	Agg group		Flexible group		Non-agg group	
	N	Mean	N	Mean	N	Mean
Sample A:						
Total Score	6	51.00	12	38.00	7	33.00
O Score	5	48.00	14	38.57	5	31.60
Sample B:						
Total Score	9	37.00	13	32.23	9	30.11
O Score	2	39.50	14	38.14	6	34.67

Table 16

Analysis of Variance of Mandler-Sarason Scores of Agg, Flexible, and Non-Agg Defenders for Samples A and B

Sample	Mean Square	df	F
Sample A: Total Score	556.77/79.98	2/24	6.96**
O Score	340.60/57.77	2/23	5.90*
Sample B: Total Score	113.40/76.44	2/30	1.48
O Score	78.02/75.13	2/21	1.04

*Significant at .01 level.

**Significant at .005 level.

Prediction of Commensurate and Under-Achievement from the FRT

Sample A

For twenty-nine subjects in Sample A, grade-point averages and ACE scores were available. Seven of these subjects were classed as Non-agg defenders on the basis of their total score on the FRT. Using their ACE score, each of these seven subjects was paired as closely as possible with a subject identified either as a flexible or Agg defender. Mean grade-point averages for these paired groups were then computed. The Non-agg group had a mean ACE score of thirty-four and a mean grade-point average of 2.3. The combined flexible and Agg groups, with a mean ACE score of thirty-five, also had a mean grade-point average of 2.3. For both groups, the grade

level is commensurate with ability, as measured by the ACE, and the absence of differences between them is contrary to the predictions.

Predictions based on O scores. With regard to scores on the O scale of the FRT, five members of Sample A identified as Non-agg defenders had available ACE scores. Each of these subjects was paired as closely as possible with a flexible or Agg defender by means of ACE scores. Mean grade-point averages were then computed for these paired groups. The two groups had identical mean ACE scores of 46.8. The mean grade-point average for the Non-agg group was 2.12, and for the combined flexible and Agg groups it was 2.56. These mean values lie in the predicted direction. The standard error of the difference between these paired-group means was computed as described by Edwards (1954, pp. 278-282). The mean difference yielded a t-ratio of 3.06, which is significant at the five per cent level of confidence. The analysis of grade-point averages for Sample A is summarized in Table 17.

Table 17

Mean Grade-Point Average of a Group of Non-Agg Defenders and a Group of Flexible and Agg Defenders Paired by ACE Scores

Sample	Non-agg group		Flexible and Agg groups		t
	Mean ACE	Mean GPA	Mean ACE	Mean GPA	
Sample A; Total Score[a]	34.0	2.3	35.4	2.3	—
O Score[b]	46.8	2.1	46.8	2.6	3.06*

*Significant at .05 level.

[a]Includes seven pairs.

[b]Includes five pairs.

A possible contamination of these results was envisioned should scores on the FRT correlate positively with grade-point averages. A significant positive relationship of this kind could well account for the tendency of flexible and Agg defenders to have higher grades than Non-agg defenders, irrespective of ability levels. The product-moment correlation between total scores on the FRT and grade-point averages for twenty-eight subjects in Sample A was found to be -.30. Between FRT O scores and grade-point averages the correlation was -.18. Neither of these correlations differs significantly from chance. However, it is significant to note that since the correlations are negative, the predicted result was achieved in spite of, rather than because of, any influence of relationships between grades and FRT scores.

For further analysis, the FRT scores were again divided into component scores based on W, S, and F items for the subjects described above. Product-moment correlations between each of the component scores and total and O scores on the FRT were computed. The results, which are described in Appendix IV, indicate that each of the component scores correlates highly, and approximately equally, with the total and O scores.

Sample C

The sparse returns from Sample C, particularly within the under-achieving group, made it difficult to compare their defensive styles by means of the established cutting points on the FRT. Nevertheless, a two-by-two contingency table

was set up to examine associations between the Non-agg and combined flexible and Agg groups on the one hand and commensurate and under-achievement on the other. The commensurate achievers tended to bunch in the flexible and Agg groups and the under-achievers in the Non-agg group. The probability value computed for this distribution by Fisher's (1954, p. 96) Exact Test was .075, utilizing a one-tail test. The cell entries for this analysis are reproduced in Table 18.

Table 18

Contingency Table for Mode of Defense and Academic Performance for Sample C (Based on FRT total score)

Academic Performance	Non-agg group	Flexible & Agg group	
Commensurate Achievers	7	15	p= .075*
Under-Achievers	3	1	

*One-tail test.

A further analysis of the data gathered from Sample C was made by comparing the mean total score on the FRT for the commensurate and under-achieving groups. The commensurate achievers had a mean FRT total score of 16.42, and the under-achievers had a mean total score of 13.00. These means relative to one another are in the expected direction, and the previously reported negative correlation between the FRT and grade-point averages yielded a t-ratio of 2.24, which is significant at the five per cent level of confidence.

Predictions based on O scores. The distribution of FRT

O scores for Sample C, particularly for the under-achievers, again yielded some small expected cell frequencies. A two-by-two contingency table set up for these scores revealed a bunching of subjects in the expected direction, but Fisher's Exact Test yielded an insignificant probability of .24. The cell entries for this analysis are reproduced in Table 19.

Table 19

Contingency Table for Mode of Defense and Academic Performance for Sample C (Based on FRT O score)

Academic Performance	Non-agg group	Flexible & Agg group	
Commensurate Achievers	6	13	p = .24*
Under-Achievers	2	2	

*One-tail test.

As with the total scores, the mean FRT O scores for the commensurate group and under-achievers were compared. The commensurate group had a mean O score of 7.0 and the under-achieving group a mean score of 5.0. Since the assumption of homoscedasticity was not met in the O scores for these two groups, it was necessary to compute an approximate t-ratio for the mean difference. The standard error of the difference between the means was computed as suggested by Edwards (1954, pp. 252-253) for groups of unequal variance. The resulting t-ratio was 2.51. Application of the method for estimating significance values of t-ratios computed with groups of unequal

variance suggested by Cochran and Cox (1957, p. 101) indicated that this t-ratio is significantly different from chance at the five per cent level of confidence. The analysis of mean FRT scores for the commensurate and under-achievers is summarized in Table 20.

Table 20

Mean FRT Score of Commensurate and Under-Achievers for Sample C

Sample	N	Mean	S. E. diff.	t
Total Score:				
Commensurate Achievers	26	16.42	1.53	2.24*
Under-Achievers	7	13.00		
O Score:				
Commensurate Achievers	26	7.00	0.80	2.51*
Under-Achievers	7	5.00		

*Significant at .05 level.

CHAPTER VII

Discussion

The discussion of findings can be grouped according to the main areas of prediction in the study. With regard to the FRT, the range, mean values, and reliability coefficients of the test satisfy the requirements described in Chapter V. However, one general aspect of the test merits discussion before the specific findings of the study are considered. This is the fact that for Sample A only the O score was a successful predictor of behavior, whereas for Samples B and C the total score, which includes the score on both O and P items, predicted as well as the O score. At this point some possible differences between the O and P items and between the samples may be presented as an introduction to the interpretation of the specific findings.

The nature of P items is such that they leave a respondent no opportunity to describe himself favorably. Yet it is obvious that everyone at some time or other does respond to a situation by expressing the pessimistic phase of a defense. It is quite likely that the necessity of having to endorse one of four pessimistic responses, of having to admit to a behavior which is socially undesirable, is somewhat anxiety-provoking. However, with this kind of measure, there is little opportunity for "honest" distortion of the response;

non-psychotic adults very rarely deny through honest error an act which they have in fact performed. Therefore, a respondent who was motivated and involved in the task would be expected to give a valid indication of his behavior in spite of anxiety aroused in him by the test items. However, a subject with little involvement in the procedures could feel free to fabricate answers to anxiety-provoking items as a means of reducing or avoiding anxiety. Although there is no a priori reason for believing that an inaccurate pessimistic response will be less ego-alien than an accurate one, it is reasonable to expect that if a subject is disposed not to give an accurate self-report, an element of randomness is injected into his choice of response which detracts from the validity of his score.

Sample A consisted of beginning students in psychology who participated in the study outside of class time as part of a course requirement. They did not know the examiner and did not anticipate any further contact with him. They knew that the nature of their responses would be kept confidential and would have no bearing on their academic records. For Sample B the experimental procedures were administered during regular class hours by the students' course instructors. Furthermore, Sample B consisted of intermediate level psychology students who knew that the results on the tests they took would later become a part of their laboratory exercises. Sample C was an entirely voluntary group, made up of students who under neither duress nor promise of reward filled out the FRT.

It would seem justifiable to suggest that the subjects in Samples B and C were more involved and motivated toward honesty with regard to the test materials than the members of Sample A. If this were true, it might account for the differential predictive power of the total and O scores in the three samples, since a lack of involvement would impair the validity of that portion of the total score which is based on P items. This hypothesis is not central to the design of the study, and conclusive confirmation of it cannot be inferred from the existing data. It is put forth merely as a tentative frame of reference for the discussion which follows.

Prediction of Goal-Setting Behavior

Hypotheses Involving the FRT

In general, the hypotheses relating modes of reacting to failure and goal-setting behavior were confirmed. For Sample B, the experimental groups as defined both by total and O scores of the FRT demonstrated the predicted response in the level-of-aspiration setting. With Sample A, the O scale predicted goal-setting behavior successfully, but the total score did not. In terms of the above discussion of the significance of involvement in the experimental situation, it is possible that for Sample A, a relatively uninvolved group, the P scale is not an adequate measure. Hence, the O score alone predicts behavior for Sample A.

Hypotheses Involving n Achievement and Mandler-Sarason Scores

For Sample A the hypotheses relating goal-setting behavior and n Achievement were confirmed. However, n Achievement

scores failed to predict levels of aspiration in Sample B. An explanation of this result will be deferred until relationships between the n Achievement and FRT scores are discussed. Mandler-Sarason scores failed to predict goal-setting behavior in either Sample A or Sample B. As has been suggested, this seems primarily due to indications that the Mandler-Sarason does not in fact sample the kinds of underlying concerns which are reflected in the behavior of persons fearful of failure. Rather the measure seems subject to the influences of the defensive maneuvers which an individual imposes between his anxieties and his modes of dealing with his world. The evidence indicates that the fearful individual who relies on repressive defenses earns low rather than high scores on the Mandler-Sarason, and the test thus becomes an inadequate predictor of behavior in achievement settings.

Undoubtedly the assertion that the Mandler-Sarason is not a satisfactory index of fear of failure and thus not an adequate predictor of achievement-related behavior can lead to insistent cries of protest. The studies reported in Chapter IV, on the basis of which it was inferred that the Mandler-Sarason is a fear-of-failure index, would seem to justify such protest. However, arguments recently presented by Edwards (1957) appear to account for the success of such measures as the Mandler-Sarason in predicting achievement-related behavior even when they fail to assess anxiety accurately.

Edwards' position can be briefly summarized here. With

regard to individuals who score high on pencil-and-paper anxiety measures there is no problem. These people can be presumed to have underlying unresolved conflicts and to be manifestly anxious, and in their behavior they react in a manner consistent with hypotheses derived from the concept of fear of failure. However, people who receive low scores on anxiety scales such as the Mandler-Sarason may be of two kinds. They may be non-anxious people, regardless of how anxiety is viewed, and reveal little fear of failing in their achievement-related behavior. On the other hand, they may be anxious people for whom conformity with perceived social desirability is a pervasive value.

In an earlier study, Edwards (1953) demonstrated that the endorsement of items on self-report measures may often be an increasing linear function of the social desirability scale value of the item. In his recent book, he points out how the need to conform with perceived desirability, a need which could induce basically fearful people to deny such concerns on a test, could also induce them to behave in an achievement-related situation in a manner predicted for a non-anxious group. Thus, for example, an individual with a low score on the Mandler-Sarason who is found to do better on a task when told he is expected to finish than when told he is not may be basically non-anxious. Yet he may also be an anxious person who conforms on the anxiety measure, earning a low score, and on the performance task, doing better when he is told to finish. There is no direct evidence to

indicate whether Edwards' social conformer is also the repressor identified in this study. Nevertheless, a combination of the arguments gives strong basis for questioning the value of the Mandler-Sarason and similar anxiety measures as constructually valid predictors of behavior.

Prediction of n Achievement Scores

The hypotheses relating modes of reacting to failure and n Achievement were partially confirmed for Sample A. The failure of the total FRT score to predict n Achievement appears related to the previously mentioned possible defect of scores on the P items for this sample. The hypotheses relating FRT and n Achievement scores were not confirmed for Sample B. Since the FRT accurately predicted level-of-aspiration behavior for both samples and since n Achievement scores were successful predictors only for Sample A, it would seem that the lack of relationship between FRT and n Achievement in Sample B is attributable to some unexpected variance in the n Achievement scores for this sample. It has been suggested that a major uncontrolled variable in this study is a difference in degree of task-involvement between the samples. If this is the case, the failure in Sample B both of n Achievement to predict goal-setting behavior and of the FRT to predict n Achievement scores should be traceable to Sample B's relative degree of involvement in the experiment. Several facts indicate that such a connection exists.

Reference to Tables 8, 9, and 13 reveals that the main

unexpected trend of the n Achievement scores for Sample B is the tendency of the Non-agg, low goal-setting group (most definitely a fear of failure group) to earn relatively high n Achievement scores. A recent study by Raphelson and Moulton (1958) found that as involvement in their experimental setting increased, numbers of anxious appearing subjects earned unexpectedly high n Achievement scores. Application of Moulton's (1958) method for scoring fear of failure directly from the TAT protocols revealed that this group was high in projected fear of failure and had earned high n Achievement scores by projecting various concerns about achievement into their stories. This finding seems relevant to the current results. Increased projection of fears by Sample B, a relatively involved group, would explain their unexpectedly high n Achievement scores. This possibility lends credence to the hypothesis concerning the influence of group involvement in this study. A planned future study includes re-examination of the TAT protocols to determine the amount of projected fear of failure in the Non-agg, low goal-setting group.

Prediction of Mandler-Sarason Scores

The hypotheses relating modes of reacting to failure and test anxiety, should the latter be an index of residual, manifest anxiety, were in general confirmed. Although the trends did not attain significance for Sample B, the direction of the results and the levels of significance achieved in Sample A are felt to justify this conclusion. A possible

explanation of the lack of significance in Sample B lies in the restricted range of Mandler-Sarason scores for this group, particularly with regard to high scores. (See Tables 10, 11, 12 and 23).

Prediction of Commensurate and Under-Achievement

In general the hypotheses relating modes of reacting to failure and academic performance were confirmed. For Sample A the FRT O score successfully differentiated between relatively good and relatively poor students equated for ability. Although the initial analysis of data for Sample C did not yield significant results, the secondary analysis, in which commensurate and under-achievers were found to differ significantly in their style of defense as defined both by FRT total and O scores, is considered adequate basis for inferring the hypothesized relationship. The existence of a small negative correlation between grade-point averages and FRT scores for Sample A guarantees that the findings are not the spurious result of an uncontrolled positive relationship between grades and FRT scores for this sample.

Some Implications of the Study

It is of prime significance, the writer believes, that the data of this study support the underlying premise that consistent relationships exist between an individual's behavior during an achievement-related situation and his modes of dealing with the anxiety engendered by failure. The

origins of this study lay in a consideration of defensive maneuvers instituted to deal with anxiety, and the hypotheses of the study were derived by working backward from a consideration of modes of defense. It is felt that the accuracy of the predictions beyond previous knowledge is due to this manner of conceptualizing and assessing personality variables. A single experiment cannot of course set the tone for personality research. However, in several studies (e.g., Edwards, 1953, Mandler and S. B. Sarason, 1952), as well as the current one, the results have prompted the investigators to question the face value of self-report measures and suggest a closer look at the influence of defensive styles.

The author would assert that nowhere, outside of young children, deteriorated psychotics, and perhaps individuals receiving intensive psychotherapy, does one directly observe a basic personality characteristic of another individual. One sees only the results of compromise between thoughts and the characterological coping behaviors through which an individual presents himself to the world. Only by noting and understanding these defensive maneuvers can accurate inferences be made about underlying personality dynamics. This point should not be construed to mean that people are always being defensive. It means merely that in evaluating any observable behavior, one must allow for the influences of characterological defensive styles in determining the behavior. It is questionable, consequently, whether self-reports of feeling or attitudes should be accepted at face value.

Assessment techniques based on this approach have not in general yielded consistent predictions of behavior or stable relationships with one another. The initial success of the FRT is felt due to its emphasis on behavior, from which feelings and attitudes are to be inferred on the basis of a theory of defense, rather than directly on feelings and attitudes.

CHAPTER VIII

Summary

This study investigated the significance of characterological modes of defending against the anxiety which results from failure to achieve a desired goal. Ego-ideals are conceived of as non-moral aspirations, the frustration of which produces a form of anxiety which in contrast to guilt, or super-ego anxiety, may be called ago-ideal anxiety. A review of attempts to classify modes of reacting to failure revealed two general defensive styles. In one, an individual responds to the anxiety engendered by a failure experience in an aggressive manner by blaming someone or something for his failure. In the other, a person allays his anxiety non-aggressively by withdrawing from the frustrating situation. The major premise of this study was that an individual's behavior in an achievement-related situation can be predicted from a knowledge of how he reacts subsequent to failure.

A new measure, the Failure Reaction Test (FRT), was constructed to assess modes of coping with ego-ideal anxiety. The measure consists of thirty multiple-choice sentence completion items. Each item stem depicts a failure experience; of the four item completions for each stem, two each represent aggressive modes of response (one for blame of self and one for externalized blame), and the other two simulate non-

aggressive behavior (one for moderate and one for total withdrawal). Respondents are asked to indicate in each case how they would expect to react in the given situation. The measure is scored by assigning one point for each endorsement of an aggressive response. Even-odd split-half reliabilities for the measure were .71, .77, and .70 for three samples described below.

The major predictions of the study were the following:

1. Persons who earn high scores on the FRT, indicating a rigidly aggressive defensive style, are anxious in achievement-related settings and will respond to their concerns with unrealistically high levels of aspiration; individuals who earn middle scores on the FRT, indicating a flexible defensive style, are not anxious about achievement and will have realistic levels of aspiration; and those who receive low scores on the FRT, indicating a rigidly non-aggressive style of defense, are anxious about achievement and will manifest unrealistically low levels of aspiration.

2. Aggressive and flexible defenders will earn academic grades at least commensurate with their ability; non-aggressive defenders will tend to under-achieve.

The FRT, two other achievement-related measures (n Achievement and the Mandler-Sarason Test Anxiety Questionnaire), and some cognitive tasks from which levels of aspiration could be evaluated in the traditional fashion were administered to two samples of male undergraduate students at the University of Michigan, numbering thirty-five and fifty-three respectively.

FRTs were also collected on a third sample of thirty-three students of high scholastic aptitude, some of whom were receiving grades commensurate with their ability and others of whom were under-achieving.

The major hypotheses of the study were in general supported by the results. Furthermore, n Achievement and test anxiety were less consistent than the FRT and failed to predict goal-setting behavior under some conditions. The latter finding is somewhat explained by reference to different degrees of task-involvement between the samples. However, the most important implication of the study is felt to be the accuracy of predictions derived from a conception and a measure (the FRT) based on consideration of defensive styles. It is suggested that the difficulty with many approaches to the study of personality is a lack of appreciation for the influence of defensive maneuvers on observed behaviors and responses to assessment techniques.

APPENDIX I

Construction of the Failure Reaction Test (FRT)

As indicated in Chapter III, sixty sentence-completion items consisting of a stem and four alternate completions, two aggressive and two non-aggressive in nature, were constructed. Twenty each were pertinent to failure experiences in the areas of work (W), heterosexual relations (S), and friendships (F). Half of each group of twenty item stems was followed by only optimistic (O) completions and the other half by only pessimistic (P) completions. Thus there were ten each of the following six item categories: WO, SO, FO, WP, SP, and FP. The sixty items were divided into two thirty-item lists containing equal numbers of the kinds of items, and these two forms, to be called X and Y, were given to twenty-two and twenty-five subjects respectively. The subjects were male undergraduate students at the University of Michigan.

The measure was scored by giving one point for each endorsement of an aggressive response. Since the instructions, which are reproduced in Appendix II-A, specify that only one of the four alternates is to be chosen for each item, the possible range of scores on forms X and Y was from zero to thirty. For form X the scores ranged from nine to twenty-four and had a mean of 15.64 and a standard deviation

of 3.48. The scores for form Y had a range of eight to twenty-two, with a mean of 14.84 and a standard deviation of 6.38. Both forms had even-odd split-half reliabilities of .61. These data are summarized in Table 21.

Table 21

Characteristics of Pretest Forms X and Y of the Failure Reaction Test

Characteristic	Form X	Form Y
N	22	25
Range	9-24	8-22
Mean	15.64	14.84
S. D.	3.48	6.38
Even-Odd Split-Half Reliability	.61	.61

An item analysis was carried out to identify the thirty items which best differentiated between high and low scorers. Sixty two-by-two contingency tables were established for the score on each item (one or zero) and extreme high and low scorers on the FRT. Nine subjects who took form X and fourteen who completed form Y were designated extreme groups for this analysis. Fisher's (1954, p. 96) exact test was used to determine the confidence level at which each item differentiated between the high and low scorers. Of the thirty items selected for the final form, twelve separated the high and low groups at the one per cent level of confidence, two at the two per cent, eight at the five per cent, six at the

ten per cent, and two at the fifteen per cent levels of confidence. As indicated in Chapter III, the final thirty items were fairly equally distributed among the six item categories.

On the following pages are listed the original sixty items of the scale. The items are grouped according to the six item categories. Within each category, the ten items are listed in the decreasing order of their ability to differentiate between the extreme scorers of the pretest sample. Prefacing each item is the letter of the pretest form to which it was assigned. After each item stem the four alternate responses are listed in the following order according to the defensive mode they represent: (a) restriction of the ego; (b) leaving the field; (c) intropunitiveness; and (d) externalization. Following the item completions is the confidence level (expressed in rounded form) which the particular item achieved in the pretesting. Also, the percentage of subjects responding aggressively to each item is indicated.

WO Items

X. When his point of view was jumped on in class
   a. he didn't let himself be influenced by the others.
   b. he tried a new approach to the subject.
   c. he felt he should have explained himself more fully.
   d. he thought they hadn't followed him correctly.
   p = .01 50%

X. When he did not make medical school
   a. he decided he could enjoy life even if he weren't a doctor.
   b. he applied to some dental schools.
   c. he was sorry he had not tried harder as an undergrad.
   d. he felt that his records and interview must not have given a fair impression of him.
   p = .10 37%

X. When his grades disappointed him
   a. he tried not to let it upset him too much.
   b. he was still able to get some satisfaction from his other activities.
   c. he realized he should have done less goofing-off.
   d. he decided to take courses he could do better in.
   p = .10 46%

Y. When he couldn't answer the first question on the exam
   a. he didn't forget that no single question would make him or break him.
   b. he went on to the next item.
   c. he wished he had done a better job of preparing for the exam.
   d. he decided it must be one of the difficult questions.
   p = .20 25%

X. When he was told his lab technique was unsatisfactory
   a. he didn't much care since he knew it didn't count much.
   b. he decided to take non-lab courses in the future.
   c. he knew he would have to be more careful.
   d. he felt that the lab instructor hadn't had enough time to evaluate him.
   p = .30 72%

X. When he was denied a scholarship
   a. he did not let it affect him.
   b. he looked around for some other means of partially financing his education.
   c. he was sorry he hadn't tried a little harder to earn one.
   d. he felt that his application had probably been overshadowed by others more deserving.
   p = .30 46%

Y. When he got the wrong results in his chemistry unknown
   a. he didn't let it discourage him.
   b. he tried a different method of dealing with it.
   c. he knew he should have been more careful.
   d. he wished there had been more time to work on it.
   p = .50 44%

Y. When he was not accepted into the honors program
   a. he did not forget that he could make graduate school without it.
   b. he planned his major in a different field.
   c. he wished he had put more effort into getting grades.
   d. he knew his chances would have been better if he had had more background courses.
   p = .90 68%

Y. When the job he had hoped for fell through
   a. he saw that no one job was important enough to get upset about.
   b. he turned his attention to other job possibilities.
   c. he wished he had been more conscientious and business-like in applying for it.
   d. he concluded that some other applicant must have had excellent qualifications.
   p = .95 32%

Y. When his term paper proposal was rejected
   a. he didn't think it made much difference.
   b. he hunted around for a new idea.
   c. he knew he should have put more thought and effort into it.
   d. he felt the professor hadn't understood what he meant.
   p = .20 (wrong direction) 28%

WP Items

X. When his instructor told him his work was slipping
   a. he figured it wouldn't pay to put much effort into the course.
   b. he tried to find a way out of the course.
   c. he knew he just couldn't handle the material.
   d. he felt the instructor was making excessive demands on him.
   p = .01 68%

Y. When he couldn't get a good summer job
   a. he didn't put much effort into the job he finally ended up with.
   b. he decided to take it easy and loaf a little.
   c. he wondered if there were something about him that were holding him back.
   d. he felt that the employers were not giving him fair treatment.
   p = .02 40%

Y. When he got a "D" on the midsemester
   a. he decided to concentrate on his other courses the rest of the semester.
   b. he tried to see if he could get out of the course.
   c. he began to worry about his ability.
   d. he thought the fault lay in the way the course was being taught.
   p = .05 80%

X. When he got a low score on the law aptitude exam
   a. he stopped pushing so hard for grades.
   b. he gave up the idea of being a lawyer.
   c. he wished he were a little smarter.
   d. he didn't consider it a good test.
   p = .05 77%

Y. When he was unable to finish the assignment in time
   a. he was sorry he had put in as much effort as he had.
   b. he put it out of his mind.
   c. he felt he just couldn't work fast enough.
   d. he thought that the professor gave too long assignments.
   p = .05 68%

X When he gave the wrong answer in recitation
   a. he found it hard to keep up his interest in the discussion.
   b. he stopped volunteering.
   c. he wished he weren't so stupid.
   d. he felt it had been an unfair question in the first place.
   p = .10 42%

Y. When he did poorly on his oral report
   a. he made fewer oral contributions to the class.
   b. he tried to switch to a section where oral reports were not required.
   c. he wished that he had more speaking ability.
   d. he felt it was unfair of the instructor to assign oral reports.
   p = .50 52%

Y. When he was placed on probation
   a. he lost his enthusiasm and put less effort into his studies.
   b. he decided to drop out of school.
   c. he couldn't help wondering if he were smart enough to get through college.
   d. he felt his professors had graded him unfairly.
   p = .50 80%

X. When he failed the first quiz
   a. he decided there wasn't much sense in putting a lot of work in on the course.
   b. he dropped the course.
   c. he realized it was going to be a rough semester for him.
   d. he felt the instructor had given an unfair test.
   p = 1.00 100%

X. When he was unable to solve any of his math problems
   a. he decided to give it only fifteen more minutes.
   b. he closed the book and went to bed.
   c. it struck him that maybe he didn't have a good aptitude for math.
   d. he felt that the instructor had done a poor job of explaining the material in class.
   p = .80 (wrong direction) 64%

SO Items

Y. When his date left the party with another fellow
   a. he didn't let it dampen his spirits.
   b. he socialized with some other people at the party.
   c. he felt he should have paid more attention to her.
   d. he figured she must have been very much attracted to the other fellow.
   p = .01 68%

X. When she didn't send him a Valentine's card
   a. he didn't attach much importance to it.
   b. he decided to see what would happen on the next appropriate occasion.
   c. he realized he should have paid more attention to her.
   d. he thought she had either forgotten or didn't send out cards.
   p = .01 27%

Y. When she told him on the phone that she didn't want to meet him
   a. he didn't feel much like meeting her either.
   b. he asked around for some other names.
   c. he knew he should have used a different line.
   d. he figured that she probably had a boyfriend.
   p = .02 60%

Y. When she said she would rather not fix him up
   a. he didn't see it as having anything to do with her feelings about him.
   b. he asked some of his buddies for other suggestions.
   c. he felt he should have approached her about it more subtly.
   d. he thought she must have an aversion to fixing people up.
   p = .10 32%

Y. When she passed by him without saying hello
   a. he didn't see it as a very significant event.
   b. he repeated his greeting to her.
   c. he felt he should have approached her more forcefully.
   d. he decided she hadn't seen him.
   p = .15 52%

X. When she broke the date
   a. he wondered why he had asked her out in the first place.
   b. he tried to get a fix-up.
   c. he thought he should have handled things differently.
   d. he knew she must have a legitimate reason.
   p = .30 86%

X. When she told him he was hard to dance with
   a. he knew it didn't matter much.
   b. he started taking her to movies instead of dances.
   c. he decided he would improve his dancing.
   d. he felt they would have less trouble if the music were easier to follow.
   p = .50 50%

X. When the girl he had been dating didn't ask him to her formal
   a. he thought it was just as well, since he didn't like formals.
   b. he took her to a party some friends were giving instead.
   c. he felt he had not yet made himself attractive enough to her.
   d. he figured that she either didn't want to go or was hesitant about asking a boy out.
   p = .50 77%

X. When he was unable to get a date
   a. he decided that the particular weekend was not so important.
   b. he went stag.
   c. he felt he should go about it differently next time.
   d. he realized that the girls were being booked up farther in advance than he had thought.
   p = 1.00 95%

Y. When his girlfriend didn't invite him to meet her folks
   a. he didn't think it was a necessary indication of her feelings.
   b. he told her he would like to meet them the next time they visited.
   c. he felt he should have shown more interest.
   d. he figured it must not have been convenient for them to work it out.
   p = .70 (wrong direction) 24%

SP Items

Y. When she made a play for his buddy
   a. he found her less attractive.
   b. he stopped taking her out.
   c. he felt he wasn't aggressive enough to hold on to her.
   d. he saw how fickle and undependable she was.
   p = .01 56%

X. When she stood him up
   a. he left girls alone for a while.
   b. he never called her again.
   c. he wondered if he were that unattractive to her.
   d. he thought she didn't have any sense of social propriety.
   p = .01 55%

X. When he got the "Dear John" letter
   a. he lost some of his enthusiasm about dating.
   b. he felt he was through with women.
   c. he wondered what he needed but didn't have.
   d. he decided she wasn't good enough for him.
   p = .01 72%

X. When she wouldn't let him kiss her
   a. he stopped trying for a while.
   b. he had nothing more to do with her.
   c. he wished he had smoother technique.
   d. he decided she was cold.
   p = .05 46%

X. When she came right out and said she didn't like him
   a. he avoided getting involved with girls for a while.
   b. he turned and walked away without a word.
   c. he wondered what he lacked.
   d. he thought she just didn't have very good judgment.
   p = .05 82%

Y. When she made fun of his appearance
   a. he stopped putting so much effort into his dress.
   b. he ignored her.
   c. he wished he were better looking.
   d. he felt she didn't have good taste.
   p = .05 40%

Y. When she wouldn't accept his pin
   a. he stopped dating for a while.
   b. he forgot all about her.
   c. he tried to find out how or where he had messed things up.
   d. he realized she wasn't mature enough to get serious.
   p = .10 80%

Y. When she told him she had too much studying to go out with him
   a. he decided to call her less often.
   b. he went back to his own books.
   c. he felt he just didn't appeal to her.
   d. he wished she weren't such a grind.
   p = .30 32%

Y. When she refused to neck with him
   a. he stopped spending so much time with her.
   b. he never tried again with her.
   c. he wished he had an approach which could bring better results.
   d. he decided she didn't have the right ideas on how to have a good time.
   p = .50 80%

X. When she ignored him on the street
   a. he felt he ought to wait for her to come to him next time.
   b. he decided to have nothing more to do with her.
   c. he was dissatisfied with the reactions he produced in girls.
   d. he saw her as thinking she was hot stuff for no good reason.
   p = .70 59%

FO Items

X. When he didn't get a bid from either of the two fraternities he wanted most
   a. he rushed the others with much less enthusiasm.
   b. he decided to move into an apartment.
   c. he wondered how he could have made a better impression.
   d. he realized they had not had much chance to get to know him.
   p = .01 72%

X. When the guys laughed at him
   a. he didn't think they meant anything by it.
   b. he laughed along with them.
   c. he knew he should have behaved differently.
   d. he figured they had just misunderstood him.
   p = .01 48%

Y. When they didn't invite him to the party
   a. he realized it wasn't important to be invited to every party.
   b. he looked around for another affair to go to.
   c. he felt he ought to make more of an effort to be sociable in the future.
   d. he was sure it was an oversight.
   p = .05 32%

X. When he told him he couldn't eat out with him that night
   a. he didn't give it a second thought.
   b. he asked another fellow if he would like to join him.
   c. he figured he should have made the suggestion earlier.
   d. he felt that the fellow just didn't enjoy going out to eat.
   p = .10 14%

Y. When he didn't call him back
   a. he was content to wait a while longer.
   b. he went over to see him.
   c. he thought he might not have made it clear that he wanted him to call back.
   d. he figured he hadn't gotten his message.
   p = .15 52%

Y. When no one offered to help him
   a. he didn't pay any attention to it.
   b. he tried to do it by himself.
   c. he felt he should approach them about it differently.
   d. he figured they just didn't understand what he was trying to do.
   p = .20 16%

X. When his friend told him he didn't want to room with him
   a. he decided he would be just as well off living alone.
   b. he spoke to some other fellow about rooming together.
   c. he realized he could have made himself an easier person to live with.
   d. he felt his friend must have had a previous commitment to someone else.
   p = .30 23%

X. When no one showed up where they had agreed to meet him
   a. he decided he could just as well go on by himself.
   b. he waited a while longer.
   c. he figured he must have gotten there either too late or too early.
   d. he thought they had probably forgotten he was going to meet them there.
   p = .30 37%

Y. When they went to the movies without him
   a. he enjoyed the movie anyway by himself.
   b. he stayed home and watched TV.
   c. he decided next time he ought to get ready sooner.
   d. he figured they had forgotten he wanted to go.
   p = .50 60%

Y. When his room-mate changed his mind about going home with him over vacation
   a. he decided he could have just as good a time if he went home alone.
   b. he tried to think whom else he could invite.
   c. he realized he should have made the invitation more attractive.
   d. he figured he probably wanted very much to visit his own folks.
   p = .70 60%

FP Items

X. When no one answered him
   a. he kept quiet for a while.
   b. he left the room.
   c. he figured he had said the wrong thing.
   d. he felt they were a bunch of snobs.
   p = .01 46%

X. When they started playing without him
   a. he lost some of his enthusiasm about getting into the game.
   b. he went back to his room.
   c. he guessed it was because he couldn't play well enough.
   d. he thought it was pretty low of them.
   p = .01 37%

X. When they didn't slow down to wait for him
   a. he slowed down and didn't try so hard to catch up.
   b. he decided to go by himself.
   c. he suspected he had alienated them in some way.
   d. he thought they were a pretty poor bunch.
   p = .05 46%

Y. When no one offered him a ride to the game
   a. the game was not very appealing to him.
   b. he decided not to go.
   c. he wondered what they had against him.
   d. he thought they were very unfriendly and inconsiderate.
   p = .05 76%

Y. When he couldn't find anyone to double with
   a. he decided next time he would wait for someone else to ask him about doubling.
   b. he went out alone.
   c. he thought he might not be considered good company.
   d. he wondered why everyone was so anti-social.
   p = .20 25%

X. When he didn't invite him to his party
   a. he decided he didn't want to go anyway.
   b. he dropped him as a friend.
   c. he guessed the fellow didn't care for his company.
   d. he thought the fellow was worse off for not appreciating his friendship.
   p = .30 72%

X. After he lost the election
   a. he devoted less time to the group's projects.
   b. he decided not to run again.
   c. he realized he wasn't very good at campaigning.
   d. he felt he was not getting fair recognition for the work he had done.
   p = .50 46%

Y. When his buddy got mad at him
   a. he didn't try very hard to smooth things over.
   b. he completely avoided getting involved in an argument.
   c. he felt that everything he did turned out the wrong way.
   d. he wondered why the guy was so sensitive.
   p = .50 44%

Y. When no one took his side in the argument
   a. he lost interest in his point of view.
   b. he stopped talking and left the group.
   c. he figured he must be all wrong.
   d. he thought they were a bunch of numbskulls.
   p = .90 56%

Y. When they hinted they didn't want him around
   a. he decided to waste less time being friendly.
   b. he took off.
   c. he wondered what was wrong with him.
   d. he thought of them as not deserving his company.
   p = .95 48%

APPENDIX II-A

The Failure Reaction Test

On the following pages are reproduced the answer sheet and final form of the Failure Reaction Test used in the study. The sequence of items and item completions is identical with that of the forms distributed to Samples A, B, and C. However, one addition has been made for reference purposes. After each item stem appears the item category to which the item belongs. This will aid the reader in referring to the item list in Appendix I, from which he may determine both the level of confidence at which the item differentiated between extreme groups in the pretesting and, for scoring purposes, the defensive mode to which each item completion relates.

Instructions

Student life has its ups and downs. College provides experiences both of success and failure. Since it is the failure experiences which are most likely to interfere with a smooth adjustment to one's circumstances, we are interested in getting some idea of how students react to failure or disappointment. In the following measure there are thirty items, each of which depicts a situation in which a presumably desirable goal is not attained. For each item there are four alternative responses. We would like you to check that <u>one</u> in each case which most reflects how you have reacted in that kind of situation or how you feel you would react if you were to encounter the situation. These alternatives are not mutually exclusive. Any or all of them might follow a failure experience in some sequence. Choose that one which for you would be the <u>first</u> reaction you would have and circle the letter designating it.

1. When he got a "D" on the midsemester (WP)
   a. he decided to concentrate on his other courses.
   b. he tried to see if he could get out of the course.
   c. he thought the fault lay in the way the course was being taught.
   d. he began to have some doubts about his ability.

2. When the guys laughed at him (FO)
   a. he knew he should have behaved differently.
   b. he laughed along with them.
   c. he figured they had just misunderstood him.
   d. he didn't think they meant anything by it.

3. When she made a play for his buddy (SP)
   a. he stopped taking her out.
   b. he felt that he wasn't aggressive enough to hold on to her.
   c. he saw how fickle and undependable she was.
   d. he found her less attractive.

4. When he didn't make medical school (WO)
   a. he felt that his record must not have given a fair impression of him.
   b. he was sorry that he had not tried harder as an undergrad.
   c. he decided he could enjoy life even if he weren't a doctor.
   d. he applied to some dental schools.

5. When they didn't slow down to wait for him (FP)
   a. he decided to go by himself.
   b. he suspected that he had alienated them in some way.
   c. he thought they were a pretty poor bunch.
   d. he slowed down and didn't try so hard to catch up.

6. When she wouldn't accept his pin (SP)
   a. he forgot all about her.
   b. he realized she wasn't mature enough to get serious.
   c. he stopped dating her for a while.
   d. he tried to find out how or where he had messed things up.

7. When they didn't invite him to the party (FO)
   a. he realized it wasn't important to be invited to every party.
   b. he looked around for another affair to go to.
   c. he felt he ought to make more of an effort to be sociable in the future.
   d. he was sure it was an oversight.

8. When no one answered him (FP)
   a. he kept quiet for a while.
   b. he felt they were a bunch of snobs.
   c. he left the room.
   d. he figured he had said the wrong thing.

9. When she didn't send him a Valentine's card (SO)
   a. he decided to see what would happen on the next appropriate occasion.
   b. he didn't attach much importance to it.
   c. he realized he should have paid more attention to her.
   d. he though that she had either forgotten or didn't send out cards.

10. When he was unable to finish the assignment in time (WP)
   a. he regretted having put in as much effort as he had.
   b. he felt he just couldn't work fast enough.
   c. he thought that the professor gave too long assignments.
   d. he put it out of his mind.

11. When he didn't call him back (FO)
   a. he figured he hadn't gotten his message.
   b. he was content to wait a little longer.
   c. he thought that he might not have made it clear that he wanted him to call back.
   d. he went over to see him.

12. When he got the "Dear John" letter (SP)
   a. he felt he was through with women.
   b. he decided she wasn't good enough for him.
   c. he lost some of his enthusiasm about dating.
   d. he wondered what he needed but didn't have.

13. When his grades disappointed him (WO)
   a. he realized he should have done less goofing-off.
   b. he was still able to get some satisfaction from his other activities.
   c. he tried not to let it upset him too much.
   d. he decided to take courses he could do better in.

14. When she made fun of his appearance (SP)
   a. he wished he were better looking.
   b. he felt she didn't have good taste.
   c. he stopped putting so much effort into his dress.
   d. he ignored her.

15. When his date left the party with another fellow (SO)
   a. he didn't let it dampen his spirits.
   b. he socialized with some other people at the party.
   c. he felt that he should have paid more attention to her.
   d. he decided she must have been very much attracted to the other fellow.

16. When he gave the wrong answer in recitation (WP)
    a. he found it hard to keep up his interest in the discussion.
    b. he wished he weren't so stupid.
    c. he felt it had been an unfair question in the first place.
    d. he stopped volunteering.

17. When she came right out and said she didn't like him (SP)
    a. he turned and walked away without a word.
    b. he wondered what he lacked.
    c. he thought she just didn't have very good judgment.
    d. he avoided getting involved with girls for a while.

18. When his point of view was jumped on in class (WO)
    a. he felt that he should have explained himself more fully.
    b. he thought they hadn't followed him correctly.
    c. he didn't let himself be influenced by the others.
    d. he tried a new approach to the subject.

19. When his instructor told him his work was slipping (WP)
    a. he tried to find a way out of the course.
    b. he felt the instructor was making excessive demands on him.
    c. he figured it wouldn't pay to put much effort into the course.
    d. he knew he just couldn't handle the material.

20. When she passed him by without saying hello (SO)
    a. he repeated his greeting to her louder.
    b. he didn't see it as a very significant event.
    c. he felt that he should have approached her more forcefully.
    d. he decided she hadn't heard him.

21. When they started playing without him (FP)
    a. he went back to his room.
    b. he thought it was pretty low of them.
    c. he lost some of his enthusiasm about getting into the game.
    d. he guessed it was because he couldn't play well enough.

22. When she told him on the phone that she didn't want to meet him (SO)
    a. he guessed that she probably had a boyfriend.
    b. he didn't feel much like meeting her either.
    c. he asked around for some other names.
    d. he knew he should have used a different line.

23. When he got a low score on the law aptitude exam (WP)
    a. he felt it wasn't a fair test.
    b. he stopped pushing so hard for grades.
    c. he wished he were a little smarter.
    d. he gave up the idea of being a lawyer.

24. When he told him he couldn't eat out with him that night (FO)
    a. he didn't give it a second thought.
    b. he felt that the fellow just didn't enjoy going out to eat.
    c. he figured he should have made the suggestion earlier.
    d. he asked another fellow if he would like to join him.

25. When she stood him up (SP)
    a. he wondered if he were that unattractive to her.
    b. he never called her again.
    c. he left girls alone for a while.
    d. he thought she didn't have any sense of social propriety.

26. When he couldn't get a good summer job (WP)
    a. he felt the employers were not giving him fair treatment.
    b. he didn't work very hard at the job he got.
    c. he decided to take it easy and loaf a little.
    d. he wondered if there were something about him that was holding him back.

27. When he didn't get a bid from either of the two fraternities he wanted most (FO)
    a. he rushed the others with much less enthusiasm.
    b. he decided to move into an apartment.
    c. he wondered how he could have made a better impression.
    d. he realized they had not much chance to get to know him.

28. When she wouldn't let him kiss her (SP)
    a. he stopped trying for a while.
    b. he decided she was cold.
    c. he was sorry he didn't have a smoother technique.
    d. he had nothing more to do with her.

29. When she said she would rather not fix him up (SO)
    a. he felt that he should have approached her about it more subtly.
    b. he didn't see it as having anything to do with her feelings about him.
    c. he asked some of his buddies for other suggestions.
    d. he thought she must have an aversion to fixing people up.

30. When no one offered him a ride to the game (FP)
    a. he decided not to go.
    b. he wondered what they had against him.
    c. he thought they were an unfriendly and inconsiderate group.
    d. the game was not very appealing to him.

APPENDIX II-B

Letter of Introduction to Sample C

Below is reproduced the letter of introduction sent to the students from whom Sample C was derived. Attached to this letter was the instruction sheet and main body of the Failure Reaction Test, which appear in Appendix II-A.

Dear Student:

We would like to ask about fifteen minutes of your time to help us in our attempt to get a better understanding of how students react in various situations. Your name is part of a small random sample taken from the student directory, and the success of our work depends upon your assistance.

All that is required is that you answer the attached questionnaire. As you can see in the instructions on the next page, there are only thirty multiple-choice items to be completed. We will be preparing summary statements of the results of this survey and of the uses to which the findings may be put. We will gladly mail you a copy of this summary in exchange for your contribution.

Upon completing the questionnaire, please leave it with the secretary in 7624 Haven Hall. As stated in the instructions, no identification is needed. If you would like a report of the results, please leave your name and address with the secretary.

Thank you very much for your contribution.

Although names were not requested, a coding system consisting of a few barely legible dots on the instruction sheet was devised. The code allowed a pairing of returned forms with the information about class standing and grade-point averages which had previously been collected for the subjects.

APPENDIX II-C

Instructions and Sample Answer Sheet for the n Achievement Measure

_____First initial father's name

_____First initial mother's name

_____Day of month of own birthday

PICTURE INTERPRETATIONS

Instructions

You are going to see a series of pictures, and your task is to tell a story that is suggested to you by each picture. Try to imagine what is going on in each picture. Then tell what the situation is, what led up to the situation, what the people are thinking and feeling, and what they will do.

In other words, write a complete story--a story with plot and characters.

You will have twenty (20) seconds to look at a picture and then four minutes to write your story about it. Write your first impressions and work rapidly. I will keep time and tell you when it is time to finish your story and to get ready for the next picture.

There are no right or wrong stories or kinds of stories, so you may feel free to write whatever story is suggested to you when you look at a picture. Spelling, punctuation, and grammar are not important. What is important is to write out as fully and as quickly as possible the story that comes into your mind as you imagine what is going on in each picture.

Notice that there is one page for writing each story. If you need more space for writing any story, use the reverse side of the paper.

Code Number _____

1. What is happening? Who are the persons?

2. What led up to this situation? That is, what has happened in the past?

3. What is being thought? What is wanted? By whom?

4. What will happen? What will be done?

APPENDIX II-D

The Mandler-Sarason Test Anxiety Questionnaire

Code Number_____

QUESTIONNAIRE ON ATTITUDES TOWARD THREE KINDS OF TESTING SITUATIONS

(Short Form)

This questionnaire is designed to give you an opportunity to indicate how and what you feel in regard to group intelligence or aptitude tests, such as those you took upon entrance to college. One of the main reasons for constructing this questionnaire is the fact that very little is known about people's feelings toward taking various kinds of tests. We can assume that people differ in the degree to which they are affected by the fact that they are going to take a test or by the fact that they have taken a test. What we are particularly interested in here is how widely people differ in their opinions of and reactions to the various kinds of testing situations.

The value of this questionnaire will in large part depend on how frank you are in stating your opinions, feelings, and attitudes. Needless to say, your answers to the questions will be kept strictly confidential; they will under no circumstances be made known to any instructor or official of the University.

For each question there is a line or scale on the ends of which are statements of opposing feelings or attitudes. In the middle of the line you will find either the word "Midpoint" or a phrase, both of which are intended to reflect a feeling or attitude which is in-between the statements of opposing feelings described above. You are required to put a mark (X) on that point on the line which you think best indicates the strength of your feeling or attitude about the particular question. The midpoint is only for your guidance. Do not hesitate to put a mark on any point on the line as long as that mark reflects the strength of your feeling or attitude.

If you have any questions at this time, please ask the person who has passed out the questionnaire.

THERE ARE NO "CATCH" QUESTIONS IN THIS QUESTIONNAIRE. PLEASE READ EACH QUESTION AND EACH SCALE VERY CAREFULLY. THERE IS NO TIME LIMIT.

The following questions relate to your attitude toward and experience with group intelligence and aptitude tests. By group intelligence tests we refer to tests which are administered to several individuals at a time. These tests contain different types of items and are usually paper and pencil tests with answers requiring either fill-ins or choices of several possible answers. Scores on these tests are given with reference to the standing of the individual subject within the group tested or within specific age and educational norms. The Medical College Aptitude Test (or the College Entrance Board) represents this type of test. Please try to remember how you usually reacted toward these tests and how you felt while taking them.

1. How valuable do you think group intelligence tests are in determining a person's ability?

Very valuable | Valuable in some respects and valueless in others | Valueless

2. Do you think that group intelligence tests should be used more widely than at present to classify students?

Should be used less widely | Should be used as at present | Should be used more widely

3. Would you be willing to stake your continuance in college on the outcome of a group intelligence test which has previously predicted success in a highly reliable fashion?

Very willing | Uncertain | Not willing

4. If you know that you are going to take a group intelligence test, how do you feel beforehand?

Feel very unconfident | Midpoint | Feel very confident

5. <u>After</u> you have taken a group intelligence test, how confident do you feel that you have done your best?

Feel very unconfident | Midpoint | Feel very confident

THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.

6. When you are taking a group intelligence test, to what extent do your emotional feelings interfere with or lower your performance?



Do not interfere at all — Midpoint — Interfere a great deal

7. Before taking a group intelligence test, to what extent are you aware of an "uneasy feeling"?



Am very much aware of it — Midpoint — Am not aware of it at all

8. While taking a group intelligence test to what extent do you experience an accelerated heartbeat?



Heartbeat does not accelerate at all — Midpoint — Heartbeat noticeably accelerated

9. Before taking a group intelligence test to what extent do you experience an accelerated heartbeat?



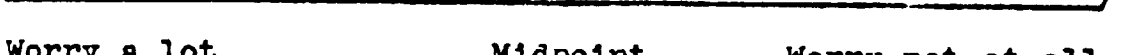
Heartbeat does not accelerate at all — Midpoint — Heartbeat noticeably accelerated

10. While taking a group intelligence test to what extent do you worry?



Worry a lot — Midpoint — Worry not at all

11. Before taking a group intelligence test to what extent do you worry?



Worry a lot — Midpoint — Worry not at all

THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.

12. <u>While</u> taking a group intelligence test to what extent do you perspire?



Perspire not at all — Midpoint — Perspire a lot

13. <u>Before</u> taking a group intelligence test to what extent do you perspire?



Perspire not at all — Midpoint — Perspire a lot

14. In comparison with other students how often do you think of ways of avoiding a group intelligence test?



Less often than other students — Midpoint — More often than other students

15. To what extent do you feel that your performance on the College Entrance Test (or a similar test) was affected by your emotional feelings at the time?



Affected a great deal — Midpoint — Not affected at all

APPENDIX II-E

The Scrambled Words Test

Code Number_____

Instructions

On the following pages you will find common words that have been scrambled by changing the order of the letters. Try to make a word out of the letters and write it in the space on the right.

Example: WTSE__west___

If you find any of the words difficult to unscramble, skip them and go on to the next. Please do not start until the signal is given and turn the pages when (and only when) instructed to do so.

Try for_____

1. YRMA_____
2. LAIS_____
3. KACE_____
4. TRAS_____
5. CLOO_____
6. PRIT_____
7. YASE_____
8. EWTS_____
9. NRIO_____
10. NSIK_____
11. TIGF_____
12. EFLS_____
13. HSIF_____
14. FESA_____
15. PTEK_____
16. EISR_____
17. ONIL_____
18. NAIR_____
19. ISKS_____
20. TOSL_____

Complete_____

Try for_____

1. RWAE_____
2. AYBB_____
3. RITE_____
4. NBRA_____
5. PTOS_____
6. OCPO_____
7. WNOS_____
8. STUD_____
9. SOWL_____
10. RIMF_____
11. PHOS_____
12. NGOE_____
13. ASDN_____
14. NUHT_____
15. GINR_____
16. JINO_____
17. TENO_____
18. FILT_____
19. NTSE_____
20. SOLS_____

Complete_____

Try for_____

1. ELBL_____
2. LADE_____
3. LLAH_____
4. ALOD_____
5. APHT_____
6. DSEE_____
7. SHAW_____
8. LATL_____
9. GSNO_____
10. ILKS_____
11. LEUR_____
12. RCEA_____
13. ENNO_____
14. TMAE_____
15. KENE_____
16. GNAH_____
17. MGAE_____
18. DEFE_____
19. RADE_____
20. LIBL_____

Complete_____

Try for_____

1. TBAE_____
2. ETDA_____
3. TNOD_____
4. FRMA_____
5. EGRW_____
6. WEKN_____
7. ILML_____
8. KPCI_____
9. UREP_____
10. ATSE_____
11. RTOS_____
12. EAVW_____
13. ETAR_____
14. GSIN_____
15. AMSE_____
16. FROO_____
17. NONO_____
18. RDAL_____
19. ETAH_____
20. INGA_____

Complete_____

Try for_____

1. SEIW_____
2. ELAB_____
3. TILA_____
4. ECTN_____
5. DOLS_____
6. LAOC_____
7. ZEIS_____
8. DJEE_____
9. KEPE_____
10. TELF_____
11. HURS_____
12. TEAG_____
13. LAER_____
14. ISKS_____
15. TSAP_____
16. NEIN_____
17. EIWV_____
18. DOUL_____
19. TSIL_____
20. SEEL_____

Complete_____

APPENDIX II-F

Instructions and Sample Page of

the Arithmetic Test

Code Number_____

Instructions

The arithmetic tasks you will be given will look like the two examples given below:

Example A		Example B
8 - 4 + 2		9 + 7 - 3
	=	=
9 + 5 - 6		6 - 4 + 3

Your task is to solve the first line first. For example in A 8 minus 4 plus 2 equals 6. Now keep this in mind without writing it down anywhere. Then solve the second line. 9 plus 5 minus 6 equals 8. Keep this value in mind also.

Now if the first result is smaller than the second, add the first to the second and write down this final result. In example A (above) the answer to the first line is 6 and the answer to the second line is 8. Since the first line is smaller, add together 6 and 8 to arrive at the final answer of 14.

If the first result is larger than the second, subtract the second from the first. For example in B (above) 9 plus 7 minus 3 equals 13, and 6 minus 4 plus 3 equals 5. Since the first answer is larger than the second, subtract the second answer from the first giving a final answer of 8.

In each problem, solve the first line. Then solve the second line. If the first answer is smaller than the second, add. If the first answer is larger than the second, subtract. Write down only the final answer and move on to the next problem, and so on.

Here are some practice problems:

9 - 4 + 7	8 - 6 + 1	8 + 6 - 1	5 - 4 + 3
=	=	=	=
6 - 3 + 2	7 + 4 - 2	7 - 4 + 2	5 + 4 - 3

Try for_____

9+2-5 7-4+6	5+6-3 7-2+4	8-6+5 9-2+8
8+3-6 2+9+8	8+9-5 7+6-9	5+6-4 7-3+5
9-3+7 8-4+2	8-6+4 3+8+6	8+9-4 7-5+4
9+5-6 7-2+9	9+4-8 5-2+4	8-6+2 9+5+3
8+3-7 5-2+6	8+9-4 6-2+5	8-6+4 9+5-6
4+9-2 6-3+4	2+9-5 5+6+8	7+8-4 8+3-9
8+5-6 9-3+8	7-4+2 9+6-7	6+7-8 5+9+2
7+4-8 6-3+5	8-2+7 5+6-4	8-2+8 9-4+3

Complete_____

APPENDIX III

Raw Data

On the following seven pages are reproduced the raw data on which the study was based. The numbering of subjects in the tables was done on a random basis merely to facilitate reference. No particular grouping of subjects in the tables was intended, except in Table 24, in which the freshmen and sophomores are grouped separately.

Table 22

Raw Data for Sample A

Subject Number	FRT score		Total GD score		n Achievement score	Mandler-Sarason score	Grade-point average	ACE percentile rank
	Total score	O score	Words	Arith				
1	15	6	-5	6	7	26	2.2	83
2	15	8	7	6	13	50	2.0	06
3	17	5	10	7	8	40	2.0	02
4	17	9	10	7	6	42	2.9	26
5	16	9	13	8	4	41	2.5	53
6	13	3	9	9	6	43	2.0	78
7	13	5	11	4	9	62	1.7	18
8	14	5	2	1	3	25	2.3	15
9	13	4	-1	-7	5	27	2.8	99
10	14	3	-8	-9	5	23	2.0	--
11	9	4	-1	-10	3	36	1.7	09
12	16	8	7	7	4	40	1.9	--
13	15	6	10	7	17	49	1.7	23
14	12	6	0	0	7	38	3.5	37
15	17	7	5	4	8	33	2.0	20

(Table continued on next page)

16 17 18 19 20	7 12 19 17 11	5 5 8 7 4	7 3 -10 2 7	4 4 -8 2 13	18 11 6 14 5	53 15 53 30 29	2.4 1.9 2.5 2.5 2.1	28 87 -- -- 25
21 22 23 24 25	11 16 18 19 12	6 6 8 7 5	12 22 8 11 13	-1 12 16 5 5	4 9 15 4 -1	29 29 48 46 31	2.7 2.7 2.3 1.9 2.0	66 86 12 27 23
26 27 28 29 30	17 25 13 15 15	6 9 6 9 7	-2 8 -3 15 16	-7 11 -3 14 0	14 8 7 1 13	49 58 36 45 43	2.5 2.1 2.7 3.2 -	45 32 82 97 --
31 32 33 34 35	18 16 16 21 13	7 6 6 11 8	2 4 4 8 10	2 4 2 3 5	13 12 8 12 8	47 43 42 54 32	- - - - -	-- 04 59 26 82

Table 23

Raw Data for Sample B

Subject Number	FRT score		Total GD score	n Achievement score	Mandler-Sarason score
	Total score	O score			
1	12	4	-3	0	20
2	16	8	5	-3	33
3	16	6	6	-2	23
4	24	8	0	3	40
5	17	7	-5	6	33
6	15	6	-3	5	43
7	18	6	0	7	25
8	12	2	2	13	--
9	13	4	2	7	25
10	10	6	-10	3	23
11	14	6	3	9	34
12	17	8	3	-2	--
13	16	4	4	3	48
14	11	3	10	-3	41
15	23	12	10	0	--
16	15	3	0	7	38
17	18	7	8	2	33
18	20	6	-4	1	41
19	--	-	8	6	40
20	21	9	5	-2	--
21	15	5	1	-2	23
22	19	7	8	8	--
23	20	7	8	-3	40
24	19	8	8	9	31
25	9	6	-4	13	20
26	14	8	3	1	39
27	17	8	-4	18	40
28	10	3	-5	0	36
29	9	4	-5	1	--
30	10	5	3	-2	33

(Table continued on next page)

31	7	4	0	-	--
32	--	-	3	7	38
33	14	7	1	3	30
34	12	5	4	5	40
35	12	7	-1	-2	--
36	--	-	5	2	19
37	14	6	-2	3	43
38	9	5	1	4	16
39	18	10	-	-2	44
40	14	6	5	-2	16
41	17	8	2	12	30
42	19	7	8	-4	15
43	20	9	5	0	35
44	18	8	5	3	44
45	13	5	1	-	--
46	--	-	3	0	33
47	11	8	0	9	42
48	15	7	1	-2	--
49	17	7	4	1	30
50	14	5	3	12	23
51	16	5	4	-3	26
52	--	-	4	3	19
53	26	11	-	-	--

Table 24

Raw Data for Sample C

Subject Number	FRT score		Class	Grade-point average	
	Total score	O score		1st sem	2nd sem
1	11	3	So	3.2	3.5
2	19	9	So	3.5	3.2
3	12	5	So	3.5	4.0
4	17	5	So	2.0	1.7
5	13	5	So	2.5	2.5
6	17	8	So	3.4	3.6
7	28	13	So	3.3	3.2
8	18	6	So	4.0	3.8
9	19	9	So	3.6	3.8
10	23	9	So	3.5	3.6
11	9	4	So	3.8	3.6
12	10	3	So	2.5	1.5
13	20	8	So	4.0	4.0
14	9	4	So	3.3	3.2
15	17	7	So	3.5	3.6
16	16	4	Fr	3.3	
17	22	11	Fr	3.8	
18	19	9	Fr	3.7	
19	15	5	Fr	3.3	
20	19	9	Fr	3.3	
21	13	5	Fr	2.5	
22	19	8	Fr	3.8	
23	11	6	Fr	2.5	
24	14	7	Fr	4.0	
25	12	4	Fr	3.3	
26	13	4	Fr	3.5	
27	8	3	Fr	2.5	
28	16	5	Fr	4.0	
29	21	9	Fr	4.0	
30	20	10	Fr	3.5	
31	13	7	Fr	3.5	
32	19	8	Fr	2.2	
33	12	5	Fr	3.7	

Table 25

Distribution of FRT Total Scores

for Samples A, B, and C

Score	Sample			All samples
	A	B	C	
7	1	1	0	2
8	0	0	1	1
9	1	3	2	6
10	0	3	1	4
11	2	2	2	6
12	3	4	3	10
13	5	2	4	11
14	2	6	1	9
15	5	4	1	10
16	5	4	2	11
17	5	5	3	13
18	2	4	1	7
19	2	3	6	11
20	0	3	2	5
21	1	1	1	3
22	0	0	1	1
23	0	1	1	2
24	0	1	0	1
25	1	0	0	1
26	0	1	0	1
28	0	0	1	1
N	35	48	33	116
Mean	15.1	15.4	15.7	15.4
S. D.	3.34	4.11	4.81	4.12

Table 26

Distribution of FRT O Scores

for Samples A, B, and C

Score	Sample			All samples
	A	B	C	
2	0	1	0	1
3	2	3	3	8
4	3	5	5	13
5	6	7	7	20
6	9	9	2	20
7	5	9	3	17
8	5	9	4	18
9	4	2	6	12
10	0	1	1	2
11	1	1	1	3
12	0	1	0	1
13	0	0	1	1
N	35	48	33	116
Mean	6.4	6.4	6.6	6.4
S. D.	1,83	2.10	2.48	2.23

APPENDIX IV

Additional Exploratory Analysis of Sample A

As indicated in Chapter VI, an additional exploratory analysis of the data from Sample A was carried out, the purpose of which was to determine whether FRT items of the W, S, and F types contributed differentially to the relationships of the FRT with the dependent variables. Tables 5 and 6 show that on the basis of their FRT total score, Agg, flexible, and Non-agg defenders in Sample A manifested clear but insignificant trends toward unrealistically high, realistic, and unrealistically low levels of aspiration, respectively. In the analysis to be reported here, these subjects were classed as Agg, flexible, and Non-agg defenders on the basis of each of three partial scores. That is, the FRT total score for this group was divided into its three components, the scores on W, S, and F items. The relationship of these partial scores to goal-setting behavior is summarized in Table 27, which is described below.

For the nine W items thirteen subjects with scores from seven to nine were classed as Agg defenders, thirteen scoring five and six were called flexible defenders, and nine with scores from two to four were designated the Non-agg group. The Agg defenders were found to have a mean total goal discrepancy (GD) score of 13.62, the flexible defenders a mean total GD score of 4.54, and the Non-agg group a mean total GD score of 10.33. The mean values of the Agg and flexible

groups lie relative to one another in the predicted direction, but that of the Non-agg group is larger rather than smaller than that of the flexible group, in opposition to expectation.

On the basis of the twelve S items, nine subjects with scores from seven to eleven, eighteen subjects scoring five and six, and eight subjects scoring three and four were classed as Agg, flexible, and Non-agg defenders, respectively. The Agg defenders had a mean total GD score of 9.00, the flexible group a mean total GD score of 9.56, and the Non-agg defenders a mean total GD score of 9.50. For the flexible and Non-agg groups these mean values are in the expected direction, but the mean for the Agg group is smaller rather than larger than that of the flexible group, in contrast to prediction.

Using the nine F items, ten subjects with scores from five to eight, fifteen subjects scoring three and four, and ten subjects with scores from zero to two were designated Agg, flexible, and Non-agg defenders, respectively. The Agg group had a mean total GD score of 8.70; for the flexible group the mean total GD score was 14.87; and the Non-agg group had a mean total GD score of 1.80. In this case, the relatively large mean value for the flexible group is contrary to expectation.

This analysis indicates that neither the W, S, or F components of the FRT total score is as successful as the composite total score in approximating the predicted direction of goal-setting behavior for the three groups of defenders. Whereas the Agg, flexible, and Non-agg groups as determined

Table 27

Mean Total Goal Discrepancy Score of Agg, Flexible, and Non-Agg Defenders as Determined Separately by W, S, and F Items for Sample A

Criterion Items	Agg group		Flexible group		Non-agg group	
	N	Mean	N	Mean	N	Mean
W	13	13.62	13	4.54	9	10.33
S	9	9.00	18	9.56	8	9.50
F	10	8.70	15	14.87	10	1.80

Note.--Total GD score based on eight trials.

by FRT total score have mean total GD scores in the expected direction, the classifications based on W, S, and F items each place two groups in the predicted relative direction, but none successfully handles all three. The raw data on which this analysis was based is to be found in Table 30.

The FRT O scores, by means of which trends toward unrealistically high, realistic, and unrealistically low goal-setting were significantly predicted, were also divided into three partial O scores. Thus scores on the WO, SO, and FO items were determined, and the ability of these types of items separately to predict goal-setting behavior was evaluated. The results of this analysis are summarized in Tables 28 and 29, which are described below.

For the three WO items nine subjects with scores of three were classed as Agg defenders, fourteen with a score of two were called flexible defenders, and eleven scoring one were

designated the Non-agg group. The Agg defenders were found to have a mean total GD score of 10.00, the flexible defenders a mean total GD score of 9.29, and the Non-agg group a mean total GD score of 9.09. These mean values relative to one another lie in the predicted direction, but an analysis of variance yielded an F-ration of 0.07, which does not differ significantly from chance.

On the basis of the five SO items, six subjects with scores of four and five, eleven subjects with scores of three, and eleven subjects with a score of one were classed as Agg, flexible, and Non-agg defenders, respectively. Those subjects with scores of two were left out to maximize the differences between the group. The Agg defenders had a mean total GD score of 15.83, the flexible group a mean total GD score of 9.45, and the Non-agg defenders a mean total GD score of 5.55. These mean scores again lie in the predicted direction relative to one another. However, an analysis of variance resulted in an F-ratio of 1.48, which is not significantly different from chance.

Using the five FO items, twelve subjects with scores of three and four, ten subjects with a score of two, and twelve subjects with scores of zero and one were designated Agg, flexible, and Non-agg defenders, respectively. The Agg group had a mean total GD score of 11.92; for the flexible group the mean total GD score was 11.90; and the Non-agg group had a mean total GD score of 4.83. These mean scores again lie in the predicted direction, but an analysis of variance yielded

an F-ratio of 1.45, which does not differ significantly from chance. The raw data on which this analysis was based is to be found in Table 30.

Table 28

Mean Total Goal Discrepancy Score of Agg, Flexible, and Non-Agg Defenders as Determined Separately by WO, FO, and SO Items for Sample A

Criterion Items	Agg group		Flexible group		Non-agg group	
	N	Mean	N	Mean	N	Mean
WO	9	10.00	16	9.06	10	8.40
SO	6	16.00	11	9.45	11	5.55
FO	12	11.92	10	10.50	13	4.46

Note.--Total GD score based on eight trials.

Table 29

Analysis of Variance of Total Goal Discrepancy Scores of Agg, Flexible, and Non-Agg Defenders as Determined Separately by WO, SO, and FO Items for Sample A

Criterion Items	Mean square	df	F
WO	12.20/149.92	2/34	0.04
SO	212.38/138.80	2/27	1.48
FO	195.07/149.25	2/34	1.45

These results indicate that although the FRT O score successfully predicts goal-setting behavior for Sample A, none of

its part scores, the WO, SO, and FO scores, has the power to do so, even though each operates in the predicted direction. On the basis of this analysis and the preceding examination of the FRT total score, it may reasonably be concluded that with regard to goal-setting behavior, the W, S, and F kinds of items each makes a positive contribution to the results described in Chapter VI, but neither is solely responsible for those results.

The prediction of differences in academic achievement from FRT total and O scores in Sample A was also analyzed further. As summarized in Table 17, seven Non-agg defenders as determined by FRT total score had earned grades equivalent to those of seven flexible and Agg defenders with whom they were paired on the basis of ACE scores. On the other hand, five Non-agg defenders identified by FRT O scores had earned significantly lower grades than five flexible and Agg defenders with whom they were similarly paired. For each of these subjects, the scores were broken down into their components, and product-moment correlations were computed between each of these component scores and the composite total and O scores.

Scores based on W items correlated .83 with the FRT total score; scores over S items correlated .76 with the total score; and scores from W items had a correlation of .85 with the total score. The WO and composite O scores were found to correlate .68; between the SO and composite O scores the correlation was .94; and for the FO and composite O scores

it was .87. It was felt that the relatively low correlation for the WO scores could in part be due to the restricted range of these scores, since the possible WO range is from zero to three, whereas for SO and FO scores it is from zero to five. Consequently, an estimated correlation between WO and composite O scores, were WO scores equivalent in range to the SO and FO scores, was computed using the method described by Guilford (1956, p. 320). The resulting correlation was .83.

In the prediction of academic achievement, therefore, the W, S, and F items each bear a strong relationship to the composite total and O scores, and the degree of this relationship appears approximately equal for the W, S, and F items. As in the case of predictions of goal-setting behavior, no one kind of item seems to be making an inordinate or unique contribution to the results reported in Chapter VI. On the basis of this analysis, two conclusions seem justified: (a) the W, S, and F items operate in the same direction; and (b) it is of value to use composite scores, rather than scores based only on W, S, and F items.

Table 30

Additional Raw Data for Sample A

Subject[a] Number	Total goal discrepancy score	Component FRT total scores			Component FRT O scores		
		W	S	F	WO	SO	FO
1	1	8	3	4	3	1	2
2	13	5	6	4	2	4	4
3	17	7	5	5	1	1	3
4	17	7	6	4	3	4	2
5	21	4	6	6	2	4	3
6	18	5	4	4	1	1	1
7	15	5	6	2	2	2	1
8	3	5	6	3	2	1	2
9	-8	7	6	0	3	1	0
10	-17	6	6	2	2	1	0
11	-11	3	4	2	1	1	2
12	14	5	6	4	3	3	2
13	17	7	7	1	2	3	1
14	0	3	8	1	2	3	1
15	9	9	3	5	3	1	3
16	11	3	3	1	3	1	1
17	7	3	6	3	2	2	1
18	-18	6	8	5	1	3	4
19	4	5	4	8	1	2	4
20	20	3	5	3	2	1	1
21	11	4	5	2	1	3	2
22	34	7	6	3	1	2	2
23	24	7	7	3	1	5	2
24	16	7	6	6	2	3	2
25	18	2	5	5	2	1	2
26	-9	6	6	5	2	3	1
27	19	6	11	8	4	4	1
28	-6	6	5	1	2	2	1
29	29	7	4	4	3	3	3
30	16	4	8	3	2	3	2
31	4	7	8	3	2	4	1
32	8	5	7	4	1	2	3
33	6	8	6	2	3	2	1
34	11	8	7	6	3	4	4
35	15	6	4	3	2	3	3

[a]Subject numbers identical to those used in Table 22.

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