

EGO STRENGTH, DOGMATISM, AND ANXIETY
IN COLLEGE STUDENTS

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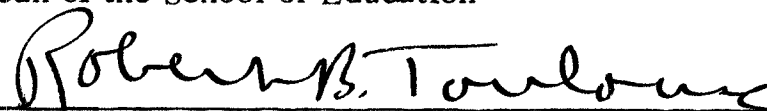
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EGO STRENGTH, DOGMATISM, AND ANXIETY
IN COLLEGE STUDENTS

THESIS

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CHAPTER I

INTRODUCTION

Theoretical Background

From the standpoint of the clinical psychologist, the customary approach to psychological illness is to seek out and explain those aspects of an individual's personality which distinguish him from others, those aspects of his personality structure which are considered "abnormal." There is another approach, however, which can be taken. Rather than seeking those aspects of personality structure which are adjudged to contribute to psychological illness, one could seek to discern and explain those aspects of personality structure which are indicative of and contributory to psychological health. In the long run, the approach of seeking to know determinants of psychological health would seem to be the more fruitful approach. If it could be known precisely what determines psychological health, then efforts could be directed towards building those attributes within individuals in the hope that psychological ills could be averted altogether.

In order that the psychological health of an individual might be ascertained, it is necessary that there first be established criteria for psychological health. Fromm (6) has offered a definition of psychological health. It is, in his words,

. . . characterized by the ability to love and create . . .
by a sense of identity based on one's experience of self

as the subject and agent of one's powers, by the grasp of reality inside and outside of ourselves, that is, by the development of objectivity and reason (6, p. 68).

Allen (1) offered as a measure of psychological health the concept of ego strength. Simply, ego strength refers to one's ability to cope with the problems of reality, to deal adequately and directly with problems which arise. He states,

. . . ego strength and mental health are very closely related. An ego strength scale would therefore measure the degree to which an individual's behavior and attitudes are in keeping with the realities of the objective situation. Such behavior is what we would characterize as realistic, mature, effective. . . . (1, p. 364).

Barron (3) has been a leader in the assessment of positive aspects of psychological health. He has presented psychological health as having a clear and positive image of one's self. It is also having the energy to recognize and implement the course of one's life. As part of this, one must have the feeling that one is free and that life and its outcome are in one's own hands.

Barron (2) has developed an ego-strength scale. In it, he outlines those attributes which he believes contribute to a sound, psychologically healthy personality. Those characteristics which the scale measures are (a) physical functioning and physiological stability, (b) psychasthenia and seclusiveness, (c) attitudes towards religion, (d) moral posture, (e) sense of reality, (f) personal adequacy, ability to cope, and (g) phobias, infantile anxieties.

Ego strength, then, is the choice of a criterion of what shall constitute a measure of psychological health. It is a measure of aspects of psychological health which are positive indicators of psychological health.

In each of the discussions of the criteria for psychological health, there appears mention of objectivity and a sense of reality. Barron, in particular, mentions attitudes toward religion. Implicit within each definition of psychological health are attitudes about politics and religion, attitudes towards one's relation to others, which are flexible rather than fixed, attitudes which are not dogmatic and rigid.

That the concept of dogmatism should have relevance for an investigation of psychological health rests upon the assumption that inflexibility of attitudes is not conducive to objectivity and a clear grasp of the relationship of self to others.

Rokeach defines dogmatism as

a.) a relatively closed cognitive organization of beliefs and disbeliefs about reality, b.) organized around a central set of beliefs about absolute authority which, in turn, c.) provide a framework for patterns of intolerance and qualified tolerance towards others (8, p. 195).

If, as Rokeach states, dogmatism represents a form of defense, then the organism must be defending itself from a sort of threat, real or imagined. Here, the concept of anxiety is brought into play. For an organism to feel threatened, is anxiety-producing. There is an apparent connection between anxiety and dogmatism. Indeed, anxiety has long been considered an indicator of psychological illness. The absence of anxiety, where there is no genuine basis for feelings of anxiety, would then seem to be another indicator of psychological health.

Goldstein (7) treats the concept of anxiety by saying, "Anxiety is the subjective experience of that danger to existence" (7, p. 91). He makes a distinction between anxiety and fear. Fear is directed toward an object; anxiety is not necessarily directed toward any object.

Cattell (4) makes a distinction between neuroticism and anxiety. Neuroticism is that which is present in the abnormal personality. Anxiety is a personality trait which is not necessarily characterized by abnormalities of behavior. Cattell states that there is a unitary anxiety factor, although there is evidence that a factor of anxiety vs. dynamic integration is a second order factor among several other factors. Among these other factors of which anxiety is itself a factor, are (a) lack of will control or poor self-sentiment integration, (b) anxious depression or superego susceptibility, (c) ergic tension or id pressures, (d) paranoid trend (protension), and (e) lack of ego strength.

Thus, there is a theoretical linking of the three concepts considered, ego strength, dogmatism, and anxiety. It would appear, therefore, that there should be a relationship between the three measures.

Statement of Problem

In keeping with the above theoretical background, it is anticipated that a relationship between ego strength, dogmatism, and anxiety exists. It is the intent of this present study to investigate the nature of the relationships which might exist between those three measures.

Hypotheses

The following are hypothesized for the present research:

- a. There will be a significant negative correlation between the scores observed on the Barron Ego Strength Scale and the Rokeach Dogmatism Scale.
- b. There will be a significant negative correlation between the observed scores on the Barron Ego Strength Scale and the Cattell IPAT Anxiety Scale.

- c. There will be a significant positive correlation between the observed scores on the Rokeach Dogmatism Scale and the Cattell IPAT Anxiety Scale.

In addition to the above purposes of this research, it is also proposed to investigate the relationship of each of the above variables to such other variables within the subjects of the research as age, sex, religious preference, political preference, and various group memberships. Since such variables as these are expected to influence and/or be influenced by ego strength, dogmatism, or anxiety, it is thought that an investigation of their relationship to these variables is of value to the understanding of these concepts.

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CHAPTER II

RELATED STUDIES

In the last several years, much work has been done in the three fields of ego strength, dogmatism, and anxiety. While there has been some work done on the relation of ego strength to anxiety and a small amount of work done on the relation of anxiety to dogmatism, there has been little done on the relation of ego strength to dogmatism.

Dristler, May, and Tuma (2) presented a study done on schizophrenic patients in which the theoretical viewpoint that patients manifesting greater anxiety are showing attempts at coping with their mental illness while patients manifesting lesser anxiety are not attempting to cope with their illness. On the basis of this theory, they hypothesized that patients manifesting greater anxiety would respond to treatment better than those manifesting lesser anxiety. In conjunction with this study, they also hypothesized that patients exhibiting greater ego strength would respond better to treatment. Using 100 first admission patients who had been diagnosed as schizophrenic, these authors administered the Taylor Manifest Anxiety Scale and the Barron Ego Strength Scale, along with other measures. Their hypotheses were not confirmed. They did, however, find significant interactions between sex and anxiety scores as indicators of therapeutic outcome. Women who tended to show higher anxiety tended to show better therapeutic outcome. Men, conversely, who tended to show lower anxiety tended

to show better outcome in therapy. The reversed direction of these results was presumed to be accounted for by a social factor operant in the responses of the men. It was thought that men had a need to present a picture of psychological health and independence, while women were more willing to admit weaknesses and dependency.

Judy Page Van Evra and Rosenberg (3) reported a study conducted on sociopathic patients. They intended to show that two classes of sociopaths emerge according to the amount of anxiety which they exhibit. Also, they intended to show that these sub-classes differed not only on anxiety but also on ego strength. Using 98 white, male patients from a state psychopathic hospital, they administered the Minnesota Multiphasic Personality Inventory, from which they extracted manifest anxiety scores and ego strength scores, and the Edwards Personal Preference Scale. Ego-disjuncture scores were derived from the Edwards scale by a technique developed by Trehub, and neurotic triad scores were computed on the basis of Hs, D, and Hy scores on the MMPI. High and low anxiety groups were compared for differences in ego strength, ego-disjuncture, and neurotic triad scores. Statistically significant differences were found between high and low anxiety scorers on all of the three measures. This established a relationship between anxiety scores and ego strength scores.

McGinnis (8) conducted research on the effects of group therapy on ego strength scores. Using two groups, each composed of 21 white, male patients at Wichita Falls State Hospital, who were deemed to be free of psychosis or organic brain damage, who were admitted for treatment as alcoholics, he administered the Minnesota Multiphasic

Personality Inventory before and after experimental treatment. Matching the two groups of 21 subjects each according to ego strength, the experimental group was divided into three groups of seven men each for group therapy. After these 21 men had undergone group therapy and the control group none, the differences in post-treatment ego strength scores were found to be significantly higher for the experimental group. These results were interpreted to mean that the men who received the group therapy enjoyed better personality integration in therapy than did those not receiving group therapy.

Lucetta Stern (17) reported on a study relating ego strength to beliefs about the cause of illness. Subjects were 47 men afflicted with Parkinson's disease. Their beliefs about the causes of their afflictions were rated as mature or immature by two judges' opinions of the attitudes reflected in interviews with the men. In this study, while two measures of ego strength, the Ego Disjunction Scale and the Worcester Scale of Social Attainment, were found to distinguish between the mature beliefs group and the immature beliefs group, the Barron Ego Strength Scale did not. This study also reported to have found a factor of education in ego strength. There was also the suggestion that religion is a possible socializing agent which affects individual attitudes.

Sappenfield (15) obtained modified group Rorschach protocols of 45 students and scored them on a perceptual conformity variable, consisting of the extent of agreement with group consensus concerning perceived masculinity or femininity in blots and percepts. The perceptual conformity scores were found to correlate .387 with the Ego

Strength Scale. Another variable, proportion of popular responses, also correlated significantly with the Ego Strength Scale.

Pendersen (10) hypothesized that (a) ego strength is inversely related to the discrepancy between conscious and unconscious self-concepts, that (b) subjects with high ego strength will have greater unconscious concern for achievement than subjects with low ego strength, that (c) subjects with low ego strength will have greater unconscious concern for security than those with high ego strength. Witkin's rod and frame test, used to define ego strength operationally, and two forms of a sentence completion test, designed to measure various discrepancies between conscious and unconscious self concepts, were administered to 49 subjects. The second hypothesis was accepted, and the first and third were rejected.

Getter and Sundland (5) found no relationship between the Barron scale and improvement based on ratings by two of the patients' therapists at the time of termination of therapy or between scores on the scale and hours spent in therapy or acceptance of treatment. They did, however, find a $-.31$ correlation between the scale and age and a $.55$ correlation between the scale and sex, with males being the higher on the scale. They offer as an explanation for the higher scores of the males in the sample the fact that the males may be denying various physical or psychological weaknesses due to cultural pressures demanding that the male be strong.

A report of work done on personality differences between dogmatic and nondogmatic groups was presented by Plant, Teleford, and Thomas (12). They reported on a study conducted on 2,643 male and

1,863 female junior college students in one of the California junior colleges. Each subject was administered the Dogmatism Scale, the Modified California Psychological Inventory, the Allport-Vernon-Lindzey Study of Values, and the School and College Ability Test or its equivalent. The top and bottom ten per cent on the Dogmatism Scale from the male sample and the female sample were selected for separate studies by sex. High dogmatism scorers were shown to be significantly lower on sociability, self-control, achievement via independence, intellectual efficiency, responsibility, and the School and College Ability Tests for the male sample, as well as for the female samples. In an additional study, 110 males and 110 females were matched within one point of each other on the total raw score on the School and College Abilities Test with one of each pair scoring in the top 15 per cent of the dogmatism scale and the other in the bottom 15 per cent. This second method confirmed all of the results of the first method, finding significant differences between high and low dogmatics on each of the variables of the California Psychological Inventory previously mentioned. No differences were found in either methodological approach between high and low dogmatics on scales of the Study of Values.

Kaplin and Singer (7) administered sensory tasks to high and low dogmatism groups formed on the basis of scores obtained on the Rokeach scale. With 13 subjects in each group, significant differences were found between the two groups of an olfactory task, a gustatory task, a tactile task, an auditory task, and total sensory task scores. No significant difference was found on a visual task. Realizing the difficulty of insuring equality of tasks of this sort, the authors nonetheless

concluded that the high dogmatism group exhibited a trend towards being estranged or alienated from their own sensory impressions, especially in those predominantly autocentric modalities. They further concluded, on the basis of the differences of the two groups in comparing performance on autocentric and allocentric tasks, that the highly dogmatic are not only inferior to the low dogmatic in maintaining an open mind in regard to personal and autocratic experience, but also that the highly dogmatic are more closed-minded about objectifiable stimulation.

Ernestine Pannes (9) administered the Dogmatism Scale and the Bills-Silverman Index of Self Acceptance to 675 students in grades seven through twelve at a school in Connecticut. The administration was anonymous, and such additional factors as IQ, grade, and sex were considered. Surprising results showed small but significant positive correlation between dogmatism and self acceptance, $r = .083$, $P < .05$. They concluded that their results point out the need for educators to learn more about the self concepts of children and the role of dogmatism.

Zagona and Zurcher (21) administered the Dogmatism Scale to 517 freshman students in introductory psychology classes at the University of Arizona. The top 30 scorers on the scale and the bottom 30 scorers were placed, respectively, into two groups of discussion classes for their psychology course. The discussion sections are ordinarily a part of the program for all students taking the course. In addition to the dogmatism scores, the subjects' scores on the verbal subtest of the College Qualification Test and a 17 item

modified remote associations test to measure creativity, and the raw scores on their first mid-term test in psychology. The low dogmatism group was significantly higher on all three of the test variables, the verbal subtest, the remote associations test, and the mid-term test. Moreover, Zagona and Zurcher reported that from the beginning, the high dogmatism and the low dogmatism groups exhibited behavior which indicated that the two groups were composed of two basically different personality types. The high dogmatism group was characterized by unwillingness to relate, either to the subject matter of the course, the instructor, or the other students. Conversely, the low dogmatism group was characterized as being an instructor's dream. They related well to the course material; they had a cohesive group; they freely engaged in discussion and spirited but inquisitive debate. The authors concluded that the differences in the verbal abilities of the two groups were not due to intellectual factors alone but were also highly influenced by personality factors within group members.

Adams and Vidulich (1) designed and performed an experiment at Louisiana State University to discover the relationship between dogmatism and belief congruence in paired associate learning. A belief-congruent association is one held to be true by the person, e.g. "ball-round"; conversely, a belief-incongruent association is one held by the person to be false or incorrect, e.g. "ball-square." One of the factors of dogmatism pointed out by Rokeach is a severing of communications between systems of beliefs, what he calls cognitive isolation. With this in mind, the subjects of this study were expected to exhibit greater difficulty in learning incongruent relative to congruent

associations if they were high in dogmatism. Students at Louisiana State University in introductory psychology classes were used as subjects. There were 13 female and five male subjects in each of 2 groups, the 18 scoring above and the 18 scoring below the median on the Dogmatism Scale. The high dogmatism group, as expected, showed greater difficulty on the belief incongruent-associations tasks than did the low dogmatism group. The high group also showed greater difficulty with the incongruent tasks as opposed to congruent tasks, while the low dogmatism group showed no relative difference between task performance. The high dogmatism group was, furthermore, less proficient on the congruent task than was the low dogmatism group.

Gladstone and Gupta (6) conducted research on the relationship of the Dogmatism Scale to the Gulf Hypothesis. The Gulf Hypothesis is an index of one's feelings about his own country in relation to one's feelings about another country. The subject is asked to describe five things which he feels a good person would be most likely to do in any one week. He is then asked to estimate the percentage of persons in his own and in other countries who, he feels, meet these criteria of being good persons. For this study, 102 students in introductory psychology classes at Oklahoma State University and 119 students at the University of Delhi in India were administered the Rokeach scale and the Gulf Hypothesis test. There was no significant relation found between the two measures.

Riley and Armlin (13) reported that there are different interpretations of dogmatism between Rokeach and Porteus. The latter views dogmatism as related to rigid sets and habits while the former views

it as related to a fixed belief system. Riley and Armlin designed their study to determine whether rigid maze performance and a generally inflexible personality are related to each other. As subjects, 29 counselor trainees in a summer program were given the Dogmatism Scale during the first and last weeks of the program. The complete Porteus mazes were administered at the beginning of the program; maze XI was readministered following the complete series and again one month later. The sums of the two administrations of the Rokeach scale were used to determine high and low dogmatics. A significant difference at the .05 level was found between high and low dogmatics. High dogmatics were found to be the more rigid.

Ziller, Shear, and De Cencio (22) conducted a study to determine whether there was a relationship between dogmatism and a professional response set. The checking of a category "don't know" was determined as a response set in a task whereby clinicians and trainees as subjects of the study were required to render clinical judgements. The authors concluded that in making judgements of a highly subjective nature within the context of their profession, professional clinical psychologists as opposed to trainees in the profession, are more dogmatic. There was a significant difference between the frequency of the checking of the "don't know" category between clinicians and trainees when they were aware of their being compared to each other. When, however, they were unaware of a comparison being made between the performance of the two groups, there was no significant difference between the groups. Under conditions of comparison, in which clinicians felt that they were involved as a group in their performance as opposed to trainees, the

clinicians used the response "don't know" fewer times than when they were unaware of a comparison. This was interpreted as indicating that the professional was defending his image as one who was capable of making extremely insightful analyses of life situations. Dogmatism, it is therefore presumed, is operant as a defense mechanism. ✓

Fillenbaum (4) also reported results indicating that dogmatism may act as a defense mechanism. Using 64 girls as subjects, each was administered the Dogmatism Scale and was given a simple test situation. Each of the subjects was told that she could participate in a discussion on sex if she could first pass an "embarrassment test." The subject was then admitted to what turned out to be a very dull discussion on sex. The discussion was pretaped and played back through ear phones to each girl. Each subject was asked to rate the extent of embarrassment she felt and how interesting she felt the discussion to have been. High dogmatics showed greater embarrassment according to self-ratings. A .39 correlation was found between dogmatism and dissonance reduction. Fillenbaum suggested that the experimental situation was a dissonance situation in itself for each of the subjects.

White and Alter (20) administered the Dogmatism Scale and the California F (Fascism) Scale to 410 students in introductory psychology classes. The top 15 per cent and the bottom 15 per cent of scorers on each test were put into two groups and given a weight discrimination problem. While a .65 correlation was found between dogmatism and the F scale, there was no significant difference between high and low scorers on a weight discrimination problem.

Weiss and Silverman (19) conducted a study to determine whether there was a relationship between anxiety and response stereotypy, and if so, what is the nature of that relationship. Clinical expectation and drive theory contradict each other in respect to the relationship to be expected between anxiety and response stereotypy. The clinical expectation is that there will be a positive relationship while the drive theory expectation is that there will be a negative relationship. In this study, subjects were required to randomize choices regarding the outcomes of an "unbiased" coin. The feature of the task under investigation is the subjects' ability to maintain a set for randomness. Subjects were 45 students in introductory psychology at San Jose State College in California. The Taylor Manifest Anxiety Scale was used as the measure of anxiety. Findings were that those high in anxiety were more stereotyped than those low in anxiety. The anxiety stereotypy relationship was found to be dependent upon the length of the response sequence and the temporal state of the task (the first half vs. the last half of the task). It was concluded that the drive theory model is not applicable to measures of response stereotypy derived from binary choice tasks.

Pilisuk (11) administered the Taylor Manifest Anxiety Scale, the Self-Ideal Index of Self-Acceptance, the Toleration for Ambiguity Scale, the Intellectual Non-Conformity Test, the Authoritarian Defense Scale, the Unpleasant Situations Tests, and the Defensive Denial Test, all paper and pencil tests, to 145 fraternity men at the University of Michigan, who were compensated for their participation in the study and took the tests under conditions of anonymity. The results showed a .62 correlation between the anxiety measure and the self-acceptance

measure. Correlations were found between anxiety and the various measures of open-mindedness ranging from $-.629$ to $.29$. Anxiety was shown to be related to open-mindedness. ✓

Suinn and Hill (18) administered tests of general and test anxiety with a self-acceptance/acceptance of others questionnaire to 92 subjects to test the prediction that anxiety increased the usual correlation between self-acceptance and acceptance of others. The results indicated that anxiety is associated with both lowered self-acceptance and lowered acceptance of others, that anxiety disrupts the relationship of self-acceptance to acceptance of others, and that low anxiety permits the usual relationship of self-acceptance to acceptance of others to exist. Conclusions were that learning theory from which the prediction is derived is inadequate in self-theory areas of personality, and that anxiety has a disruptive, yet systematic influence of the self-acceptance/acceptance of others relationship.

Salisbury (14) investigated Sullivan's theoretical view that adherence of parents to perfectionistic child rearing norms is responsible for the excessive derogation of the child which is viewed as the interpersonal basis for neurosis. In addition, it was hypothesized that self-derogation will lead to an interaction process in extra-familial relations that in turn leads to communicative isolation from peers in adolescence or early childhood. It was finally hypothesized that self-derogating individuals would recall perfectionistic parents, would be isolated, would report a sense of losing their identity, and would manifest an extensive number of symptoms of anxiety. Kuhn's Twenty Statements

Test, the Taylor Manifest Anxiety Scale, and a Self-Estrangement Scale were administered to 440 students. Perfectionism was rejected as an element in the neurotic syndrome, and isolation was associated only with self-derogation. It was accepted that self-derogation was associated with isolation, with self-estrangement, and with anxiety and that self-estrangement was associated with anxiety. It was concluded that Sullivan's hypothesis that self-derogation is a crucial element in the development of neurosis is validated, that self-derogating persons who isolate themselves are protected from excessive anxiety, and that "self-estrangement", or a sense of losing identity is more strongly related to anxiety than any other variable. This last finding tends to support the speculations of the Existentialist philosophers and psychiatrists concerning the nature of anxiety.

Sellers (16) investigated the relationship of anxiety, the effect of threat on self-esteem, and esteem for others in 42 well-adjusted male hospital employees and 45 patients in a neuropsychiatric hospital who were non-schizophrenics. Experimental and control groups were formed for both sets of subjects. Three measures of self-esteem were used, the Izard Self-Related Positive Affect Scale, the Leary Interpersonal Adjective Checklist, administered twice with instructions for self-concept and ideal self-concept, and the Leary scale scored by an item discrepancy method as a measure of self-ideal difference. The Izard First Impression Rating Scale and an adjective test of anxiety were also administered. The experimental conditions consisted of presenting a threatening situation to all experimental subjects. The change in self-esteem was determined by the difference in pre-

and post-tests. All self-esteem measures successfully differentiated between patient and normal subjects. The esteem for others measure was just short of the .05 level of significance. Pre- and post-tests failed to show any consistent effects of threat on self-esteem. Differences were found in change in self-esteem for normals and patients. This was discussed in terms of differences in availability of defenses.

In summary, the work which has been done relates the concepts of ego strength, dogmatism, and anxiety empirically, if indirectly. Ego strength has been related to rigidity, perceptual conformity, and concern for the self. Dogmatism has been related to open-mindedness, self-acceptance, and esteem for self and others. There are common elements present in the research findings reported. The purpose of the present research was to link directly, these concepts which have been previously linked indirectly.

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CHAPTER III

THE INSTRUMENTS

The Ego Strength Scale

Barron (2) developed the Ego Strength Scale with the original intention that it should be used as an indicator of response to psychotherapy. In considering the scale content, however, it became apparent that a broader psychological interpretation could be placed upon it, making it a more useful instrument as an assessment device in any situation where some estimate of resourcefulness and adaptability is needed.

The scale consists of 68 items taken from the Minnesota Multiphasic Personality Inventory on the basis of correlation with rated improvement in 33 psychoneurotic patients who had been treated for six months in a psychiatric clinic. This sample was divided into 17 who were judged to be improved and 16 who were judged to be unimproved. The mean score of the improved group was 52.7; the mean score of the unimproved group was 29.1. There was a difference between the two at well beyond the .01 level of significance. The even-odd reliability in a clinical population of 126 was .76. Test-retest reliability after three months in a sample of 30 was .72.

Barron reports the scale to measure eight areas of ego strength. These areas are (1) physical functioning and physiological stability, (2) psychasthenia and seclusiveness, (3) attitudes toward religion,

(4) moral posture, (5) sense of reality, (6) personal adequacy, ability to cope, (7) phobias, infantile anxieties, and (8) miscellaneous items which nonetheless correlate well with the scale. The scale is reproduced here in Appendix 2. Barron suggests that what is being measured is a general factor of capacity for personal integration, or ego strength.

Barron reports a further study employing a clinical sample of 77 women and 59 men who were seen for diagnostic studies. Two non-clinical samples consisted of 160 male Air Force Officers and 60 male graduate students. Adjective descriptions were obtained from objective, skilled observers of high and low scorers on the prediction scale. Composite adjective impressions were assembled for the 10 high and 10 low scorers. A statistical difference significant at the .05 level was found between the two groups. Among the findings were a .38 correlation with vitality, defined as general energy level, .41 with drive, defined as persistence, resolution, perseverance, directed energy, .24 with self confidence, .24 with poise, .25 with breadth of interest, -.40 with submissiveness, -.34 with effeminacy, -.34 with intraceptiveness, all statistically significant.

In the development sample, the scale correlated .44 with the Wechsler-Bellview IQ. In the Air Force Officer sample, the scale correlated .36 with the total score on the Primary Mental Abilities Test, and .47 with the Intellectual Efficiencies Scale of the California Psychological Inventory. In the graduate student sample, the scale correlated .39 with the Miller Analogies Test and .52 with the Intellectual Efficiencies Scale. In the standardization sample, the scale correlated -.47 with the Ethnocentrism Scale. In the graduate student sample, it

correlated $-.35$ with the Prejudice Scale of the MMPI and $-.46$ with the Ethnocentrism Scale. In the Air Force Officers sample, the scale correlated $-.23$ with the Ethnocentrism Scale and $.42$ with the Tolerance Scale of the California Psychological Inventory. Correlations with the scales of the MMPI are presented in Table I. Some of the correlations are due to item overlap.

TABLE I
RELATIONSHIP OF EGO-STRENGTH SCALE TO DIAGNOSTIC
AND VALIDITY SCALES OF THE MMPI IN
CLINIC AND STUDENT POPULATIONS

(Reproduced from Barron, 2, p. 330)

Scale	A. Male Clinic Patients (n = 50)	B. Male Graduate Students (n = 36)	C. Female Clinic Patients (n = 77)
F	-.49	-.36	-.47
K	.31	.31	.31
Hs	-.62	-.67	-.63
D	-.60	-.53	-.67
Hy	-.39	-.61	-.63
Pd	-.48	-.07	-.34
Mf	-.04	-.43	.07
Pa	-.62	-.07	-.49
Pt	-.71	-.54	-.71
Sc	-.55	-.44	-.64
Ma	-.04	-.33	-.21

Barron concludes that the scale should be used as a clinical instrument for predictive purposes only with a degree of caution. As a research instrument, however, he heartily recommends and

encourages its use. Also, the scale may prove to be a predictor in any situation in which an estimate of personal adaptability and resourcefulness is called for.

Tamkin and Klett (15) report on the construct validity of the Ego Strength Scale. Since a previous report by Tamkin had used only 15 subjects in each of two groups reporting on the validity of the Barron scale, the present study was designed to more adequately investigate this question. One hundred MMPI protocols were pulled at random from the files of newly admitted or readmitted psychiatric patients. They were scored for ego strength, critical item scale, validity (F) scale, and included with data on Wechsler full scale IQ, age, education, and established psychiatric diagnosis. The coefficients of correlation were $-.66$ between ego strength and critical item, $-.56$ between ego strength and F scale. The ego strength scale failed to separate the two diagnostic groups at the $.05$ level of significance. Significant correlations were found between ego strength and IQ ($.32$) and education ($.45$) and age ($-.20$). While the construct validity of the scale is supported, its clinical application is still to be used with caution.

Adams and Cooper (1) reported a validation study on the Ego Strength Scale with two Rorschach indicators of ego strength. The Rorschach indicators are Klopfer's Rorschach Prognostic Rating Scale and Cartwright's modification of the same scale. Adams and Cooper report that the Rorschach indexes have demonstrated high ability to predict outcome in therapy, one of the primary functions of Barron's scale. For their study, Adams and Cooper administered the Rorschach projective technique to a group of 29 white, male, hospital psychiatric patients and scored them for the Cartwright modification of the

Klopper scale. An additional group of 36 white, male, hospitalized, psychiatric patients was administered the Rorschach; and their protocols were scored for Klopper's scale. The subjects were all administered the MMPI, and ego strength scores were extracted. The correlations that were found between the Barron scale and the Cartwright score and between the Barron scale and the Klopper scale were, respectively, .12 and .13, neither significant. This throws a doubt upon the clinical usefulness of the Barron scale.

Herron (9) has published a comprehensive report on a great deal of the earlier work done with ego strength. He reports that there have been generally mixed results found. The scale generally manages to distinguish between normals and psychotics. It is inconsistent, however, in predicting length of stay in treatment or response to treatment. The scale has been shown to discriminate between adults and adolescents. There has been shown no relationship between the scale and various Rorschach indicators, such as form and organization. The scale has been described as being more a measure of ego weakness than ego strength. It appears to be a measure of the absence of specific ego limitations, not the presence of strengths. Herron concluded that the inconsistent results found indicate either that the scale is inadequate, or that the criteria of validation are inadequate, or that there is a confounding factor present, possibly anxiety. Jean Teter and Dana (16) attempted to validate the Barron scale against the criterion of personal adaptability as defined by measures of persistence. Persistence was measured by three methods. An unsolvable problem was included in the Grace Arthur Stencil Design Test, and the length of time spent on the problem was considered a measure of persistence. A 10 item

questionnaire was used as a second measure of persistence. Card I of the Thematic Apperception Test was scored as the third measure of persistence. No relationship was found, however, between high measures of persistence and ego strength. No differences between high and low ego strength groups were found.

In summation, the Barron Ego Strength Scale appears to be a reliable instrument. Its validity, however, has been subjected to some just criticism. There appears to be a need for more work to be done on the validation of the scale before it is to be accepted as a clinically useful instrument. As a research instrument, however, there appears to be little reason why the scale cannot be used for correlative study purposes.

The Rokeach Dogmatism Scale

Rokeach (13) developed the Dogmatism Scale as an alternative to the authoritarian personality and the work by Adorno. As Rokeach points out, the authoritarian personality falls short of being a general theory of authoritarianism and intolerance by virtue of the fact that the conceptualizations presented therein had their beginnings in the study of anti-semitism and ethno-centrism. The fact that dogmatic tendencies could exist in non-prejudicial persons or independently of a rightist political orientation prompted the development of a scale which is not dependent upon a measure of a left-right political dimension. The Dogmatism Scale was developed to analyze three aspects of dogmatism. First, it investigates the ideological structure of dogmatism. Secondly, it investigates the formal ideological content of dogmatism. Finally, it investigates the function of dogmatism. Three sets of variables are

subsumed under the construct of dogmatism. They are closely cognitive systems, general authoritarianism, and general intolerance.

An initial 66 item scale was tested and the 40 items which best discriminated between high and low scorers were used to make up the Dogmatism Scale. The dimensions measured were (a) isolation within and between belief and disbelief systems, (b) the disbelief gradient, (c) relative degrees of differentiation of belief and disbelief systems, (d) relation between central and peripheral parts, (e) time perspective, (f) authoritarianism, (g) intolerance, (h) fear of aloneness, isolation, helplessness, (i) anxiety about the future, (j) self-hatred (k) need for self-aggrandizement, and (l) paranoid outlook on life.

The items of the Dogmatism Scale, which is reproduced in Appendix 3, were interspaced among several other scales. The questionnaires were administered to various groups from about 10 to 50 under anonymous conditions. Subjects were students from Michigan State University in introductory psychology classes, students from two colleges in the New York metropolitan area in introductory psychology classes, and students from University College and Birkbeck College of England and from a worker sample in a British automobile factory. Odd-even reliabilities, corrected by the Spearman-Brown formula, ranged from .70 for the group of students at Michigan State University (n - 202) to .91 for the group of students from the English colleges (n - 137).

Zagona and Zurcher (17) report on their work in validating and estimating the reliability of the Rokeach scale. Using the 30 top and 30 bottom scorers on the scale from a total distribution of 517 students in introductory psychology classes at the University of Arizona, they compared personality differences between the groups. For the entire

517 subject sample, they report a 15 week test-retest reliability coefficient of .697. By splitting the 30 high and 30 low scorers into separate discussion sections for their psychology classes, it was possible to observe them over the course of an entire semester as groups. In the classroom, the high dogmatic group was leader-oriented and preferred lecture to discussion. Novel points of view were rarely expressed and spontaneity was at a minimum. The group showed a preference for clearly structured topics and instructional situations. They were typically uncreative, routine, and conventional. They were disturbed by behavior on the part of the instructor which did not conform to their expectations of the role behavior of an authority figure. Using the Rokeach scale as an indicator, Zagona and Zurcher were able to accurately predict the behavior of the groups in accordance with hypotheses outlined by Rokeach. The dogmatic individual, whether he identifies with the leader or not is leader-oriented. The need for a structured group situation overshadows the need for spontaneity. When group consensus is challenged by an authority figure, the group weakens and becomes insecure if highly dogmatic. The low dogmatic group tends to unify and defend its consensus. Group consensus is reached with greater difficulty and after much discussion in the low dogmatic group while it is reached with greater relative ease in the high dogmatic group. However, when the two are brought together, the low dogmatic view generally prevails.

Kemp and Kohler (10) administered the Dogmatism Scale to 350 eighth and ninth grade students in an urban Ohio high school. After three months, a test-retest reliability coefficient, derived using the Rulon formula, was found to be .92. Taking the 20 high dogmatics and the 20 low dogmatics as subjects, correlation between dogmatism

and teacher ratings according to various criteria of dogmatism was found to be .74. The teacher criteria for dogmatism were view of experience, degree of belief in all shades and degrees of viewpoints distributed along a continuum, acceptance of authority, tolerance of ambiguity, new concepts through synthesis, distortion of ideas and experience, and extent of knowledge concerning viewpoints, knowledge of areas of disbelief.

Korn and Gidden (11) took 195 male freshmen students at random from Stanford University and administered the Dogmatism Scale and the California Psychological Inventory. The correlation found between the Rokeach scale and the Well-Being Scale was -.24, with the Tolerance Scale, -.31, and with the Flexibility Scale, -.38. In addition, the dogmatism scores showed a significant correlation with the Scholastic Aptitude Test Verbal subtest of -.23. Another measure of the scores on the Rokeach scale, dichotomized proportion of agree in relation to disagree responses, was also found for each subject. This new score correlated .94 with the scores found using the Rokeach scoring system. Since a response set was discovered, it is thought that this new score may be a better measure than the score found by the Rokeach system.

Haiman and Duns (8) attempted to see whether behavior in communication could be a measure of the validity of the Dogmatism Scale. The Rokeach scale, along with reversals of each of the 40 items, was administered to 85 students in a public speaking course at Northwestern University. Each student was given a list of topics and asked to select one, along with a position on the question, and speak for three minutes in defense of his selected viewpoint. At the end of each class period,

each of three judges was asked to rate each speaker on a four point scale of dogmatism, on the basis of the speaker's performance while speaking. The speeches were also taped for further analysis. Results showed that judges were able to discriminate between high and low dogmatics on the basis of hearing the speeches they presented in person and also on the basis of reading manuscripts of speeches. In a second study, 87 students enrolled in speech classes were administered the Rokeach scale and then given excerpts from a highly controversial book and asked to write a 1 to 2 page report of their impressions of what they had read. The written commentaries were submitted to a panel of three judges who rated them according to how open or closed minded they thought the authors of each paper were. The judges were successful in distinguishing between the high and low quarter of scorers on the distribution of dogmatism scores. The judges were more successful in picking out the low dogmatics than they were in picking out the high dogmatics. In summary, the authors concluded that there were generally two types of open-minded individuals, those who think as they behave and those who are open-minded as a matter of intellectual doctrine which does not carry over into their inter-personal relations.

Schulze (14) conducted a study to determine whether there could be an effective shortened version of the Dogmatism Scale. Using 100 subjects selected at random from a pool of 227 who had been administered the Rokeach scale, he found correlations for 10 and 30 item versions of the scale. They correlated with the 40 item scale fairly successfully although not very well with each other. The 10 item scale correlated .76 with the 40 item scale but only .46 with the 30 item scale.

Repeating the study on 172 students, a correlation of .73 was found between the 10 item and 40 item scales. While the 10 item scale does not reach the Guttman criterion of unidimensionality, it is accepted as a reliable substitute for the full 40 item scale.

In summary, the Dogmatism Scale has been found to be a reliable instrument. Its validity has been shown by a variety of measures. Although largely by construct validity, the scale has been validated concurrently against equivalent conceptual measures.

The Cattell IPAT Anxiety Scale

Cattell (6) in developing the IPAT Anxiety Scale, found it necessary to distinguish first between neuroticism and anxiety. The distinction between the two was originally made on the basis of statistical factoring on behavioral responses. Five factors have been discerned which are parts of a general factor which is anxiety. These sub-factors are (a) self-sentiment development, (b) ego strength, (c) protension of paranoid trend, (d) guilt proneness, and (e) ergic tension.

The validity of the scale is construct validity. Each item on the scale correlates highly with the factor which it is intended to measure. The split half reliability of the scale has been found to be .84 on a sample of 240 normal adults and .91 on a mixed sample of normals and hospitalized neurotics. External validation by correlation with estimates on anxiety levels in 85 patients made independently by two psychiatrists yielded a correlation coefficient of .92. A study comparing 795 normals, 154 neurotics, and 59 anxiety hysterics yielded mean scores for the anxiety scale of, respectively, 26.75, 38.54, and 44.75. The differences

between the groups were found to be significant at better than the .001 level.

Levitt and Persky (12) collected data over a period of a year at the Indiana University Medical Center for use in validating the IPAT scale. They found that the scale distinguished successfully between a group of 76 student nurses and a group of 427 college women. This is to be expected and is interpreted as in keeping with the validation of the scale. The scale distinguished between a group of 13 girls who dropped out of the nursing curriculum and a group of 63 girls who were retained for satisfactory work. The scale distinguished between groups of hypnotizable and non-hypnotizable subjects. In another study, the scale differentiated between subjects in hypnotically induced anxiety from those in the normal state. A reliability coefficient of .94 was found over a three weeks test-retest period for 17 females.

Bendig (3) administered the IPAT scale to 200 students (100 men and 100 women) and intercorrelated the items by the product-moment method. Extracting five factors from the data, little relationship to the assumed factor content appeared; and none of Cattell's factors could be clearly identified. The evidence suggests that rather than measuring one unitary second order factor of anxiety, the scale confounds two independent second order factors. Reliability coefficients were found for total anxiety score, .81, covert anxiety, .63, overt anxiety, .76, and the difference score, .24.

In another report by Bendig (4) each of the sub-factors was correlated with each other sub-factor and total anxiety score, total covert score, total overt score, and totals for sub-factors across the covert-

overt division. The evidence found suggests that the covert items on the scale tend to be less reliable than the overt items. The reliability coefficient found for the total scale was .73.

In a study by Fisher and Kramer (1963), the IPAT scale, along with the Marlow-Crowne Social Desirability Scale was administered to 200 psychiatric technician trainees at two California hospitals for the mentally retarded. The two scales were found to correlate -.61. The evidence of the report suggests that the IPAT scale is not a unitary scale but rather that it is a measure of two second order factors, anxiety and social desirability.

In summary, the Cattell IPAT Anxiety Scale has been shown to be reliable as a psychological instrument. While the validity studies conducted suggest that there may be a confounding of two variables rather than a unitary measure of one variable, this instrument is adequate for the purposes of this research.

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CHAPTER IV

METHODOLOGY AND PROCEDURE

Subjects for the present research were taken from three sophomore government classes at North Texas State University during the Spring Semester, 1966. The instruments were administered as a part of the regular classroom activity, to those students who were present at the time of administration. No student was required to participate in the experiment. Data on the subjects as to their age, sex, religious preference, political preference, whether each was a member of a social fraternity or sorority at the time of administration and, if not, whether the subject would like to become a member of a social fraternity or sorority in the future, whether the subject was a member of any other organization at the time of administration, if so to specify, were gathered by means of an information data sheet attached to the instruments administered for the research purposes.

On the basis of the information questionnaire sheets, the following data concerning the subjects were gathered. The mean age was 20.4 years with a standard deviation of 1.76 years. There were 51 males and 29 females. In response to a space indicating simply "political preference," 20 expressed a political preference of Republican, while 37 expressed a preference for Democratic, three of whom volunteered a preference for Liberal Democratic. No political preference was expressed by 23 of the subjects. In response to a space indicating

simply "religious preference," Methodist as a religious preference was expressed by 19 of the subjects, Baptist by 15, Catholic by 12, Presbyterian by 8, Church of Christ by 5, Christian Church by 2, Lutheran by 2, Episcopalian by 1, Judaism by 1, Bible Church by 1, Unitarian by 1, and Protestant by 3. An additional 10 specified no religious preference. Membership in social fraternities or sororities was indicated by 13 subjects with an additional 13 expressing a desire for membership in the future. Ten subjects indicated membership in some type of honor group, 25 membership in a professional type group, 6 membership in a church type group, and 6 membership in a political type group. There were 39 who expressed no membership in any group. Under conditions of voluntarily signing the tests administered or choosing to remain anonymous, 63 chose to sign and 17 chose not to sign their names.

In addition to the above described questionnaire, which is reproduced in Appendix 1, the Barron Ego Strength Scale (2), reproduced in Appendix 2, the Rokeach Dogmatism Scale (4), reproduced in Appendix 3, and the Cattell IPAT Anxiety Scale, Self-Analysis Form (3), reproduced in Appendix 4, were administered to each of the 80 subjects simultaneously, the Ego Strength Scale placed upon the Dogmatism Scale, both inclosed within the anxiety scale with the questionnaire data sheet stapled to the front. The reliability and validity of the instruments have been discussed in a previous chapter.

The subjects were instructed that the task, while not exactly an opinion poll, was similar in that the questionnaires given them sought to get at their underlying attitudes and opinions. They were instructed

that they did not have to sign their names to the tests if they did not wish to do so; but that if they desired results telling them how they stood in relation to the rest of the people taking the test, they would have to sign their names to the tests. Further instructions were printed on each of the instruments. Subjects were told to ignore the blanks on the front of the anxiety scale requesting name, date, sex, age, and "other facts." For the full printed instructions, the reader may refer to the appendixes where the instruments are reproduced in full.

The three principal test variables are ego strength, dogmatism, and anxiety as defined as scores on each respective instrument. An additional variable is scores received on the six-item lie scale included within the Ego Strength Scale, which is labelled defensiveness. Further variables are each expressed political preference, Republican, all Democratic, Liberal Democratic, no political preference; religious preference, Methodist, Baptist, Catholic, Presbyterian, Church of Christ, other religious preference, no religious preference; membership in a fraternity or sorority, membership in a fraternity or sorority plus desire to join one, membership in an honor group, membership in a professional type group, membership in a church or non-fraternal social group, membership in a political type group, membership in any group; and whether the subject signed his name to the tests or not.

Scores for each subject for each of the three instruments plus the lie scale were derived by use of hand-scoring techniques and recorded directly onto the questionnaire data sheet for each subject. From the data sheets, the raw data were recorded directly onto a data processing work sheet. From the work sheets, data processing cards were punched

by professional data processing workers and run through a program designed to find the mean score for each variable, the standard deviation for each variable, and Pearson Product-Moment Correlation Coefficients between each pair of variables. The resultant correlation coefficients were checked for statistical significance from zero by comparison to criterion coefficients interpolated from Arkin and Colton (1, table 22, p. 155). The .05 level of significance was established as the point of acceptance or rejection of each coefficient as statistically significant from zero. Those which also met the .01 level of significance were indicated.

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CHAPTER V

RESULTS

It will be recalled that the present research investigates three principal hypotheses:

1. There will be a statistically significant negative correlation between the scores observed on the Barron Ego Strength Scale and the Rokeach Dogmatism Scale.
2. There will be a significant negative correlation between the observed scores on the Barron Ego Strength Scale and the Cattell IPAT Anxiety Scale.
3. There will be a significant positive correlation between the scores observed on the Rokeach Dogmatism Scale and the Cattell IPAT Anxiety Scale.

It will be further recalled that the present research investigates the relationship of the three principal test variables to those additional variables derived from the data gathered from the subjects by means of the questionnaire data sheet.

Empirical Findings

Table II presents a summary of the correlation coefficients which were found to be statistically significant, together with other coefficients of interest. Although the coefficient predicted in hypothesis one is in the direction predicted, it falls just short of meeting the criterion for statistical significance. Hypothesis one, therefore, cannot be accepted. The coefficient predicted in hypothesis two is in the direction predicted, $-.54$, and is statistically significant. Hypothesis two,

TABLE II
SUMMARY OF CORRELATION COEFFICIENTS AND LEVELS OF
SIGNIFICANCE FOR VARIABLES OF EGO STRENGTH,
DOGMATISM, AND ANXIETY, AND VARIOUS
SUBJECT VARIABLES

Variables Correlated	r	P
Anxiety and Ego Strength	-.54	.01
Anxiety and Lie Scale	-.36	.01
Dogmatism and Baptist	.29	.01
Liberal Democrat and Other Religious Preference	.30	.01
Dogmatism and Any Group Membership	-.24	.05
Lie Scale and Preference for Fraternity Membership	-.28	.05
Age and Sex	.24	.05
Age and No Religious Preference	.25	.05
Age and Political Group Membership	.22	.05
Sex (male) and Democrat	-.23	.05
Sex (male) and Methodist	-.25	.05
Sex (male) and Baptist	.29	.05
Fraternity Membership and Liberal Democrat	.26	.05
No Religious Preference and No Political Preference	.26	.05
Baptist and Church/Social Group Membership	.26	.05
Presbyterian and Any Group Membership	-.25	.05
Honor Group Membership and Church/Social Group Membership	.25	.05
Anxiety and Dogmatism	.218	.06
Ego Strength and Dogmatism	-.06	NS
Lie Scale and Ego Strength	-.02	NS
Lie Scale and Dogmatism Scale	-.16	NS

therefore, can be accepted. The coefficient predicted in hypothesis three is insignificant. Hypothesis three cannot, therefore, be accepted.

Other coefficients of interest are presented in Table II. A significant correlation coefficient was found between the variable of Baptist religious preference vs. non-Baptist religious preference and

the Dogmatism Scale. It was .29, P less than .01. No other church preference showed any significant correlation to any of the three principal test variables. There was a lack of relationship which was significant between the Lie Scale and either the Ego Strength Scale or the Dogmatism Scale.

Means and standard deviations of the distributions of the test variables are presented in Appendix 4.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the relationship of ego strength, dogmatism, anxiety, and certain subject variables. For this purpose, 80 college students were administered the Barron Ego Strength Scale, the Rokeach Dogmatism Scale, the Cattell IPAT Anxiety Scale, and a questionnaire data sheet. In all, there were 25 variables, each of which was correlated with each other by the Pearson's Product Moment Correlation Coefficient formula by use of data processing equipment. There were three principal hypotheses of the study.

One of the three principal hypotheses was confirmed by the results. A significant negative correlation was found between ego strength and anxiety. This is in keeping with the theory and previous empirical findings reported in this paper. Since the overlap between the two measures was rather sizable (accounting for approximately 26 per cent of the variance), it would appear that the suppositions of Fisher and Kramer (3) and Bendig (2) that there are two second order factors measured by the Cattell scale rather than one unitary factor may be correct. Herron (5) has suggested that the Barron scale is confounded by an anxiety factor. This might also be true in the light of the current findings.

The hypothesis that there would be a significant relationship between dogmatism and anxiety could not be accepted because the

coefficient found, .218, was just short of being statistically significant ($P = .06$). In view of the fact that Rokeach (7) reports the finding of an anxiety factor in the Dogmatism Scale, there should have been a significant relationship. Since, however, the coefficient found is generally in keeping with that found by Rokeach, it could in fact be valid yet fall short of statistical significance by virtue of there being no more subjects in the present study than there were. Fruchter (4) also reports the finding of an anxiety factor within the Rokeach scale.

The hypothesis that there would be a significant relationship between ego strength and dogmatism was based on the theory outlined for this study. There has been no previous research on the nature of this relationship per se. The lack of a relationship suggests a fault in the theory or some confounding in the instruments used for this study.

Among the subject variables studied for this research, subjects' expressed preference for the Baptist religion was the only religious preference to be significantly related to any of the three principal variables. The correlation found between Baptist religious preference vs. non-Baptist religious preference and dogmatism was .29, which was significant at the .01 level. This may possibly be explained on the basis of a cursory examination of the doctrines of that religious sect. It is generally conceded that, in the North Texas area, the Baptist religious groups are rather conservative and closed-minded in their religious and moral beliefs, although in a college population this may be less pronounced. This could account for the presence of a relationship between an expressed preference for this religion and dogmatism.

The significant inverse relationship between anxiety and the Lie Scale, which is $-.36$, suggests that those who are high scorers on the IPAT scale are defensive in their behavior. Fisher and Kramer (3) have suggested that the Cattell scale measures two factors, anxiety and social desirability. Their conclusions seem to be supported here. The nature of the items on this particular lie scale, which is made up of items taken from the Minnesota Multiphasic Personality Inventory, is such that they elicit socially desirable responses.

One relationship which is highly interesting is the $-.24$ correlation found between dogmatism and membership in any group vs. non-membership. This suggests that dogmatics tend to avoid membership in groups. This might not seem too surprising if one considers that seclusiveness is one of the factors of dogmatism postulated by Rokeach (6). This postulation of Rokeach would seem to be borne out in this sample.

The inverse relationship found between expressed preference for fraternity or sorority membership and the Lie Scale, $-.28$, suggests that subjects who expressed this preference tend to be defensive or give socially desirable responses. In view of the position of defensiveness into which members of fraternities and sororities are placed, especially at North Texas State University, by fellow students and the academic community as a whole, it would seem to be not too surprising that these subjects should respond defensively or in a manner which suggests a seeking of social desirability.

The correlation between age and sex is not surprising. It stands to reason that there should be some tendency for the older students to be men, since men have the greater incentive to pursue higher education, despite temporary setbacks or failures.

The correlations between age and no religious preference expressed and between age and membership in political groups, respectively .25 and .22, suggest some common behavior. It is possible that with maturity, the student begins to question the religious beliefs he has been raised with and seeks to turn his efforts toward more socially oriented activities. This is a question which warrants further investigation.

In a similar vein, the .26 correlation between no religious preference and no political preference suggests that a turning away from traditional religious views is accompanied by a turning away from political views. Often, one's religious and political views are intertwined, particularly in the Southern and Southwestern United States. The relationship between these variables, therefore, is not altogether to be dismissed as little more than a superficiality. Again, this is a question which warrants further investigation.

The finding of a relationship between membership in some type of honor group and some type of church or social group, .25, suggests that members of honor groups achieved those positions to some degree by virtue of being socially active.

The correlation coefficients found between the Lie Scale and the Ego Strength Scale and between the Lie Scale and the Dogmatism Scale respectively -.02 and -.16, suggest that the Lie Scale has little functional value in discriminating between behavior which is defensive or socially desirable and the particular behavior which characterizes the responses to the type of items offered by either of these scales.

From the results of this study, it is suggested that the Cattell IPAT Anxiety Scale and the Barron Ego Strength Scale have a factor in common. Exactly what that common factor is is subject to interpretation and warrants further research. In keeping with the theory outlined and the previous research reported, it may well be that this common factor is accounted for by the effect of the threat of anxiety in draining off energy which might otherwise go towards the building of ego strength. It is also suggested from the results of this study that further research is warranted on the nature of the social-political-religious character of subjects who are found to be highly dogmatic or anxious or low in ego strength as contrasted to those who are found to be low in dogmatism or anxiety or high in ego strength.

APPENDIX 1

Age:

Sex:

Religious preference:

Political preference:

Are you a member of a social fraternity or sorority?

If not, would you like to join one in the near future?

Indicate any other organizations of which you are now a member:

APPENDIX 2

INDIVIDUAL ATTITUDE INVENTORY

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you. You are to mark your answers in the space provided to the left of the number for each statement. If a statement is TRUE or MOSTLY TRUE, as applied to you, blacken between the lines in the column headed T. If a statement is FALSE, as applied to you, blacken between the lines in the column headed F.

Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces.

Erase completely any answer you wish to change.

Try to make some answer to every statement.

NOW BEGIN THE TEST.

- | T | F | |
|-----|-----|---|
| () | () | 1. I have a good appetite. |
| () | () | 2. I have diarrhea once a month or more. |
| () | () | 3. At times I have fits of laughing and crying that I can not control. |
| () | () | 4. I find it hard to keep my mind on a task or job. |
| () | () | 5. I have had very peculiar and strange experiences. |
| () | () | 6. I have a cough most of the time. |
| () | () | 7. I seldom worry about my health. |
| () | () | 8. When I am with people I am bothered by hearing very queer things. |
| () | () | 9. I am in just as good physical health as most of my friends. |
| () | () | 10. Parts of my body often have feelings like burning, tingling, crawling, or like "going to sleep". |
| () | () | 11. Everything is turning out just like the prophets of the Bible said it would. |
| () | () | 12. I am easily downed in an argument. |
| () | () | 13. I do many things which I regret afterwards (I regret things more or more often than others seem to). |
| () | () | 14. I go to church almost every week. |
| () | () | 15. I have met problems so full of possibilities that I have been unable to make up my mind about them. |
| () | () | 16. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right. |
| () | () | 17. I like collecting flowers or growing house plants. |
| () | () | 18. I like to cook. |
| () | () | 19. During the past few years I have been well most of the time. |

-2-

- T F
- () () 20. I have never had a fainting spell.
- () () 21. When I get bored I like to stir up some excitement.
- () () 22. My hands have not become clumsy or awkward.
- () () 23. I feel weak all over much of the time.
- () () 24. I have had no difficulty in keeping my balance in walking.
- () () 25. I like to flirt.
- () () 26. I believe my sins are unpardonable.
- () () 27. I frequently find myself worrying about something.
- () () 28. I like science.
- () () 29. I get mad easily and then get over it soon.
- () () 30. I brood a great deal.
- () () 31. I dream frequently about things that are best kept to myself.
- () () 32. My way of doing things is apt to be misunderstood by others.
- () () 33. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
- () () 34. I can be friendly with people who do things which I consider wrong.
- () () 35. If I were an artist I would draw flowers.
- () () 36. When I leave home I do not worry about whether the door is locked and the windows closed.
- () () 37. At times I hear so well it bothers me.
- () () 38. Often I cross the street in order not to meet someone I see.
- () () 39. I have strange and peculiar thoughts.
- () () 40. Sometimes I enjoy hurting persons I love.
- () () 41. Sometimes some unimportant thought will run through my mind and bother me for days.
- () () 42. I am not afraid of fire.
- () () 43. I do not like to see women smoke.
- () () 44. When someone says silly or ignorant things about something I know about, I try to set him right.
- () () 45. I feel unable to tell anyone all about myself.

-3-

- T F
() () 46. My plans have frequently seemed so full of difficulties that I have had to give them up.
- () () 47. I would certainly enjoy beating a crook at his own game.
- () () 48. I have had some very unusual religious experiences.
- () () 49. One or more members of my family is very nervous.
- () () 50. The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.
- () () 51. Christ performed miracles such as changing water into wine.
- () () 52. I pray several times every week.
- () () 53. I feel sympathetic towards people who tend to hang on to their griefs and troubles.
- () () 54. I am afraid of finding myself in a closet or small closed place.
- () () 55. Dirt frightens or disgusts me.
- () () 56. I think Lincoln was greater than Washington.
- () () 57. I am made nervous by certain animals.
- () () 58. My skin seems to be unusually sensitive to touch.
- () () 59. I feel tired a good deal of the time.
- () () 60. I never attend a sexy show if I can avoid it.
- () () 61. Once in a while I think of things too bad to talk about.
- () () 62. If I were an artist I would like to draw children.
- () () 63. I do not always tell the truth.
- () () 64. I sometimes feel that I am about to go to pieces.
- () () 65. I get angry sometimes.
- () () 66. I have often been frightened in the middle of the night.
- () () 67. Sometimes when I am not feeling well I am cross.
- () () 68. I very much like horseback riding.
- () () 69. If I could get into a movie without paying and be sure I was not seen I would probably do it.
- () () 70. I like to know some important people because it makes me feel important.

NOW, CHECK YOUR ANSWERS AND MAKE SURE YOU HAVE ANSWERED ALL THE STATEMENTS

APPENDIX 3
ATTITUDE SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one.

Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

1. The United States and Russia have just about nothing in common.
2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.
5. Man on his own is a helpless and miserable creature.
6. Fundamentally, the world we live in is a pretty lonesome place.
7. Most people just don't give a "damn" for others.
8. I'd like it if I could find someone who would tell me how to solve my personal problems.
9. It is only natural for a person to be rather fearful of the future.
10. There is so much to be done and so little time to do it in.
11. Once I get wound up in a heated discussion I just can't stop.
12. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.

14. It is better to be a dead hero than to be a live coward.
15. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.
16. The main thing in life is for a person to want to do something important.
17. If given the chance, I would do something of great benefit to the world.
18. In the history of mankind there have probably been just a handful of really great thinkers.
19. There are a number of people I have come to hate because of the things they stand for.
20. A man who does not believe in some great cause has not really lived.
21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
22. Of all the different philosophies which exist in this world there is probably only one which is correct.
23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
25. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.
27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.
29. A group which tolerates too much differences of opinion among its own members cannot exist for long.
30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
31. My blood boils whenever a person stubbornly refuses to admit he's wrong.
32. A person who thinks primarily of his own happiness is beneath contempt.
33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
35. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.
36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
37. The present is all too often full of unhappiness. It is only the future that counts.
38. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all."
39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
40. Most people just don't know what's good for them.

I P A T SELF ANALYSIS FORM

NAME _____ TODAY'S DATE _____
 First Middle Last
 SEX _____ AGE _____ OTHER FACTS _____
 (Write M or F) (Nearest Year) (Address, Occupation, etc., as instructed)

CONFIDENTIAL

Inside this booklet you will find forty questions, dealing with difficulties that most people experience at one time or another. It will help a lot in self-understanding if you check Yes, No, etc., to each, frankly and truthfully, to describe any problems you may have.

Start with the two simple examples just below, for practice. As you see, each inquiry is actually put in the form of a sentence. By putting a cross, X, in *one* of the three boxes on the right you show how it applies to you. Make your marks now.

1. I enjoy walking..... Yes Occasionally No

A middle box is provided for when you cannot definitely say Yes or No. But use it as little as possible.

2. I would rather spend an evening:
 (A) talking to people, (B) at a movie..... A In between B

About half the items inside end in A and B choices like this. B is always on the right. Remember, use the "In between" or "Uncertain" box only if you cannot possibly decide on A or B.

Now:

1. Make sure you have put your name, and whatever else the examiner asks, in the place at the top of this page.
2. Never pass over an item but give some answer to every single one. Your answers will be entirely confidential.
3. Do not spend time pondering. Answer each immediately, the way you want to at this moment (not last week, or usually). You may have answered questions like this before; but answer them as you feel *now*.

Most people finish in five minutes; some, in ten. Hand in this form as soon as you are through with it, unless told to do otherwise. As soon as the examiner signals or tells you to, turn the page and begin.

STOP HERE—WAIT FOR SIGNAL

- | | | | |
|---|---|--|------------------------------------|
| 1. I find that my interests, in people and amusements, tend to change fairly rapidly..... | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 2. If people think poorly of me I can still go on quite serenely in my own mind..... | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 3. I like to wait till I am sure that what I am saying is correct, before I put forward an argument..... | Yes
<input type="checkbox"/> | In between
<input type="checkbox"/> | No
<input type="checkbox"/> |
| 4. I am inclined to let my actions get swayed by feelings of jealousy..... | Sometimes
<input type="checkbox"/> | Seldom
<input type="checkbox"/> | Never
<input type="checkbox"/> |
| 5. If I had my life to live over again I would:
(A) plan very differently, (B) want it the same..... | A
<input type="checkbox"/> | In between
<input type="checkbox"/> | B
<input type="checkbox"/> |
| 6. I admire my parents in all important matters..... | Yes
<input type="checkbox"/> | In between
<input type="checkbox"/> | No
<input type="checkbox"/> |
| 7. I find it hard to "take 'no' for an answer", even when I know what I ask is impossible..... | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 8. I doubt the honesty of people who are more friendly than I would naturally expect them to be..... | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 9. In demanding and enforcing obedience my parents (or guardians) were: (A) always very reasonable, (B) often unreasonable..... | A
<input type="checkbox"/> | In between
<input type="checkbox"/> | B
<input type="checkbox"/> |
| 10. I need my friends more than they seem to need me..... | Rarely
<input type="checkbox"/> | Sometimes
<input type="checkbox"/> | Often
<input type="checkbox"/> |
| 11. I feel sure that I could "pull myself together" to deal with an emergency | Always
<input type="checkbox"/> | Often
<input type="checkbox"/> | Seldom
<input type="checkbox"/> |
| 12. As a child I was afraid of the dark | Often
<input type="checkbox"/> | Sometimes
<input type="checkbox"/> | Never
<input type="checkbox"/> |
| 13. People sometimes tell me that I show my excitement in voice and manner too obviously..... | Yes
<input type="checkbox"/> | Uncertain
<input type="checkbox"/> | No
<input type="checkbox"/> |
| 14. If people take advantage of my friendliness I:
(A) soon forget and forgive, (B) resent it and hold it against them..... | A
<input type="checkbox"/> | In between
<input type="checkbox"/> | B
<input type="checkbox"/> |
| 15. I find myself upset rather than helped by the kind of personal criticism that many people make..... | Often
<input type="checkbox"/> | Occasionally
<input type="checkbox"/> | Never
<input type="checkbox"/> |
| 16. Often I get angry with people too quickly | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 17. I feel restless as if I want something but do not know what..... | Very rarely
<input type="checkbox"/> | Sometimes
<input type="checkbox"/> | Often
<input type="checkbox"/> |
| 18. I sometimes doubt whether people I am talking to are really interested in what I am saying..... | True
<input type="checkbox"/> | In between
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 19. I have always been free from any vague feelings of ill-health, such as obscure pains, digestive upsets, awareness of heart action, etc..... | True
<input type="checkbox"/> | Uncertain
<input type="checkbox"/> | False
<input type="checkbox"/> |
| 20. In discussion with some people, I get so annoyed that I can hardly trust myself to speak..... | Sometimes
<input type="checkbox"/> | Rarely
<input type="checkbox"/> | Never
<input type="checkbox"/> |

CONTINUE ON NEXT PAGE.

A Score

B

Through getting tense I use up more energy than most people in getting things done..... True Uncertain False

I make a point of not being absent-minded or forgetful of details..... True Uncertain False

However difficult and unpleasant the obstacles, I always stick to my original intentions..... Yes In between No

I tend to get over-excited and "rattled" in upsetting situations..... Yes In between No

I occasionally have vivid dreams that disturb my sleep..... Yes In between No

I always have enough energy when faced with difficulties..... Yes In between No

I sometimes feel compelled to count things for no particular purpose..... True Uncertain False

Most people are a little queer mentally, though they do not like to admit it True Uncertain False

If I make an awkward social mistake I can soon forget it..... Yes In between No

I feel grouchy and just do not want to see people: (A) occasionally, (B) rather often..... A In between B

I am brought almost to tears by having things go wrong..... Never Very rarely Sometimes

In the midst of social groups I am nevertheless sometimes overcome by feelings of loneliness and worthlessness Yes In between No

I wake in the night and, through worry, have some difficulty in sleeping again Often Sometimes Never

My spirits generally stay high no matter how many troubles I meet..... Yes In between No

I sometimes get feelings of guilt or remorse over quite small matters..... Yes In between No

My nerves get on edge so that certain sounds, e.g., a screechy hinge, are unbearable and give me the shivers..... Often Sometimes Never

If something badly upsets me I generally calm down again quite quickly..... True Uncertain False

I tend to tremble or perspire when I think of a difficult task ahead..... Yes In between No

I usually fall asleep quickly, in a few minutes, when I go to bed..... Yes In between No

I sometimes get in a state of tension or turmoil as I think over my recent concerns and interests..... True Uncertain False

Q₂(-)

C(-)

L

O

Q₄

STOP HERE. BE SURE YOU HAVE ANSWERED EVERY QUESTION.

B Score

Name _____ Sex _____ Age _____ Date _____ Examiner _____

Raw Scores: A Score (Covert, indir.) _____ (p. 2 score) B Score (Overt, manifest, sympt.) _____ (p. 3 score) TOTAL RAW SCORE _____ (A + B)
Q₃(-) _____, C(-) _____, L _____, O _____, Q₄ _____, Overt-Covert Ratio $\left(\frac{B}{A}\right)$ _____

Stems: Q₃(-) _____, C(-) _____, L _____, O _____, Q₄ _____
TOTAL, STANDARD STEN SCORE _____ (from Table 4)

Qualitative Observations:

Diagnostic Summary:

APPENDIX 5

MEANS AND STANDARD DEVIATIONS OF DISTRIBUTIONS
OF TEST VARIABLES

Variable	Mean	Standard Deviation
Anxiety	28.88	9.60
Ego Strength	44.53	4.93
Dogmatism	152.43	18.96
Lie Scale	1.62	1.23

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