The Relationship Between Trait and State Anxiety and a Projective Personality Test.

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Louisiana State University and
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ABSTRACT

The present investigation involved the assessment of anxiety. By differentiating between state and trait anxiety, the relationship between these two concepts to the Rorschach test was explored. According to Spielberger, et al. (1969), trait anxiety refers to relatively stable individual differences in anxiety proneness, that is, to differences between people in the tendency to respond to situations perceived as threatening with elevations in state anxiety. Therefore, trait anxiety is the predisposition, the readiness to respond anxiously to certain situations.

State anxiety is the transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system activity. Anxiety states may vary in intensity and fluctuate over time.

It was hypothesized in the present study that trait anxiety scores on the State-Trait Anxiety Inventory (STAI) developed by Spielberger and Gorsuch (1966) and Spielberger, Gorsuch and Lushene (1968) would not change significantly over time. That is, even after introducing a stressful stimulus during the experimental condition, trait anxiety scores would remain constant. However, state anxiety scores were suspected to reflect changes in relation to the stimulus situation. Furthermore, it was hypothesized that persons high in
trait anxiety would obtain higher state scores than persons low in trait anxiety. It was also suspected that state anxiety scores for all subjects would vary for the 10 Rorschach cards.

One hundred ninety-five female nursing students were given the trait anxiety scale of the STAI. The thirty highest scorers and thirty lowest scorers were labeled high and low trait anxious groups. Following this selection, all subjects were given the Rorschach test individually by the same examiner. Following each Rorschach card, a state anxiety scale was administered yielding ten state scores for each of the sixty subjects. The trait anxiety scale was readministered following the experiment. Rorschach protocols were scored by two judges using the Beck (1961) scoring criteria.

Results showed that trait anxiety scores for both the high and low groups did not change significantly from pre-experimental to post-experimental sessions supporting the notion that trait anxiety is a relatively enduring characteristic of an individual. Further, results indicated that subjects in the high trait anxiety group obtained significantly higher state anxiety scores on the 10 Rorschach cards. This finding is in agreement with the notion that high trait anxious people tend to view a wider variety of situations as threatening and respond with more anxiety states of greater intensity. These findings are in agreement with previous investigators (Lamd, 1969; Auerback, 1969; McAdoo, 1969 and O'Neil, 1969).

State anxiety scores decreased linearly across the 10 Rorschach cards. The first five cards elicited significantly more anxiety than the last five cards suggesting some adaptation to the
test with time. Also, achromatic cards elicited significantly more anxiety than chromatic cards. This result may indicate that shading properties of the achromatic cards may be more anxiety producing. No Rorschach determinants were able to distinguish between high and low trait anxiety groups.

Apparently it is most useful to differentiate between state and trait anxiety. The Rorschach cards do elicit different levels of anxiety states but further research would be helpful in deciding if serial position affects the anxiety reactions or if the cards have some consistent anxiety producing properties regardless of their position. Also additional research would be helpful in assessing what factors, such as psychotherapy, alter trait anxiety scores.
Methods of assessing anxiety have occupied investigators for years. Freud commented:

You will not be surprised to hear that I have a great deal of new information to give you about our hypotheses on the subject of anxiety and the fundamental instincts of the mind, and also that none of this information claims to provide a final solution to those doubtful problems (Freud, 1933).

The final solution to the proper definition and assessment of anxiety has not, in the last 38 years, been reached; however, anxiety remains the most salient concept used in the explanation of human behavior both in clinical practice with disturbed individuals and normal persons. The definition of anxiety finds its roots in philosophy and religion with insights of Pascal, Spinoza and Kierkegaard. "Anxiety involves inner conflicts; this is another consequence of self-awareness. . . . Anxiety is afraid yet maintains a sly intercourse with its object (Kierkegaard, 1944)."

Any attempt to define anxiety must begin with the statement that anxiety is a natural phenomenon which an individual experiences when values essential to his existence, his sense of being, and his identity are threatened. Anxiety is to be distinguished from fear in which threat is peripheral, the exactness of the sense of being is not threatened, the danger is objective, and the individual can evaluate it and can act either in terms of fight or flight in coping with it (Arieti, 1959).
May (1950) quotes Mowrer as saying, "there is at present no experimental psychology of anxiety, and one may even doubt whether there will ever be." However, when examining the literature, one doubts Mowrer's conclusion because more than 1500 studies have been indexed under the heading "anxiety" in Psychological Abstracts since 1950 (Spielberger, 1966).

As one psychology professor once stated, "If you were to remove from a psychologist's office all books which had the word "anxiety" in them, how many books would you have left on the shelves?" According to Sarason (1966), we are not aware of any systematic conception of personality, particularly with regard to its development, which does not give the concept anxiety a role of great, if not central, significance. Anxiety is one of the most important concepts in psychological theory: it plays an important role in development of personality as well as in the dynamics of personality functioning. Moreover, it is of central significance in the theory of neuroses and in treatment of pathological conditions (Hall, 1954).

Hoch and Zubin (1950) state that if anxiety could be controlled by biological or social means, fundamental alterations in organization of our civilization would ensue and the probability of individual happiness would be greatly enhanced. Overall, anxiety is the most pervasive psychological phenomenon of our time.

In order to define and explain anxiety more extensively, the part anxiety plays in psychoanalytic theory, neo-Freudian theory, learning theory and physiological theory is included in the following discussion.
Theoretical Approaches to Anxiety

Theoretical definitions of anxiety are needed to make the concept amenable to measurement and promote new hypotheses which can be tested experimentally. The following theories on the basis of anxiety probably contribute most to research and conceptualization of the concept.

Psychoanalytic Theory

Sigmund Freud's contributions to the definition of anxiety were imaginative and helpful, yet somewhat ambiguous. Some of the ambiguity results from the fact that Freud's position underwent drastic alteration some 30 years after establishment of psychoanalysis (Levitt, 1967). Freud's new views were stated in The Problem of Anxiety (1923). Anxiety "is a specific state of unpleasure accompanied by motor discharge along definite pathways... a signal of danger."

Freud distinguished three types of anxiety which differed in terms of source or provocation. Real or objective anxiety had its source in the external world and was directly related to the threat posed by the feared object, situation or person.

Neurotic anxiety was also characterized by feelings of apprehension and physiological arousal, but its source of danger was the individual's own internal impulses rather than some external event. Neurotic anxiety was experienced when psychological defenses were unable to prevent threatening impulses awareness. Neurotic anxiety has a basis in reality, because the world as represented by the parents
and other authorities does punish the child for impulsive actions (Hall and Lindzey, 1957).

Moral anxiety is fear of the conscience. An individual with a strong super-ego will tend to feel quite guilty when he does something contrary to moral codes developed in the past. However, moral anxiety also has some realistic basis because the individual has been punished in the past for violating the moral code.

**Neo-Freudian Theory**

Neo-Freudian theorists such as Harry Stack Sullivan, Karen Horney and Erich Fromm also wrote considerably on the concept of anxiety. In a sense, Neo-Freudians emphasized less biological and instinctual factors and stressed the importance of the cultural, environmental or social factors in determining personality.

As Levitt (1967) stated, the process of socialization begins as soon as the minimum amount of ego has developed. Parents enforce social mores and values with clear restrictions on overt expression of impulses by means of punishment and threats of withdrawal of approval. This threat to dependency needs evokes anxiety and forces the child to conform to parents' wishes in order to reduce anxiety. Therefore, persons whose developmental process was frequently in turmoil would be more anxiety prone for future situations.

Sullivan's position is quite clear. The developing individual is always concerned with one fundamental problem: the adequately human achievement of need satisfaction. "I must have or do this, but in so doing or having, I must not incur your disapproval of my being."
Sullivan believed that high levels of anxiety reduced the efficiency of the individual in gratifying his needs, disturbed interpersonal relations, and produced confusion in thinking. Further, Sullivan stated that one of the great tasks of psychology is to discover the basic vulnerabilities to anxiety in interpersonal relations (Hall and Lindzey, 1957).

Therefore, Neo-Freudians believed that anxiety originated in the process of socialization and that it cannot arise before the child has awareness of his environment.

**Learning Theory**

Learning theory attempts to test experimentally psychoanalytic principles, in part. Perhaps Dollard and Miller (1950) were most significant in defining the objectives of learning theorists. In learning theory, motivating forces are called drives. Primary drives are hunger, thirst and sex. More influential drives are secondary or acquired during the existence of the organism through the learning process. The acquisition of drives is mediated by reward and punishment, i.e., reinforcement (Levitt, 1967).

According to Dollard and Miller, anxiety is a powerful secondary drive. This learned drive is based upon an innate tendency to avoid pain. Individuals who have been exposed to more fears are thus more likely to have a high predisposition to anxiety later in life partly through the principle of stimulus generalization. However, this principle has been questioned. From a review of studies of the role anxiety plays in learning theory, Murray (1969) reported that
chronic anxiety level is unrelated to stimulus generalization.

**Physiological Theory**

No theory of anxiety should ignore physiological indicants of anxiety. May (1950) devoted a chapter to the biological interpretation of anxiety with particular emphasis to the holistic theory and approach of Kurt Goldstein (1959). Goldstein states, . . . if we observe someone in a state of anxiety we can disclose characteristic bodily changes as well as certain expressive movements of the face and body, and certain states of physiological processes, motor phenomena, changes of pulse rate, and vasomotor changes, etc. We certainly have no reason to exclude these changes from an investigation of the phenomenon of anxiety.

Carrying theoretical assumptions further, Funkenstein et al. (1957) differentiated physiological effects of anger as compared with anxiety. The physiological reaction accompanying anger is a norepinephrine-like reaction, while that accompanying anxiety is an epinephrine-like reaction. Specifically, Funkenstein noted that heart rate, palmar conductance and respiration rate increased more in fear and anxiety than in anger.

The various theories briefly mentioned have attempted to define anxiety and hold in common that the emotion is characterized by feelings of apprehension and tension with concommitment heightened autonomic nervous system activity. According to Spielberger (1969), research on transitory anxiety has focused upon delineating the general properties of anxiety states and identifying the specific conditions that evoke them. From a review of the literature, Krause (1961) concluded that transitory anxiety is typically inferred from (1) introspective verbal
reports; (2) physiological signs; (3) molar behavior such as body posture, restlessness, distortions of speech; (4) interruption of task performance; and (5) clinical intuition. These inferences as to the presence of anxiety lead to attempts to measure the concept.

The following discussion will consider various techniques used to assess anxiety. Specifically, the discussion will include physiological measures, objective psychological measures and a review of projective measures.

A more extensive review of the State-Trait Anxiety Inventory and Rorschach test is included since these two instruments were used in the present investigation.

**Techniques Used to Measure Anxiety**

Once defined, anxiety is subjected to experimental measurement. Because of the vast number of operational definitions of anxiety, many instruments are available. Cattell and Scheier (1958) reported more than three hundred proposed definitions of the construct. The foregoing presentation will discuss briefly the two classes of measures frequently used by experimenters: Physiological indicants of anxiety and psychological tests.

**Physiological Indicants of Anxiety**

Skin conductance has traditionally been considered a physiological index of anxiety along with respiratory volume according to Ralphelson (1951). Morgan (1965) reported that under intense emotions, such as rage, fear or anxiety, specific physiological changes take
place: heart rate increases, blood vessels constrict, blood pressure rises, sweat gland activity increases, pupils of the eyes dilate, and profound changes in respiration take place. However, according to Levitt (1967) physiological measures are seldom found to be related either to each other, or to psychological indices of anxiety, or to intensity of stress. The best that we can surmise is that patterns of physiological reactivity to anxiety are idiosyncratic, a condition which renders them unsuitable for use at the current stage of research on anxiety. The present author agreed with Levitt and found (1968) that polygraph measures of blood pressure, heart rate, respiration rate and electrical conductance were unreliable and variable. Perhaps the extreme lability of these measures, which seem to be affected more by the conditions extraneous to the experimental procedure, causes them to be unreliable. For example, polygraph measures to assess anxiety are highly susceptible to changes in temperature, any movement of the body or vary with great individual differences.

Psychological Indicants of Anxiety

The Inventory or Questionnaire

Essentially, inventories consist of a series of items (statements, questions) which are descriptive of the way in which a person may feel or think about himself or his world. The popularity of the inventory is related to its research advantages: it can be easily administered and scored, does not require highly skilled clinicians to administer it, and can be used in group testing situations.
Disadvantages of inventories that use true-false responses are the effect of response set and acquiescence phenomenon. Also, people tend to give socially desirable answers to psychological tests. Many people would respond falsely to an item, "I sometimes feel like killing my mother" regardless of how they felt. The effect of response sets and socially desirable answers can be reduced by administering inventories to persons voluntarily, ones whose future, such as job applicants, does not hinge on responses and those who take inventories anonymously. Most important since the development of initial anxiety inventories (Taylor, 1953; Mandler and Sarason, 1952) is the volume of research on anxiety (Levy, 1961). The following is a brief look at some anxiety measures.

Taylor Manifest Anxiety Scale (MAS). Janet Taylor developed one of the first anxiety inventories to be widely used. The MAS items were taken from the Minnesota Multiphasic Personality Inventory in an effort to delineate clinical anxiety as determined by judgments of expert clinicians. It is a true-false inventory which measures predisposition to anxiety rather than an immediate state. Therefore it does not correlate highly with physiological measures of anxiety.

In spite of voluminous criticism of the MAS, most researchers continue to use the self-report inventory for investigating anxiety. Hoyt and Baron (1959) divided subjects into high and low anxious groups by means of the MAS to assess differences in same sex figure drawings. According to Hoyt and Baron, it was apparent at the outset of their study that there might be little correspondence between
anxiety, clinically diagnosed, and manifest anxiety, as measured by the Taylor scale. Therefore, the validity of the Taylor MAS in clinical situations and research paradigms is in question.

Questionnaires rely on subjects' introspective report of anxiety and the only admissible distinction between subjects who report and subjects who do not report anxiety experiences is on the basis of the effectiveness of their defenses (Rosenwald, 1961). Using several objective measures of anxiety under different conditions of motivation, Davids (1955) concluded that the Taylor Manifest Anxiety Scale may be even more susceptible to deception than other objective methods of assessing anxiety. Because of the quick time in administration and scoring and because the Taylor MAS has been used more or less traditionally, many researchers and clinicians continue to use it in spite of its disadvantages.

**Minnesota Multiphasic Personality Inventory Scales (MMPI).**

Modlin (1947) suggested the use of a combined score of MMPI's Hypochondriasis (Hs), Hysteria (Hy) and Depression (D) scales for assessment of anxiety. A similar scale by Purcell et al. (1952) substituted the Psychasthenia (Pt) scale for Hy reducing item overlap.

Welsh proposed two scales. One was derived from factor analytic techniques (Dahlstrom and Welsh, 1960) and resulted in a 39-item scale of anxiety. The Anxiety Index (Welsh, 1952) used differential weighting of the Hs, Hy, D and Pt scales. The premise of the MMPI scales or indices is that no single score on any given variable is to be interpreted by itself but in relation to other scores or
patterns. Configural scoring (Meehl, 1954) is needed to take account of possible patterning of items within a test. The problem of depicting patterns has not been completely successful, although there have been some useful proposals (Cronbach and Gleser, 1953). Other studies have shown that configural methods do not provide any improvement over conventional procedures (Michael, 1959; Yandell, 1955).

Cattell's IPAT Anxiety Scale. Cattell and Scheier (1961) have used multivariate techniques to define and measure anxiety states. In their research, both phenomenological and physiological variables presumed to be related to anxiety have been studied with factor analytic procedures which investigated the covariation of a number of different measures over time (Spielberger, 1969). The Institute for Personality and Ability Testing identified 16 personality traits. A number of these trait measures appeared to be measuring anxiety and were related to psychiatric evaluation of anxiety in individuals. The IPAT scale purports to measure "free-floating," manifest anxiety which means anxiety proneness or a continuing state or trait anxiety.

Affect Adjective Check List. Zuckerman (1960) and Zuckerman and Lubin (1965) developed an inventory in which a subject endorses various adjectives to describe himself. The major disadvantage of the check list is that responding involves vocabulary level and verbal fluency. A person who uses a wide vocabulary is likely to check more adjectives thereby increasing his score. Further, check lists can easily be "faked" in that the respondent can simply omit any
descriptions of self he does not wish to give. Since these scales rely heavily on their face validity, their usefulness is limited in research (Gough, 1960).

**State Trait Anxiety Inventory (STAI).** It is most helpful and theoretically more sound to be able to measure either situational anxiety or anxiety proneness with the same instrument. Such a measure had not been developed until the State Trait Anxiety Inventory (1968). The STAI consists of 20 self-descriptive statements to which the respondent checks on a five point scale of intensity of feeling, condition or experience.

According to Levitt (1967), the STAI is the most carefully developed instrument, from both theoretical and methodological standpoints, of the anxiety inventories. Essentially, a measure of trait anxiety should be stable and consistent. A measure of state anxiety should be sensitive to stress situations. Trait scores should be correlated with increase in state scores under stress for a given group of subjects.

Since the STAI is to be used in the present investigation, a more extensive review is provided. Spielberger and Gorsuch (1966) and Spielberger, Gorsuch and Lushene (1968) developed the test to provide a reliable, relatively brief measure of both state and trait anxiety. A copy of the questionnaire is included in Appendix A.

According to Spielberger, et al. (1969), trait anxiety (A-Trait) refers to relatively stable individual differences in anxiety proneness, that is, to differences between people in the
tendency to respond to situations perceived as threatening with elevations in state anxiety intensity. Therefore, trait anxiety is the predisposition or readiness to respond anxiously to certain situations. A-State or state anxiety is a transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system activity. As Spielberger reported, anxiety states may vary in intensity and fluctuate over time.

Normative data for the STAI are available for large samples of college freshman (N=982), undergraduate college students, high school students, neuropsychiatric patients, general medical and surgical patients, and young prisoners.

Reliability for the STAI included test-retest correlations ranging from .73 to .86 for the A-Trait scale. Different subgroups of subjects were retested after periods of one hour, 20 days, and 104 days. A-State scale test-retest correlations ranged from .16 to .54 with a median correlation of .32. The lower correlation for the A-State scale was expected to reflect the influence of situational factors.

Alpha coefficients or measures of internal consistency for the STAI ranged from .83 to .92. Alpha reliability coefficients were higher for the A-State scale when given under conditions of psychological stress. Alpha reliability of the A-State scale was .92 when administered to a group of college males immediately after a difficult intelligence test, and .94 when given immediately after a distressing film.
Test-retest reliability (stability) of the STAI A-Trait scale is high, but stability coefficients for the STAI A-State scale are low, as expected. Both A-Trait and A-State scales have a high degree of internal consistency. Under stressful conditions which induce high levels of state anxiety, alpha reliability and item-remainder correlations for individual A-State items tend to be higher than when the A-State scale is administered under relaxed circumstances.

Evidence of concurrent validity of the STAI A-Trait scale is its correlation of .75 with IPAT anxiety scale (Cattell and Scheier, 1963); .80 with the Taylor Manifest Anxiety scale and .52 with Zuckerman's Affect Adjective Check List using both male and female college undergraduates. Concurrent validity of the A-State scale was achieved by using 977 undergraduate college students who were instructed to report how they would feel "just prior to the final examination in an important course." Point biserial correlations were higher for the EXAM condition students as compared to others not given exam instructions.

Further, the A-State scale was given to 197 students after conditions of relaxation, examination and viewing a stressful movie. A-State scores were significantly different for stressful versus non-stressful conditions.

The correlation between the STAI A-State and A-Trait scales varies with the type and amount of stress in a particular situation.Correlations between A-State and A-Trait scales varied between .44 and .55 when the STAI was given to four samples of undergraduate
female students; correlations between A-Trait and A-State scales for males was between .51 and .67. In general, larger correlations are obtained between A-State and A-Trait scales under stressful conditions which pose some threat to self-esteem or under circumstances in which personal adequacy is being evaluated.

Correlations between A-State and A-Trait scales tend to be lower when measurements are obtained in situations characterized by physical danger. Changes in A-State evoked by threats of physical danger are relatively unrelated to level of A-Trait (Hodges, 1967; Hodges and Spielberger, 1966; Lamb, 1969). State-trait anxiety correlations were usually higher when scales were given in the same testing session, but correlations were much lower if subjects were exposed to, or threatened by, physical danger.

The STAI and Personality Research Form (PRF) (Jackson, 1967) were given to 162 undergraduate clients who reported at a State University Counseling Center for educational and vocational problems or because of emotional problems. For both groups of clients, significant positive correlations were obtained between A-Trait scale scores and PRF aggression and impulsivity scales, and there was a significant negative correlation with the PRF endurance scale.

The STAI and Mooney Problem Check List (Mooney and Gordon, 1950) were given to 160 college undergraduates. The STAI A-Trait scale correlated significantly with each problem area on the Mooney, while correlations between the A-State scale and the Mooney were lower. The finding, according to Spielberger (1969), indicates that high
A-Trait scores in college students are associated with reports of a larger number of problems in almost every area of adjustment as measured by the Mooney Problem Check List and suggests that students disposed to experience anxiety in their interpersonal relationships develop problems in many areas.

Projective Techniques

Probably the best known and most widely used projective technique is the Rorschach Inkblot Test. The advantage of the projective technique is that the subject rarely can "fake good" or easily conceal his anxiety. Difficulties involve interpretation of responses, quantification of data, and prolonged administration time by highly trained examiners. Responses usually have to be considered in terms of the idiocyncracies of the subject population. Even when responses can be quantified there is uncertainty as to how to handle them statistically. Further, group administration of projective techniques loses much of their intended value. However, in spite of the disadvantages, projective techniques yield a wealth of valuable information as to the nature of anxiety.

The Rorschach test is typically used to assess anxiety experimentally by analyzing the content of responses, such as the method developed by Elizur (1949). Elizur's method used a three point scoring system to analyze percepts for anxiety or hostility. Another popular method of assessing anxiety with the Rorschach is the use of determinants as indicators of the presence of anxiety (Neuringer, 1962).
Review of Research Using Anxiety Measures

A typical paradigm in current empirical research on emotion involves manipulation of experimental conditions designed to influence a particular emotional state, and observation of the effects of these manipulations on behavioral and physiological responses that supposedly reflect changes in emotional state (Spielberger, 1969). It is important to consider an individual's appraisal of a particular situation since it will greatly influence his reaction to it. The present review will concentrate on the State Trait Anxiety Inventory and work done with the Rorschach test since these two instruments were used in the present study.

It seems useful and necessary to a sound theory of anxiety to distinguish conceptually and operationally between anxiety as a transitory state and as a relatively stable personality trait. Further, according to Spielberger (1966), a comprehensive theory of anxiety must differentiate between anxiety states, stimulus conditions that evoke these states, and defenses that serve to avoid or ameliorate them. Cattell (1957), Zuckerman (1960) and Spielberger (1966) have most adequately differentiated between an individual's state of anxiety and his anxiety trait. Traits are personality characteristics that the individual manifests at different times (Anastasi, 1970).

State anxiety (A-State) may be conceptualized as a transitory emotional state or condition that varies in intensity and fluctuates over time. Level of A-State should be high in circumstances that are perceived as threatening regardless of objective danger. Trait
anxiety (A-Trait) refers to relatively stable individual differences in disposition to perceive a wide range of stimulus conditions as dangerous or threatening. A-Trait may also be regarded as reflecting individual differences in the frequency and intensity with which A-States have been manifested in the past, and in the probability that these states will be experienced in the future (Spielberger, 1970).

People who are high in A-Trait tend to perceive more situations as threatening and respond with A-State elevations of greater intensity.

Atkinson (1964) postulated that a "fear of failure" motive would be reflected in measures of A-Trait while Sarason (1960) emphasized the significance of situations which arouse self-depreciating tendencies in persons high in A-Trait. Therefore, persons high in A-Trait appear to be more sensitive to situations in which personal adequacy is being observed. Also, situations that are characterized by physical danger are not interpreted as more threatening by high A-Trait subjects.

Spielberger explained individual differences in A-Trait by assuming that residues of past experience dispose high A-Trait persons to appraise situations as threatening to their self-esteem.

According to Gorsuch (1969), trait anxiety probably changes only as a function of changes in state anxiety. By giving college students the trait scale of the STAI initially, Gorsuch then administered the state scale at the beginning of each class period for four weeks. At the end of the four week period, the trait scale was
given again. Gorsuch concluded that increases in trait anxiety had higher states of anxiety immediately before testing than those who showed no increase in trait anxiety. Only conditions producing major state anxiety changes over time should lead to major changes in trait anxiety.

Hodges (1967) presented undergraduate students with two stress conditions: failure-threat and shock threat. In the failure threat situation, as defined as feedback on an examination, Hodges found that magnitude of change in state scores was greater for subjects with high levels of trait anxiety. For subjects in the shock threat condition, increases in A-State were not related to A-Trait.

Also using college students, Sachs and Diesenhaus (1969) investigated effects of examination stress on scores on the STAI scales of undergraduates. The STAI was administered during a regular class period (nonstress condition) and readministered prior to the final examination for the course (stress condition). Mean A-State score in the stress condition was significantly higher than the mean for nonstress condition. There was also a slight decrease in A-Trait scores which was interpreted as a tendency of subjects to obtain lower scores on repeated administration of personality measures (Windle, 1954). Sachs and Diesenhaus (1969) later concluded that order of administration of the STAI is not relevant.

Sachs (1969) studied the relationship between scores on the STAI and performance on an embedded figures test and a hidden figures test. He found that persons high in trait anxiety are less aware of
their environment and more preoccupied with their own thoughts.

Lamb (1969) investigated the effects of stress on measures of state and trait anxiety for college students enrolled in a public speaking class. He discovered that A-State scores and heart rate increased markedly from pre-speech rest periods to a period in which subjects were called upon to speak. Lamb interpreted the stress as ego threat which predisposes high A-Trait persons to respond with higher anxiety states. In a similar study, Hodges and Felling (1970) found that trait anxiety scores did not correlate with factors involving speech and classroom participation.

Johnson and Spielberger (1968) also reported that scores on A-State were significantly correlated to systolic blood pressure and scores on the Affect Adjective Check List. Further, A-State scores declined significantly in response to relaxation training. Relaxation training had no influence on A-Trait scores.

Auerback (1969) studied the effects of orienting instructions and feedback about performance on level of A-State for college undergraduate males. Subjects with high and low A-Trait scores were told that they would be given an intelligence or a practice test. During the task, the two groups were told that they were succeeding or failing on the task. Orienting instructions had no effect on A-State scores, regardless of level of A-Trait or type of feedback about performance. Failure feedback significantly increased levels of A-State. Largest increments in A-State were found for high anxious (trait) subjects who received failure feedback.
McAdoo (1969) divided subjects into high and low trait anxiety groups and gave them conditions of success, mild failure, and strong failure feedback on a memory task. Success feedback lowered level of A-State intensity with low confidence subjects showing greater decrements in A-State. Strong failure feedback increased level of A-State with high A-Trait subjects. Mild failure feedback appeared to have little effect on A-State for the low A-Trait scorers, but produced large decrements in A-State for high A-Trait subjects.

Using the STAI with undergraduate students, O'Neil, Spielberger and Hansen (1969) evaluated the relationship between state anxiety and performance on a computer-assisted learning task. They reported that A-State scores and systolic blood pressure increased while students worked on difficult learning materials and decreased when they responded to easy materials. The same pattern of change was observed in five-item A-State scales placed within the learning materials. Subjects with high A-State scores made more errors on the difficult materials.

In a follow-up study, O'Neil, Hansen and Spielberger (1969) investigated performance of high and low A-Trait subjects on computer-assisted learning tasks. They concluded that both A-Trait and A-State should be considered in investigations of effects between anxiety and learning.

Further, O'Neil (1969) investigated the effects of stress and performance on computer-assisted learning for college females with extreme (high and low) scores on the STAI A-Trait scale. O'Neil
found that high A-Trait subjects responded with greater initial increments in A-State intensity than low A-Trait students. The high A-Trait subjects also showed a greater decline in A-State during the learning task as compared to low A-Trait subjects whose mean A-State scores remained the same. As expected, high A-State students made more errors in the learning task.

Hodges and Spielberger (1969) investigated performance of high versus low trait anxiety subjects, as measured by the Taylor MAS, on the digit span subtest of the Wechsler Adult Intelligence Scale. State anxiety was measured by the Affect Adjective Check List. The authors found that subjects reporting high levels of state anxiety showed significant decrements in digit span performance. Therefore, trait anxiety at some level facilitates performance while high state anxiety disrupts performance on tasks such as the digit span of the WAIS.

Graham (1969) interviewed two groups of committed schizophrenic patients. One group was given a series of pictures of two persons interacting. The second was asked to respond to verbal descriptions of the same pictures. Graham attempted to discover if there was any difference in anxiety level between the two groups as measured by the STAI A-State scale administered immediately following the interview situation. The results suggested that the STAI was potentially useful for evaluating anxiety level experienced by persons as they are responding to projective techniques such as the Rorschach Inkblot test of Thematic Apperception Test.
Edwards (1969) used the STAI and Holtzman Inkblot Test to investigate emotional factors associated with a group of 53 unmarried, primiparous women. Women who later had obstetric complications increased in A-State four weeks prior to delivery.

Parrino (1969) studied the effects of different kinds of pre-therapy information on therapeutic outcome for snakephobic patients. Parrino concluded that there is a conceptual difference between state and trait anxiety and that situational factors brought about through operant therapy would decrease A-State, but not A-Trait anxiety scores.

Research findings suggest that the most viable theory of anxiety must include a differentiation between state and trait anxiety. In summary, state anxiety may be conceptualized as a transitory emotional state or condition of the human organism that varies in intensity and fluctuates over time. This state is characterized by subjective, consciously perceived feelings of tension and apprehension, and activation of the autonomic nervous system. Level of state anxiety should be high in situations perceived as threatening, regardless of objective danger.

Trait anxiety refers to relatively stable differences in anxiety proneness or the differences in disposition to perceive a wide range of stimulus situations as dangerous or threatening. Further, persons high in trait anxiety tend to perceive a larger number of situations as more dangerous or threatening than persons low in trait anxiety (Spielberger, 1969).

Research findings using the Rorschach Inkblot test to assess
anxiety have usually been somewhat ambiguous as to whether state or trait anxiety is being measured. Sarason (1950) reported that high anxious subjects, as defined by high scores on the Taylor Manifest Anxiety Scale, rejected more cards, gave fewer responses (low R), gave more anatomy responses, and responded less to color.

The primary purpose of a study by Hammes and Osborne (1962) was to evaluate the capacity of the Structured Objective Rorschach test to discriminate low and high manifest anxiety in a college population using 235 subjects. Dd and S (white space) variables were the only variables sensitive enough to discriminate between the subjects. Consensus holds that anxiety indicators on the Rorschach test are low scores on R (total productivity or number of responses), W (whole percepts), P (popular percepts), M (movement responses) and Sum C (total of responses determined by color of card). High scorings on Hd (partial human responses, Dd (responses of rare detail), A (animal responses) and Sum Y (responses determined by shading) are indicative of anxiety (Levitt, 1957). According to Waller (1960), there may be some relationship between anxiety and the use of shading, but methods presently used are not sensitive enough in many instances to measure it.

In an attempt to correlate physiological measures of respiration rate, blood pressure and galvanic skin response to Elizur's anxiety scoring of Rorschach responses, Coco (1968) found no significant correlation between physiological and psychological measures of anxiety. However, differences in reaction to the ten Rorschach
stimulus cards were noted. As Lichtenstein (1969) reported, 40 males of college level were divided into high and low anxious groups using the Taylor Manifest Anxiety Scale. Reaction times differed significantly for both high and low anxious subjects when red cards followed black ones. Apparently color shock anxiety appears only when red-black cards follow black-grey ones.

Yarnell and Dawson (1968) found that significant differences between achromatic and chromatic Rorschach cards existed. These investigators reported that subjects looked at chromatic cards longer, ranked them as more preferred and as more complex.

In summary, the Rorschach test could be a valid measure of anxiety if one could determine differences between high and low trait anxious subjects' Rorschach responses. In the present study, it is suspected that high trait anxious subjects will have less R (total number of responses), less W (whole percepts), less M (movement responses) and less C (responses determined by color). Also, it is suspected that high trait anxious subjects will have higher number of Y (responses determined by shading properties of the cards) and more Dd (responses determined by rare details of the card). It might also be suspected that high trait anxious subjects would have lower F plus % scores or less responses of good form level than low trait anxious subjects.
METHOD

Subjects

Subjects were one hundred ninety-five female nursing students from Charity Hospital School of Nursing, New Orleans, Louisiana. Subjects' ages ranged from 18 to 20 years.

Instruments and Assessment Measures

The State-Trait Anxiety Inventory A-Trait scale (Appendix A) was used to select subjects high and low on trait anxiety. Further, the Rorschach Inkblot test was used and brief state anxiety scales (Spielberger, 1970).

Procedure

Phase I.

Subjects asked to volunteer for the investigation were drawn from all first and second year nursing students at Charity Hospital School of Nursing. One hundred ninety-five students volunteered to take the STAI A-Trait scale for initial screening purposes. Scores ranged from 24 to 73. Following administration of the A-Trait scale, the 30 highest and 30 lowest scorers were asked to participate in Phase II of the study.

Phase II.

Subjects were seen individually by a male examiner who administered the Rorschach Inkblot test with the following
modifications. Subjects viewed each Rorschach card for a standardized two minute period per card. Following each card a brief state anxiety scale was administered and inquiry information concerning responses to the Rorschach cards was gathered. After the tenth Rorschach card and state anxiety scale was administered, the STAI A-Trait scale was re-administered to allow pre- and post-experimental measures of trait anxiety.

The examiner administered the Rorschach test, state anxiety scales and A-Trait scales without knowledge as to subjects' placement in high or low trait anxiety groups. Two judges scored the 60 Rorschach protocols. The judges had training in scoring by the same professor and had approximately the same level of experience in administering and scoring Rorschach tests. Judges used the Beck scoring criteria (Beck, 1961).

Analysis

Pre and Post Experimental Trait Measures

It was hypothesized that A-Trait measures of anxiety would not change significantly from pre-experimental to post-experimental sessions. A Student's t-test was used for both the high and low trait groups to test any statistically significant change.

State Anxiety Scores in Relation to Trait Anxiety Level

To test the hypotheses that persons high in trait anxiety would have significantly higher state anxiety scores and to assess differences in state anxiety scores for each Rorschach card, an
analysis of variance, completely randomized design was used.

Differences in State Anxiety Scores for Rorschach Cards

Following an analysis of variance, orthogonal comparisons were used to test differences between the first five Rorschach cards and the second five cards. Also, orthogonal comparisons were used to test differences between chromatic and achromatic cards.

Rorschach protocols were explored to discover differences, in means per responses, for the high and low trait anxious groups.
RESULTS

Pre and Post Experimental Trait Measures

A-Trait anxiety measures were not significantly different from pre-experimental to post-experimental testing for either the high or low trait anxious groups (t= -1.75 for the low trait anxiety group and t=1.253 for the high trait anxiety group).

State Anxiety Scores in Relation to Trait Anxiety Level

Results of the analysis of variance for high and low trait anxiety groups on state anxiety scores for each Rorschach card are reported in Table 1. Table 1 shows that there was a significant difference between means of high and low trait anxiety groups (F=17.87**). Also, there were significant differences between state anxiety scores for the 10 Rorschach cards (F=14.16**). However, state anxiety scores for the 10 Rorschach cards were not significantly different for high trait anxiety and low trait anxiety groups. State anxiety means (for the 10 Rorschach cards) for high trait anxiety and low trait anxiety groups are reported in Table 2.

There is a linear relationship in state anxiety scores across the 10 Rorschach cards. State anxiety scores showed a decrease from Card I to Card X for both high trait anxious and low trait anxious groups.
TABLE 1

ANOV TABLE FOR TRAIT AND STATE ANXIETY SCORES ON ALL SUBJECTS ACROSS RORSCHACH CARDS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>599</td>
<td>6552.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trait (Level)</td>
<td>1</td>
<td>1117.94</td>
<td>1117.94</td>
<td></td>
</tr>
<tr>
<td>Subjects x Trait (Error A)</td>
<td>58</td>
<td>3628.72</td>
<td>62.56</td>
<td>17.87**</td>
</tr>
<tr>
<td>State (Level)</td>
<td>9</td>
<td>351.64</td>
<td>39.07</td>
<td>14.16**</td>
</tr>
<tr>
<td>Cards I, II, III, IV, V Vs.</td>
<td>1</td>
<td>159.14</td>
<td>159.14</td>
<td>56.57**</td>
</tr>
<tr>
<td>VI, VII, VIII, IX, X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cards I, IV, V, VI, VII Vs.</td>
<td>1</td>
<td>106.32</td>
<td>106.32</td>
<td>38.52**</td>
</tr>
<tr>
<td>II, III, VIII, IX, X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trait x State</td>
<td>9</td>
<td>13.62</td>
<td>1.51</td>
<td>.55</td>
</tr>
<tr>
<td>Residual (Error B)</td>
<td>522</td>
<td>1441.04</td>
<td>2.76</td>
<td></td>
</tr>
</tbody>
</table>

** .01 level of confidence
## TABLE 2

STATE ANXIETY MEANS FOR HIGH TRAIT ANXIETY AND LOW TRAIT ANXIETY GROUPS ACROSS THE TEN RORSCHACH CARDS

<table>
<thead>
<tr>
<th>Rorschach Cards (State Means)</th>
<th>Trait</th>
<th>State Means (Low &amp; High)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>I</td>
<td>10.133</td>
<td>13.000</td>
</tr>
<tr>
<td>II</td>
<td>8.800</td>
<td>11.767</td>
</tr>
<tr>
<td>III</td>
<td>8.433</td>
<td>11.400</td>
</tr>
<tr>
<td>IV</td>
<td>7.933</td>
<td>10.800</td>
</tr>
<tr>
<td>V</td>
<td>7.967</td>
<td>11.000</td>
</tr>
<tr>
<td>VI</td>
<td>7.867</td>
<td>10.633</td>
</tr>
<tr>
<td>VII</td>
<td>7.900</td>
<td>10.367</td>
</tr>
<tr>
<td>VIII</td>
<td>7.733</td>
<td>10.067</td>
</tr>
<tr>
<td>IX</td>
<td>7.700</td>
<td>10.633</td>
</tr>
<tr>
<td>X</td>
<td>7.967</td>
<td>10.067</td>
</tr>
<tr>
<td>Trait Means</td>
<td>8.243</td>
<td>10.973</td>
</tr>
</tbody>
</table>
Differences in State Anxiety Scores for the 10 Rorschach Cards

Individual orthogonal comparisons showed that the first five Rorschach cards elicited significantly higher state anxiety scores than the last five cards (F=56.57**). Also, Cards I, IV, V, VI, VII as a group elicited significantly higher state anxiety scores than Cards II, III, VIII, IX and X (F=38.52**).

Using Beck's scoring criteria for the Rorschach protocols, differences for high and low trait anxiety groups are reported, for the two judges, in Table 3. A student's t-test for differences between means of the greatest difference (t=3.27) was not significant.
<table>
<thead>
<tr>
<th>Determinants</th>
<th>R</th>
<th>W</th>
<th>D</th>
<th>Dd</th>
<th>M</th>
<th>FC</th>
<th>CF</th>
<th>C</th>
<th>FY</th>
<th>YF</th>
<th>Y</th>
<th>FV</th>
<th>FT</th>
<th>F+%</th>
<th>S</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Judge I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Trait</td>
<td>27.56</td>
<td>6.40</td>
<td>19.60</td>
<td>1.43</td>
<td>2.33</td>
<td>2.50</td>
<td>.166</td>
<td>.00</td>
<td>1.10</td>
<td>.00</td>
<td>.00</td>
<td>.57</td>
<td>.07</td>
<td>76.90</td>
<td>1.17</td>
<td>5.90</td>
</tr>
<tr>
<td>Low Trait</td>
<td>26.00</td>
<td>5.27</td>
<td>19.50</td>
<td>1.37</td>
<td>1.80</td>
<td>2.77</td>
<td>.133</td>
<td>.00</td>
<td>1.00</td>
<td>.00</td>
<td>.00</td>
<td>.83</td>
<td>.07</td>
<td>77.03</td>
<td>1.80</td>
<td>5.97</td>
</tr>
<tr>
<td><strong>Judge II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Trait</td>
<td>26.93</td>
<td>7.13</td>
<td>19.60</td>
<td>1.90</td>
<td>2.57</td>
<td>1.27</td>
<td>.30</td>
<td>.23</td>
<td>1.23</td>
<td>.17</td>
<td>.60</td>
<td>.00</td>
<td>.00</td>
<td>69.70</td>
<td>1.67</td>
<td>5.80</td>
</tr>
<tr>
<td>Low Trait</td>
<td>26.10</td>
<td>5.03</td>
<td>19.56</td>
<td>1.47</td>
<td>1.77</td>
<td>1.50</td>
<td>.63</td>
<td>.43</td>
<td>1.60</td>
<td>.10</td>
<td>.53</td>
<td>.00</td>
<td>.00</td>
<td>71.93</td>
<td>1.57</td>
<td>6.03</td>
</tr>
</tbody>
</table>
**DISCUSSION**

This study investigated the relationship between state and trait anxiety and the Rorschach test. After differentiating conceptually between state and trait anxiety: state anxiety as a transitory reaction and trait anxiety as a relatively stable personality characteristic, the interaction of these two concepts was also investigated. In order to affect changes in state anxiety for high and low trait anxious groups, the Rorschach test was used as a stimulus. From Spielberger's (1969) theoretical approach, one would expect trait anxiety to be relatively enduring and consistent if measured before and after an experimental situation; particularly one involving stress. This investigation supported this hypothesis. Measures of trait anxiety before and after the experimental sessions did not change significantly for either high or low trait anxious groups. These findings are in agreement with previous investigators (Parrino, 1969; McAdoo, 1969; O'Neil, 1969 and Johnson and Spielberger, 1968).

When persons vary in trait anxiety from extremely high to very low, one would expect the high trait anxiety group to obtain higher state anxiety scores under situations perceived as stressful or ego threatening such as taking a projective personality test. Indeed, this investigation supported this hypothesis.

State anxiety scores for the high trait anxious group were significantly higher than state anxiety scores for the low trait anxious
group. This result supports the notion that persons who are high in trait anxiety are more "anxiety prone" and more likely to react to situations with higher levels of state anxiety. These results were also reported by others (Sachs, 1969; Lamb, 1969; Auerback, 1969; McAdoo, 1969 and O'Neil, 1969).

Since the Rorschach test served as the stimulus in this study, protocols were scored formally, by two judges, using the Beck scoring criteria. However, no determinants such as total number of responses, number of shading responses, number of color responses or form level significantly differentiated high versus low trait anxiety groups. These findings imply that the Rorschach test is not particularly useful, in terms of scoring criteria only, for speculating about an individual's level of trait anxiety. However, what is important are the differential stimulus properties, in terms of eliciting state anxiety, of the 10 Rorschach cards. Apparently the cards are much more stressful in the beginning of the test. This result may reflect an adaptation phenomenon to the test as a whole: an individual becoming less threatened by the "blots" and more aware of what to expect than initially.

Another interpretation may be that the achromatic cards, which appear essentially at the beginning of the series, elicit more anxiety states in both high and low trait anxiety groups, than chromatic cards. Rorschach (1951) and later writers felt that "shading responses have something to do with the capacity for affective adaptability, but an anxious, cautious, unfree type of affective adaptation, a self-control
in the presence of others and particularly a tendency toward a basic depressive mood and the attempt to control this in the presence of others."

Since Rorschach's remarks, the literature on his test has distinguished a greater variety of shading responses than of any other determinant. In contrast to the variety of scores and of the meanings assigned them by various authors is the paucity of attempts to validate these meanings empirically or to develop a rationale that attempts to explain why they might have these meanings (Schachtel, 1966).

Klopfer (1954) believed that shading responses showed how the person deals with his need for affection; that shading creates in the testee some kind of "contact sensation" which evokes the need for basic emotional security and that the different types of shading responses represent different ways of handling this need.

According to Schachtel (1966), to experience the shading properties of the blot, the lack of stability, firmness, definiteness is typical of persons who are anxiety prone. On the test, the subjective experience of anxiety is characterized by a lack of hold, by mild or severe disintegration in form level and a disruption of the secure hold on one's place in relation to the environment, particularly to other people. The person prone to or actually experiencing anxiety seems to be especially susceptible to perceiving shading as diffusion, to be vulnerable to its objectless, nebulous, vague quality so similar to what he feels in himself when he is anxious.
Waller (1960) and others have speculated that anxiety states or reactions may be related to shading properties of the cards. Yarnell and Dawson (1968) concluded that chromatic cards were preferred and viewed longer suggesting that they are less threatening or stressful than achromatic cards.

Since the same reaction, in terms of state anxiety, appeared to the 10 cards for both the high and low trait anxiety groups, this lends more support to the finding that the first five Rorschach cards elicit the most state anxiety. Also, the achromatic cards are more anxiety producing than the chromatic ones. Rapaport (1946) considered cards IV, VI and VII which due to their prominent shading to stimulate more shading and anxiety responses. Rapaport stated that rather, diffuse, overt anxiety seems to make people particularly susceptible to the perception of things nebulous, foggy and diffuse; it decreases and impairs their capacity and energy for active grasp and structuring of their environment.

Additional research on the stimulus properties of the Rorschach test needs to be done. Further, this investigation might be modified by reversing the standard order of Rorschach card presentation to study if position affects state anxiety levels or if the cards, regardless of their position, elicit the same amount of state anxiety.

Clinically, this investigation sheds some light on the part anxiety plays in psychodiagnostic testing. It seems that it is extremely difficult to assess an individual's trait anxiety level by use of projective techniques such as the Rorschach test. This
investigation does not support the notion that scoring categories on
the Rorschach test offer valuable means for speculating about a person's
level of trait anxiety. Rather, the test appears to be more useful in
assessing anxiety states or reactions to the 10 cards: a task for
which the test was somewhat originally intended. However, to assume
that the test is completely projective is false. The individual cards
do apparently have varying anxiety producing properties regardless of
the subjects' own level of anxiety.

This investigation showed that it is almost necessary to dis­tin­

guish between state and trait anxiety clinically. It would be most
interesting to determine what situations do, in fact, alter trait
anxiety scores. For example, if one assumes that various forms of
psychotherapy change parts of a person's personality characteristics,
then it would be helpful to know if traditional forms of psychotherapy
would lower trait anxiety scores. Spielberger (1970) reported that
desensitization procedures lower state anxiety scores but are impervious
to trait anxiety scores. Perhaps lowering of state anxiety scores over
a relatively long period of time would eventually lower trait anxiety
scores.

Overall, since this investigation supported the state-trait
differentiation of anxiety, more research replicating earlier studies
seems indicated. Much of the literature on anxiety research has failed
to define or measure anxiety in a meaningful way. Scales and inven­
tories such as the State-Trait Anxiety Inventory open new possibilities
in the field of anxiety research as well as reinforce the idea of con­
structing new instruments to replace less adequate ones used traditionally.
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APPENDIX A

SELF-EVALUATION QUESTIONNAIRE

STAI-FORM X-2

Name ____________________________ Date ____________________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

21. I feel pleasant .............................................. 1 2 3 4
22. I tire quickly .............................................. 1 2 3 4
23. I feel like crying ............................................ 1 2 3 4
24. I wish I could be as happy as others seem to be ........ 1 2 3 4
25. I am losing out on things because I can't make up my mind soon enough .............................................. 1 2 3 4
26. I feel rested ................................................ 1 2 3 4
27. I am "calm, cool, and collected" .............................................. 1 2 3 4
28. I feel that difficulties are piling up so that I cannot overcome them .............................................. 1 2 3 4
29. I worry too much over something that really doesn't matter 1 2 3 4
30. I am happy ............................................ 1 2 3 4
31. I am inclined to take things hard .............................................. 1 2 3 4
32. I lack self-confidence ....................................... 1 2 3 4
33. I feel secure ............................................. 1 2 3 4
34. I try to avoid facing a crisis or difficulty ............ 1 2 3 4
35. I feel blue ............................................. 1 2 3 4
36. I am content ................................................. 1 2 3 4
37. Some unimportant thought runs through my mind and bothers me. ............................. 1 2 3 4
38. I take disappointments so keenly that I can't put them out of my mind. ............................. 1 2 3 4
39. I am a steady person ............................................ 1 2 3 4
40. I become tense and upset when I think about my present concerns. ............................. 1 2 3 4
SELF-EVALUATION QUESTIONNAIRE

Developed by C. D. Spielberger, R. L. Gorsuch and R. Lushene
STAI FORM X-1

Name ___________________________ Date ___________________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm ............................................ 1 2 3 4
2. I feel secure ............................................ 1 2 3 4
3. I am tense ...................................   1 2 3 4
4. I am regretful ............................................ 1 2 3 4
5. I feel at ease ............................................. 1 2 3 4
6. I feel upset ............................................... 1 2 3 4
7. I am presently worrying over possible misfortunes . . . .  1 2 3 4
8. I feel rested . ............................................. 1 2 3 4
9. I feel anxious. ............................................. 1 2 3 4
10. I feel comfortable. ........................................ 1 2 3 4
11. I feel self-confident .................................... 1 2 3 4
12. I feel nervous. ............................................. 1 2 3 4
13. I am jittery. ............................................... 1 2 3 4
14. I feel "high strung". ...................................... 1 2 3 4
15. I am relaxed. ............................................... 1 2 3 4
16. I feel content. ............................................. 1 2 3 4
17. I am worried. ............................................... 1 2 3 4
18. I feel over-excited and rattled .................. 1 2 3 4
19. I feel joyful  ............................................. 1 2 3 4
20. I feel pleasant ............................................. 1 2 3 4
VITA

Harold Byrd Coco was born on July 24, 1943 in Mansura, Louisiana, the eldest of three sons of Catherine Roy and Harold B. Coco.

After graduation from Marksville High School, Marksville, Louisiana, in 1961, he attended Louisiana State University, Baton Rouge, Louisiana and Loyola University, New Orleans and received a Bachelor of Science degree from Louisiana State University in 1966.

Since 1966, he has been a graduate student in the Department of Psychology at Louisiana State University and spent one summer quarter at Stanford University, Stanford, California. He completed all requirements for the Master of Arts degree in May, 1969. To assist in graduate studies, he has received a teaching assistantship and Veterans Administration Traineeship. He presently resides in New Orleans, Louisiana. He is a candidate for the Ph.D. degree at the summer commencement, 1971.
Candidate: Harold Byrd Coco

Major Field: Clinical Psychology

Title of Thesis: The Relationship Between Trait and State Anxiety and a Projective Personality Test.

Approved:

[Signatures]

Date of Examination: June 29, 1971