

PERFORMANCE OF DELINQUENTS AND NON-DELINQUENTS
ON THE IES TEST

120
120

By

RICHARD LEE WIKOFF

Bachelor of Arts

Bethany Nazarene College

Bethany, Oklahoma

1960

Submitted to the Faculty of the Graduate School of
the Oklahoma State University
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
May, 1963

STATE UNIVERSITY
LIBRARY

JAN 9 1964

PERFORMANCE OF DELINQUENTS AND NON-DELINQUENTS
ON THE IES TEST

Thesis Approved:

Rudolph J. Rankin

Thesis Adviser

Robert W. Seayfield

Harry K. Bost

Robert M. ...

Dean of the Graduate School

542238

PREFACE

Each year a number of new tests are published. Many of these tests are designed to measure various personality traits. However, before these tests can be used for purposes other than research it is necessary that they be examined for validity and reliability.

One such test is the IES Test which was published in 1958 (Dombrose and Slobin, 1958). The purpose of this investigation was to test the reliability and validity of this instrument.

The writer takes pleasure in expressing his gratitude to the faculty members and fellow associates who have afforded guidance and assistance in the preparation of this thesis. The writer is especially indebted to Dr. Richard Rankin who has given many hours of assistance and a wealth of advice. Dr. Rankin has shown a genuine interest, not only in this thesis, but also in the professional progress of the writer, for which the writer wishes to express his sincerest appreciation.

Sincere appreciation is expressed to James Johnston who has been of great assistance in the administration and scoring of the tests used in this study.

There are many others who have shown an interest in this thesis and the writer, and who have by their words and deeds served to encourage the writer in his professional endeavors. Among these, special thanks are expressed to Dr. Robert W. Scofield.

For permission to use the IES Test and to make certain modifications in it, grateful acknowledgement is made to the authors of the test,

Lawrence A. Dombrose and Morton S. Slobin.

Finally, the writer wishes to express his gratitude to Terry Keepers, psychologist; Dr. Menninger, Chief Medical Officer; the Warden; and other members of the staff of the Federal Reformatory at El Reno, Oklahoma for their splendid cooperation and invaluable assistance in the selection of the delinquent subjects and in the gathering of personal data for the subjects.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION AND STATEMENT OF THE PROBLEM	1
Purpose of the study	2
Theoretical Orientation	2
Review of the Literature	4
Statement of the Hypotheses	22
II. THE EXPERIMENTAL PROCEDURE	24
Subjects	24
Sampling and Controls	27
Techniques of Measurement	29
Procedure	33
III. RESULTS	35
Unmatched Groups	35
Matched Groups	35
Direction of Differences	38
Effect of Intelligence	39
Reliability Coefficients	41
IV. DISCUSSION AND CONCLUSIONS	44
Validity	44
Another Approach	47
Reliability	50
Summary of Conclusions	51
REFERENCES	54

LIST OF TABLES

Table	Page
I. Comparison of College Subjects and Inmates on the IES Test (N = 64 College Subjects and 57 Inmates)	36
II. Comparison of College Subjects and Inmates on the IES Test (Matched Groups: N = 38)	37
III. Correlation of IQ Scores With IES Scores for Reformatory Inmates (N = 56)	40
IV. K-R 20 Reliability of IES Scores for College Subjects and Inmates (N = 38 for Matched Groups. Total N = 64 College Subjects and 57 Inmates)	42

LIST OF FIGURES

Figure	Page
1. Occupations of Male Guardians for College and Reformatory Subjects (N = 64 for College Group and 55 for Inmate Group)	26

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

In 1958, Dombrose and Slobin published a new instrument entitled the IES Test which was based upon the Freudian psychoanalytic theory of personality structure, and which was designed to measure "the relative strengths of impulses, ego, and superego and to estimate the effects of impulse and superego forces upon ego functioning" (Dombrose and Slobin, 1958, p. 347).

This test is an attempt to combine the advantages of objective and projective measures in one instrument, i.e., it attempts to measure dynamic personality characteristics usually purported to be measured only by projective tests, such as, the Rorschach or the Thematic Apperception Test, while providing standardized administration and objective scoring procedures. This feature of the test makes it of special interest to research since it offers a new approach to the measurement of dynamic personality factors which is free from many of the limitations and weaknesses of the more commonly used personality tests (for a comparison of projective and objective techniques, see Lachman, 1955).

It is of interest, also, from a practical standpoint. If it can be shown to be valid, the IES Test would be of great value for both diagnostic and therapeutic work in such institutions as clinics, hospitals, and correctional institutions. It is easier to administer than many other personality measures and takes considerably less time (about 30

minutes).

Purpose of the Study

The writer became interested in the IES Test through association with Dr. Richard Rankin and James Johnston of the Oklahoma State University. These investigators began a comprehensive study of the IES Test in 1961 and published their first article in 1962. The present study is a part of this over-all project.

The primary purpose of the present investigation was to test the validity and reliability of the IES Test. However, the author was also influenced by the implications of a question asked by Dombrose and Slobin in an information sheet put out by the publishers of the test. These authors asked, "How does the personality structure of the juvenile delinquent differ from that of the healthy adolescent?" The context of the question implied that the IES Test might be able to assess the differences between these groups. If this instrument can so differentiate, it could be of great value theoretically and would hold promise of importance for practical uses of the test in the detection and, possibly, prevention of delinquency. Therefore, a second purpose of this study was to investigate personality differences between delinquents and nondelinquents.

Theoretical Orientation

According to Freudian psychoanalytic theory, the personality is composed of three major systems, the id, the ego, and the superego. The id is the energizing system of the personality. It operates according to the pleasure principle to maintain a constant state of tension within the organism. If the tension level is increased, the id functions to

discharge this tension and to restore the organism to its lower, more comfortable state.

The ego is the executive of the personality. It comes into being because of the need of the organism to deal with the reality of an external and objective world. It operates by means of the reality principle to prevent the discharge of tension except in the presence of objects which are need satisfying. In its function as the executive of the personality the ego has to also deal with the superego. Thus, the ego is the integrating system of the personality. Its function is to integrate the demands of the id, the superego, and the external world.

The superego comes into being through the internalization of the values and ideals of society brought about by rewards and punishments imposed upon the child by his parents and other members of society. This system serves to inhibit the impulses of the id by attempting to cause the ego to change its goals from realistic to moralistic ones, and to bring about a state of perfection (Hall and Lindzey, 1957).

In the healthy individual, according to this theory, the ego successfully reconciles or integrates these different forces. An overbalance of either id forces or superego forces results in abnormalities. Freud believed that, "Neurosis is the result of a conflict between the ego and its environment" (Freud, 1924, p. 254; cf. Kris, 1947). In neuroses, the ego is trying to serve the superego and reality comes into conflict with the id. In psychoses, the ego constructs a "new world" after the pattern of the impulses of the id. This collapse of the ego's relation with the outer world is due to a severe frustration by reality of a wish. If this theory is correct, it should be possible to differentiate personality differences by measuring differences in the id, ego, and superego. This is

what the IES Test attempts to do.

While the test authors have derived their test from the psychoanalytic approach and have emphasized the importance of the concepts of the id, the ego, and the superego, they have pointed out that, "We have no intention of creating an impulse, ego, and superego personality typology. It is incorrect to categorize people in this manner, for every individual and every aspect of behavior is the product of interacting, interdependent forces. However, by examining their manifestations in a number of diverse situations, we can measure some of these important forces" (Domrose and Slobin, 1958, p. 349).

The writer believes that it follows from psychoanalytic theory that delinquency is also a type of abnormal behavior. In delinquency, there is a lack of integration of the various personality systems. With at least some delinquents there is a breakdown of the superego structure such that the id maintains the greatest amount of control. This results in conflict between the id and the external world. In other words, the delinquent, theoretically, is more impulsive and less superego controlled than are normal individuals. If this is true, delinquents are an ideal group for validating the IES Test.

Review of the Literature

Before beginning this investigation, a careful review of the recent literature was made. Since the writer's primary interest was in the validation of the IES Test, the literature was approached from the standpoint of methods and variables used by other investigators to assess personality differences between delinquents and nondelinquents. While reviewing the literature, the writer kept in mind these questions: "Are there

significant personality differences between delinquents and nondelinquents? If so, have these differences been adequately measured previously? What are the problems associated with assessment of these differences?

An acceptable definition of delinquency is hard to give, since there are several different viewpoints from which one can approach the subject. For the purpose of this study, the writer has accepted the definition given in Webster's New Collegiate Dictionary which defines delinquency as, "failing in duty: offending by neglect or violation of duty or law." While a person could conceivably be a delinquent according to this definition without being detected, the writer has included in his definition the aspect of detection and incarceration. This has been done as a matter of necessity and not by choice, and problems created by such a limitation are dealt with in a later section.

Minnesota Multiphasic Personality Inventory

The Minnesota Multiphasic Personality Inventory (MMPI) is one of the most widely used of all research instruments. Many studies have been done with this test in an attempt to find personality differences between delinquents and nondelinquents. One such study, which is similar to the author's investigation, was done by Fry (1952). Fry's purpose was to establish norms for the MMPI, the Rosenzweig Picture Frustration Study and the Thematic Apperception Test (TAT) for a college population and for a prison population. Various comparisons were made between the different groups tested. These included male and female prisoners and male and female college students.

Scores for prisoners on the MMPI tended to be higher for all categories than the scores for college students. Significant differences were

ound for the Hypochondriasis, Depression, Psychopathic-Deviate, Paranoia, Schizophrenia, and Hypomania scales. Prisoners also scored significantly lower in the category of sexual interests. The Rosenzweig test significantly discriminated sex differences, racial differences, differences in social status, and differences in civil status. The TAT discriminated differences in level of intelligence, differences in civil and social status, racial differences, and sex differences.

Two of the most active researchers with the MMPI are Hathaway and Monachesi (1951, 1952, 1953; Monachesi, 1950). They seem to be convinced that the MMPI is a valid instrument for discriminating delinquents from nondelinquents and that the instrument may be used for predictive purposes. However, there is much disagreement in the literature.

Monachesi (1950), in reporting a study with two groups of nondelinquents and two groups of delinquents, states that his data indicated that the MMPI does not differentiate consistently between delinquents and nondelinquents on mean scores and mean differences. He did report that the Psychopathic-Deviate scale (Pd) seemed to significantly and uniformly differentiate between delinquents and nondelinquents. He further reported that when socio-economic differences were considered, several clinical scales produced significant differences. This may raise a question concerning the relationship of the MMPI to socio-economic status.

In 1952, Hathaway and Monachesi published a study in which several scales reportedly discriminated between delinquents and nondelinquents. In this study, amount and seriousness of delinquency was considered. The most delinquents were significantly discriminated but the least seriously delinquent group was not differentiated. This study would seem to raise a doubt as to the possibility of predicting delinquency before it

curs. Again in this study, the best scale was the Pd scale.

In their book, Hathaway and Monachesi (1953) reviewed several studies (mostly with girls) and concluded that the MMPI is a valid instrument for discrimination and prediction. In this book, they seem to point it and then ignore their own weaknesses. One such weakness concerns the reliability and validity of the MMPI patterns as indicators of adult maladjustment. They admit that their findings are contingent upon these factors, but high validity and reliability have not been consistently shown.

Hathaway and Monachesi also point out that, "Adolescents not observed to be delinquent are, as a descriptive group characteristic, more prone to have behavior difficulties of the types found among delinquents than would be true of adults" (p. 43). They further state that even youths apprehended as delinquent would be measurably different from adult abnormals. Therefore, their basis of comparison is not delinquents versus non-delinquents, but both against adults, with the theory that delinquents differ more from adults than do nondelinquents. It is this writer's opinion that the evidence for the MMPI is inconclusive, and that further cross-validation is called for.

Abdel-Meguid (1954) made a study based upon Hathaway and Monachesi's (1953) conclusion that high probability delinquents can be distinguished from low probability delinquents by scores on the MMPI. They concluded that scores for high probability delinquents are comparable to patterns of adult mental illnesses. Abdel-Meguid divided a group of delinquents into high and low probability groups on the basis of their MMPI scores and compared the groups on intelligence, performance on the California Achievement Test (CAT), socio-economic factors, and age. The only significant difference was age, with the low probability group being younger.

concluded that the factors that lead to delinquency are multiple, dynamic, and interrelated. Many of them are shared by delinquents in general whether delinquency is a symptom of mental illness or of other maladjustments. He felt that symptoms of maladjustment, such as delinquency, appear much earlier than the age at which the MMPI is applicable. He indicated that the personality cannot be isolated from the environment and that the multiplicity of factors that mold personality in unique ways must be considered in any program of prevention or rehabilitation.

Kanun (1956) tested the hypothesis that within the pool of items of the MMPI there will be found items which discriminate delinquents from nondelinquents and can, therefore, become predictors of delinquency. Two scales were found, one for males and one for females, which discriminated between delinquent and nondelinquent groups. Cross-validation showed that the resulting scales efficiently discriminated delinquents and nondelinquents in cross-validating groups made up of invalid profiles, although with some shrinkage, but were not efficient on tests based on valid profile cases.

Volkman (1958) controlled for intelligence, socio-economic status, racial membership, and factors attendant upon placement in correctional institutions. In short, he attempted to control all variables except delinquency. His results were negative. He concluded that there was no correlation between juvenile delinquency and personality aberrations, and that previously reported positive results can be accounted for by the presence of variables other than delinquency.

Smith (1956) compared MMPI scores for six different penal samples with the scores for normals and abnormals. He found a marked degree of

homogeneity of behavior on the MMPI for all groups of inmates. Incarcerated criminals were shown to be different from both normals and abnormals. Inmates appeared to be predominantly psychopathic, masculine, aggressive, and out-going but situationally depressed. Minorities of psychotic, neurotic, and abnormal individuals also appeared.

In summary of the studies with the MMPI, the results are inconclusive. The one scale which shows any consistency in discriminating delinquents from nondelinquents is the Pd scale. Further research is indicated.

The Porteus Maze Test

At least five studies have been done with the Porteus Maze Test. All five were positive in their results. Four of these studies are included in a review by Schuessler and Cressey (1950). Schuessler and Cressey seemed to not be impressed by this consistency of positive results. They felt that this may have been due to observer bias, since Porteus was the investigator in each case. Also, Hawaiian subjects were used in the studies, thus raising the question of cultural differences.

Doctor and Winder (1954) also investigated delinquent versus nondelinquent performance on the Porteus Maze using Porteus's qualitative scoring methods which are based upon an evaluation of the subject's regard for instructions, carefulness, impulsivity, etc. These investigators matched 60 delinquent and 60 nondelinquent boys on the basis of age, mental ability, race, and socio-economic status. They found highly significant differences and indicated that the instrument may have some value as a screening device. They found that 70% of the delinquents scored above a given cutting score, while only 30% of the nondelinquents

scored above this level. While this sounds good percentage-wise, it is apparent that if the same percentages were applied to a normal population in which the percentage of nondelinquents was over 90% that greater accuracy could be achieved by not using the test at all, i.e., by calling everyone nondelinquent. This does not mean that the test does not have any value, only that its use would result in a large number of false positives.

Doctor and Winder also compared results of previous studies with the Porteus Maze and found no significant differences between studies for either delinquents or nondelinquents when the scores for the same groups were compared. The study further indicated no significant differences due to intelligence. While the test may not be useful as a screening device, its consistency indicates it is measuring a reliable difference.

The studies with the Porteus Maze were of particular interest to the present writer because the rationale is very similar to that of the Crow-Dot subtest of the IES Test. Further research here might prove very fruitful.

The Glueck Studies

One of the most laborious investigators in the area of juvenile delinquency is Eleanor T. Glueck. She and her husband began a longitudinal study during the late 1940s. The first results and plans for future studies were reported in her book, Unraveling Juvenile Delinquency (1950). Since that time, there have been periodic reports of further studies: Glueck, E, 1952; three articles in 1956; and 1960: Glueck and Glueck, (1956). The latest article (Glueck, E., 1960) gives a review of their

decade or more of work and the results found.

During the course of their investigations, the Gluecks have developed the Glueck Social Prediction Table (SPT) for juvenile delinquency. This is a five point scale consisting of an evaluation of (1) father's discipline, (2) mother's supervision, (3) father's affection, (4) mother's affection, and (5) family cohesiveness. The purpose of the SPT is to distinguish at school entrance those children who are and those who are not in danger of developing into persistent offenders.

Retrospective studies dealing with all types of criminals showed that 71% to over 90% of the delinquents studied would have been correctly identified by the scale in their early years. The various studies reported varied between these percentages, but all were positive.

Significant results have also been found in such countries as Japan and France, and studies are being undertaken in other countries. Longitudinal studies are still being conducted. Progress up to the present time indicates that the scale's predictions will be shown to be accurate. These studies will continue until the subjects reach the age of seven years, which will be in 1964.

Glueck concluded, "Results indicate that regardless of ethnic origin, color, religion, intelligence level, residence in urban or rural areas, economic level, or even sex, the predictive cluster is equally potent, not only on American but on Japanese and French sampling."

Thompson (1957) applied the Glueck SPT to two separate samples of delinquents aged 8 to 18. Ninety-two per cent of the boys and 100 per cent of the girls were accurately identified.

This instrument seems to have amazing promise. Its biggest disadvantage is the difficulty of gathering the necessary data. This fact

urs others to look for an easily administered objective instrument which will discriminate between delinquents and nondelinquents. For a symposium of early reviews of Unraveling Juvenile Delinquency see Gault, 1951.

Miscellaneous Scales

Quay and Peterson (1958) devised a new instrument consisting of 40 true-false items similar to those used in the MMPI. This instrument was cross-validated on four different groups, with a total of 781 cases. The authors reported that the scale correctly classified 67% of the cases with reliabilities ranging from .53 to .82. Positive correlations were found between this scale and a scale developed by Gough and Peterson (1952) and with a rating scale of severity of problem behavior. This would seem, at first, to be a useful scale. However, several things need to be pointed out. In spite of the fact that the samples for the cross-validation studies consisted entirely of delinquents, the percentage of delinquents correctly identified by the scale fell to as low as 55%. The highest percentage was in the original study in which 67% were identified. Whether applied to the original study, the cross-validation studies or to the population as a whole, it is clear that the use of the test would result in a large number of individuals incorrectly identified.

The Gough-Peterson Scale (1952) was also reported as significantly discriminating between delinquents and nondelinquents in both original and cross-validation studies. The authors reported that in the original study a cutting score of 26 (out of 64 items) correctly classified 78% of the total of all samples (1430 cases). This is not very impressive when it is pointed out that 75% of the total number of cases were

delinquents. In the sample of 1128 males, 960, or 85%, were delinquent, and the scale correctly identified only 75%. Once again, the conclusion must be that greater accuracy can be had by not using the test.

Another scale is the K-D Proneness Scale developed by Kvaraceus (1959). A study by Balogh (1958) using this four choice scale showed that it successfully discriminated between a delinquent group, a public school group, and a high morale group.

However, Clements (1960), after testing the predictive utility of the K-D Scale, a Delinquency Proneness Check List by Kvaraceus, and the Global Rating Scale, concluded that the predictive validity of these three proneness measures in discriminating those youngsters who eventually did commit offenses was too low to have practical significance. He indicated that the major obstacle was the difficulty of detecting non-prehended offenses in the supposedly non-offender group.

Caston (1954) developed three hypotheses on the basis of Deri's (1949) 14 factorial and vectorial configurations from the Szondi Test, which Deri hypothesized as having significance for criminal and antisocial behavior. In support of his first hypothesis he found that one separate sign and two configurational patterns differentiated between prisoners and a non-prison group. Each test was administered six times, and in support of his second hypothesis, prisoners showed greater variability in test performance. A third hypothesis was not supported.

In a study using the Tennessee Department of Mental Health Self-Concept Scale, Deitcher (1959) compared self-concept ratings of delinquents and nondelinquents and found significant differences on the basis of the total mean positive scores. He also found that the magnitude of positive self-concept scores was related to adjustment. The more serious

ie delinquency the lower were the scores. No significant differences are found in consistency scores of the two groups.

Another study using self-concept ratings was done by Balester (1956). He used the Q-technique to compare adult normals, nondelinquents (ages 12-16), and delinquents (ages 13-17). He found significant differences between delinquents and nondelinquents on the basis of mean sensitive score, but not on the basis of positive score variances.

Gottesman (1959) used the Ego-Strength (Es) Scale developed by Fromm from the MMPI to score previously administered MMPI tests. The test distinguished between psychiatric and non-psychiatric cases, but not between severe delinquents and normal adolescents. Gottesman concluded, "The multiplicity of ego functions makes it difficult to assess ego strength by observing or knowing the state of a few of these functions. Adding to the problem is the fact that an excessive amount of energy devoted to one function could be pathological but would be manifested by a high score on the Es Scale. Consistent interpretations of what the scale does depends upon the particular kind of subject and his self-taking attitude. Any valid technique for the assessment of ego-strength must conceive of the ego as a complex system and then must combine the results of an intrasystemic analysis with intersystemic and interpersonal data."

Johnson and Stanley (1955) used a picture projective test which was developed in a duplicated two by two factorial split-plot design with two levels of sex, power and threat. They found no difference in attitudes toward authority of delinquents and nondelinquents (ages 10-14). Both groups tended to show more hostility toward females than males. The present writer feels that this is rather typical of this age.

responses to different levels of threat and power varied significantly from individual to individual. None of the 11 possible interactions involving group, sex, power, and threat was significant.

Extraneous Variables

Socio-economic Status. A number of investigators either dealt with or pointed out the influence of extraneous variables in comparison studies of delinquents and nondelinquents. Hinkleman (1953) compared delinquents with (1) upper, (2) middle, and (3) lower socio-economic class nondelinquents. He controlled for intelligence, age, and race. He used the California Test of Personality: A Profile of Personal and Social Adjustment, Intermediate, Form A. The results were that the nondelinquent group which least resembled the delinquents was the upper socio-economic group. The lower group was next but similar in scores to the upper group. Each of these two groups differed significantly at the .01 level from the delinquents on ten of the 12 subtests and the total. The upper group had a critical ratio which was significant at the .01 level for one of the other subtests and the lower group had a ratio significant at the .05 level. The middle group most nearly resembled the delinquents. Seven of the subtests were below the .05 level of significance. For the area Freedom from Anti-Social Tendencies the mean difference slightly favored the delinquent group.

Hinkleman concludes that there are significant differences in personality adjustment between delinquents and nondelinquents. He feels that in previous studies these personality differences may have been obscured by socio-economic differences. This conclusion is the opposite of that made by Volkman (1958) which was discussed earlier. Volkman concluded

at failure to consider socio-economic variables and/or other factors resulted in false positive results. Hinkleman concludes that failure to consider such variables results in false negative results.

An interesting conjecture along this line was made by Kvaraceus (1959). He concluded that 75% of all norm violations stem primarily from cultural forces, and only 25% reflect malfunctioning of personality. Certainly more research is needed to verify this hypothesis.

Another question which might be raised by Hinkleman's study relates to why it is that the middle class juveniles are most like the delinquents, but most delinquents come from the lower classes. As if in anticipation of this question, Hinkleman suggests that causes for maladjustment in middle class groups are different from the causes of maladjustment in delinquents.

Differences Among Delinquents. That there are differences among delinquents, i.e., that there is no clear cut dichotomy of delinquents and nondelinquents, seems to be clear from the literature. Kvaraceus (1959) stated, "There is general agreement among psychiatrists that, diagnostically speaking, the youngster who violates norms can fall into any diagnostic category or into none at all and that there is no diagnostic category of 'delinquent' for youngsters who engage in or repeat illegal behavior" (p. 91).

Peterson, Quay, and Cameron (1959) felt, as did Hinkleman, that failures in the past to find personality differences were due to methodological failures. They felt that the most glaring defects were due to the gross behavioral heterogeneity of legal offenders and inadequacies of the instruments used to examine them. They factor analyzed two sets of questionnaire items which were previously shown to differentiate

between delinquents and nondelinquents (Gough and Peterson, 1952; Quay and Peterson, 1958). They factored out three personality dimensions and two background dimensions. These were called Psychopathy, Neuroticism, Inadequacy, Family Dissension, and Scholastic Maladjustment. Impulsiveness was a strong variable in both Psychopathy and Neuroticism.

Fox (1952) used six of the Bernreuter scales (B1N, B2S, B3I, B4D, B5C, and F2S) to compare different types of criminals, viz., those whose offenses were against property and those whose violations were against people. All six scales showed some sensitivity with the sociability scale (B2S) being most discriminating and the introversion scale (B3I) being least value. There was a trend for violent offenders to be what Fox termed "inferior" to non-violent offenders, but this was not significant. Fox concluded that there are areas of differential personality development which influence, to some degree, the area of social non-conformity.

Reiss (1952) reviewed data taken from the records of Cook County, Illinois Juvenile Court. On the basis of this data and classification by psychiatrists he divided delinquents into three psychological types. One group consisted of relatively integrated delinquents whom he felt would probably become mature, independent adults. The second group of delinquents had markedly weak ego controls. They were highly insecure persons with low self-esteem, and were often highly aggressive and hostile. These persons usually experience a great deal of internal conflict and exhibit marked anxiety. The third group of delinquents were those with markedly ineffective superego controls. They have not internalized the social conforming controls of middle class society. These persons experience little sense of guilt over their delinquent acts. Typically, they identify with the adolescent peer culture which rejects these norms. Differences were

and between these groups in community orientation, institutional orientation, and primary groups. Because of the nature of the design, no conclusions could be drawn, but questions were raised for future research. The importance of the study for this review is that this investigation seems to indicate that there are subgroups among delinquents.

Karpman (1954), even though dealing with a group of criminals who all committed the same type of crime, concluded that, "The consensus that sexoffenders follow no set type, physically or mentally; that immense variety of persons commit sex offenses" (p. 40).

A study by Kingsley (1956) indicates that criminals fall into at least two classes, viz., psychopaths and non-psychopaths. Two groups of solitary offenders were compared on the Wechsler-Bellevue, the Rorschach, P.T., and Sentence Completion tests and found a constellation of personality characteristics including immaturity, impulsivity, hostility, egotricity, shallowness, incapacity in interpersonal relations with authority figures, and in heterosexual relations differentiated the two groups.

In a study in which he compared delinquents who had normal and abnormal electroencephalogram patterns (EEGs), Foster (1956) concluded that his study suggested that delinquents may be classified into subgroups on the basis of specific factors associated with each subgroup. He felt that, in terms of causation and personality, there may be several kinds of delinquents, each kind determined by a different constellation of factors.

Incarceration. Another variable which may influence studies of delinquents versus nondelinquents is the effect of incarceration. Where along the way does the delinquent personality become different from the

normal personality? (assuming that such differences do exist). Does a life of crime cause personality aberrations or do personality aberrations cause a life of crime? Does incarceration change the personality of the person incarcerated as a result of an abnormal personality?

There have been few studies which have dealt either directly or indirectly with this problem. Bernberg (1960) administered the Edwards Personal Preference Schedule (EPPS) to 117 inmates of the Federal Terminal Prison and compared their scores on deference, order, abasement, and endurance. They scored significantly lower on exhibition and dominance. Bernberg felt that these differences were due to the results of incarceration, i.e., to a sub-society influence on the personality need systems of the inmates. However, since no control group was used to directly test this hypothesis and the norm group was not matched with the prison group, any conclusion can be no more than a hypothesis. The writer would like to suggest that this hypothesis might be tested by using a longitudinal approach.

Schachtel (1951) compared by blind analysis the Rorschach tests of 100 juvenile delinquents and 500 nondelinquent adolescents. The groups were matched on the basis of age, general intelligence, national origin, and residence. He found significant differences in number of responses in Dd, D, M, and Mt responses. In each case, the nondelinquents gave more responses than the delinquents. He concluded that the value of his statistics was limited and their meaning doubtful due to the methods used. He felt that the difference may have been due to the fact that the delinquents were tested in the institution where confined. Here, as in Bernberg's study, the design was not set up to test the effect of incarceration, but at least the opinion of the author was that there was such

n effect present.

conclusion

From the literature, it seems clear that there is no clear cut dichotomy of delinquents and nondelinquents as far as any specific personality characteristics are concerned. There seems to be as many different personality characteristics among delinquents as among normals. It is possible that the personalities of many so-called "normals" are as aberrant as the personalities of the delinquents. The difference is that they have either not been placed in a situation which has led them to openly violate societies laws or else because of their circumstances their aberrant behaviors have never been made public.

At any rate, the causes of delinquency seem to be multiple and compounded. The attempts to isolate specific personality differences has resulted in confusion. There are both positive and negative results for the same instrument. Even positive results with the same instrument evidence considerable overlapping and significant differences in scores for what are supposed to be similar samples taken from the same populations. Any conclusions made by the investigators do not follow directly from the results, but are in reality hypotheses to be tested.

At the present time, it seems to be impossible to combine the results of the various studies because they are not all equally valid. The differences of control can be noted. There are also differences in comparison groups. Some investigators used matched groups, some used data from previous studies, and some used norm groups on which the test was standardized.

The only instruments which consistently give positive results are

the Glueck SPT and the Porteus Maze Test. The SPT is very promising, but because of the difficulty of gathering data a more easily administered instrument would be more desirable. The Porteus Maze, while discriminating between groups is not suitable for prediction on an individual basis. Thus, the search goes on for an instrument which will accurately discriminate between delinquents and nondelinquents which is easy to administer.

There seems to be a progression indicated in the personality differences of delinquents and nondelinquents, i.e., the over-all picture seems to be that few differences are noted in earlier years, but more and more differences are noted as the delinquents get older and as their delinquent behavior becomes more and more frequent and more serious. This raises the question of whether personality aberrations cause delinquency or whether delinquent behavior and the experiences associated with it, including incarceration, causes personality aberrations. This is an area where further research is needed.

The studies conducted to date have not satisfactorily answered the questions related to the relationship of personality differences and delinquency. It does seem improbable that any one characteristic will ever be found which will discriminate between delinquents and nondelinquents. However, it is possible that some way will be found to measure a combination of forces which will be discriminatory. Perhaps what is needed is an instrument that will measure, not specific traits, such as attitudes, needs, beliefs, etc., but the dynamics of personality. Since this is what the IES Test purportedly measures, perhaps this instrument will provide some answers.

There are several factors which have been revealed in this review which encourages research with the IES Test in the study of delinquents.

veral studies, using different tests, have indicated that impulsivity may be a factor which varies between delinquents and nondelinquents. (Dobson and Winder, 1954; Gough and Peterson, 1952; Kingsley, 1956; Peterson, Quay, and Cameron, 1959; and Quay and Peterson, 1958). The ego and ego-strength was mentioned as a factor in two studies (Gottesman, 1959 and Reiss, 1952), and the superego was mentioned by one author (Reiss, 1952).

In the review by Schuessler and Cressey (1950) in which 113 studies were reviewed, 42% of the studies found personality differences. The ratio for the present review has not been accurately computed, but a cursory examination of the studies mentioned indicates that it is even higher. What seems to be called for is a new approach. Perhaps the IES Test and the IES Test 11 provide this.

Statement of the Hypotheses

The problem for this investigation is: What is the power of the IES Test to discriminate between delinquents and nondelinquents? Are there differences in structure of the three personality systems of psychoanalytic theory between delinquents and nondelinquents?

Volkman (1958) indicated that delinquency is a general factor. However, it is possible that some types of delinquents are impulsive while other types of delinquents are highly superego oriented. A combination of both types of delinquents in the same study could result in a cancellation of effects, so that for the over-all results no significant differences would be detected. For this reason, it seemed wise to the writer to restrict the study to a homogeneous criterion.

In general, this investigation was designed to test the hypothesis

that there are dynamic personality differences between a specific type of delinquent and nondelinquents which can be measured by the IES Test. On the basis of psychoanalytic theory, the writer predicted that car thieves would be more impulsive and less superego oriented than nondelinquents, and that nondelinquents would have more ego-strength than delinquents. The following hypotheses were tested:

1. Delinquents and nondelinquents differ in impulsivity as measured by the IES Test.
2. Delinquents and nondelinquents differ in superego strength as measured by the IES Test.
3. Delinquents and nondelinquents differ in ego-strength as measured by the IES Test.

In addition to these hypotheses designed to indicate the validity of the IES Test, this investigation sought to provide information concerning the reliability of this test.

CHAPTER II

THE EXPERIMENTAL PROCEDURE

In Chapter I it was stated that the primary purpose of this study was to test the validity and reliability of the IES Test. A secondary purpose was to investigate personality differences of delinquents and nondelinquents. Predictions were made on the basis of psychoanalytic theory. The IES Test was then administered to a group of delinquents and to a group of nondelinquents, and comparisons were made between the total groups and between subgroups matched on intelligence.

Subjects

Delinquent Subjects

The delinquent group was composed of 57 male subjects selected from a population of inmates at the Federal Reformatory at El Reno, Oklahoma. An attempt was made to make this a homogeneous group since the review of the literature revealed that there are differences within a delinquent population. All of the subjects were second offenders and all had been convicted and sentenced on the charge of interstate transportation of stolen vehicles. None of the delinquent subjects were within six months of release and none were within six months of a parole hearing. All had been incarcerated for at least a year. Selection was also made on the basis of IQ scores on the Revised Beta Examination. This test was used because this information was already available in the prison files. Only

inmates with average or above IQ scores were used. This was done in order to make the group as comparable as possible with the nondelinquent group.

The prison files were quite complete concerning background information of the subjects. However, because many of the subjects were illegitimately born and had lived with many different persons during their lives it was difficult to make an accurate, quantitative listing of socio-economic factors. A rough listing of occupations was made on the basis of available information, and was classified according to Edward's Occupational Index as presented by Barber (1957, p. 172). This data is presented in Figure 1 along with the same data for the college subjects' guardians. Edward's Classification Index is presented below:

1. Professional persons
2. Proprietors, managers, and officials
 - a. Farmers
 - b. Wholesale and retail dealers
 - c. Other proprietors, managers, and officials
3. Clerks and kindred workers
4. Skilled workers and foremen
5. Semiskilled workers
6. Unskilled workers
 - a. Farm laborers
 - b. Laborers, except farm
 - c. Servant class

As indicated, many of the reformatory subjects had lived with several different persons, including parents, grandparents, foster parents, step-parents, other relatives, in orphanages, and with persons who were

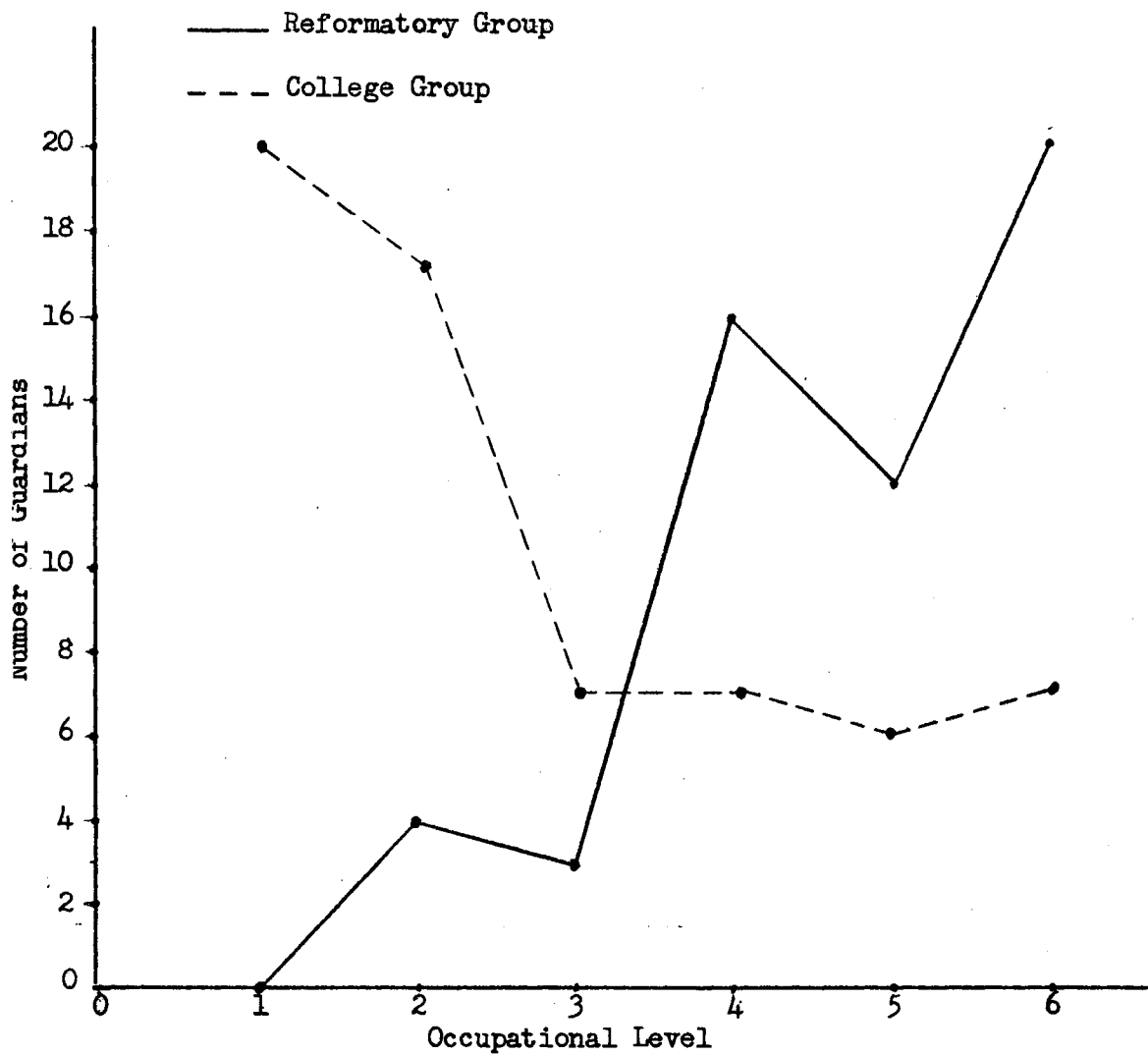


Figure 1. Occupations of Male Guardians for College and Reformatory Subjects (N = 64 for College Group and 55 for Inmate Group).

living with but not married to one or the other of the parents. An attempt was made to use the occupation of the male guardian with whom the subject had lived the longest. It can be noted from Figure 1 that of the 55 guardians for whom this data was compiled, 48 were in classes 4, 5, and 6. Only seven were in classes 2 and 3, and none were in class 1.

Nondelinquent Subjects

The nondelinquent group was composed of 64 college students selected from three introductory psychology classes at Oklahoma State University. This group was also fairly homogeneous. The occupations for the primary male guardians of the college subjects are also shown in Figure 1. Forty-four guardians were in classes 1, 2, and 3, and 20 were in classes 4, 5, and 6. It should be pointed out that all of the seven persons placed in class 6 were oil field workers. The 20 persons in class 6 from the reformatory group consisted of four alcoholics, three welfare cases, three janitors, seven laborers (including transient laborers), and three construction workers.

Sampling and Controls

The nature of the investigation made it necessary to select the subjects on an a posteriori basis. The delinquent subjects were necessarily those who had been detected and incarcerated. However, an attempt was made to match the two groups on a number of variables.

Sex

Only male subjects were used. This was done for two reasons. First, only male inmates are incarcerated at the El Reno Reformatory. To have

included female subjects would have necessitated sampling from a different group of subjects with possible confounding of results. Second, Dombrose and Slobin (1958) pointed out that theoretical considerations suggest that males and females would differ in their responses on the IES Test. While early investigation did not bear this out, there was an indication of differences in strength of response. Rankin and Johnston (1962) later found some evidence of significant differences between the scores of males and females on this test.

Age

Ritz (1954) found that geriatric subjects were significantly different according to IES scores from younger subjects. This finding was in part substantiated by Rankin and Johnston (1962). They found a significant correlation between age and scores on the I and E parts of the Arrow Dot subtest for females and between age and E scores on the Photo Analysis subtest for males. In order to control for age, subjects in both groups were selected who were in the same age range. The ages of the delinquents ranged from 19 to 23. The ages of the nondelinquents ranged from 18 to 25. The mean for both groups was 20 years.

Intelligence

The writer predicted that the more intelligent subjects would detect the more socially acceptable responses and that intelligence and test scores would be correlated. This prediction was tested on the reformatory sample, and it was found that two of the twelve subparts were significantly correlated with intelligence. There was a strong trend toward significance in four other parts. In order to control this vari-

able, subjects were matched on a person to person basis according to IQ scores on the Revised Beta Examination. Thirty-eight pairs of subjects were so matched.

Socio-economic Status

The evidence in the literature concerning the influence of socio-economic status is conflicting. As pointed out earlier, Hinkleman (1953) and Volkman (1958) came to exactly opposite conclusions regarding the influence of socio-economic variables. The Glueck (1960) studies seem to indicate that the important factors are not socio-economic variables but the relationships of the individual with his parents and the other members of his family. The reason for this confusion may be that the lack of satisfactory familial relationships is more often manifested among the lower classes. Also, many delinquents in middle class homes are not detected as such and are not incarcerated because of the influence of the parents in the community.

The wide differences of the two groups in this study made matching on the basis of socio-economic status extremely difficult. The writer felt that the evidence did not warrant the additional time and expense that would have been required to do this. Therefore, the writer has described both of the groups and pointed out the wide differences between them, but has not controlled for these differences.

Techniques of Measurement

Since the primary purpose of this study was to test the reliability and validity of the IES Test, this test was used as the measuring instrument. This test provides a group of standard situations which are specif-

ically designed to elicit behavior which will allow the impulses, the ego, and the superego to manifest themselves.

The test is composed of four subtests. Each subtest offers three choices for each item it contains. These choices are scored I for impulsive, E for ego, and S for superego. The three choices are ipsative, i.e., the choice of one automatically excludes the choice of the other two. For the total score a person who has a very high score for one of the factors must have a low score for each of the other two factors.

There are 12 independently scored parts of the IES Test (I, E, and S for each of the four subtests). At the present stage of development, there has been no attempt made to utilize combined or total scores.

The Arrow Dot Test

"The Arrow Dot Test (AD) is a perceptual-motor task requiring the solution of 23 relatively simple graphic problems" (Dombrose and Slobin, 1958). The subjects are instructed to draw the shortest line possible between an arrow and a dot. They are instructed to never cross a black bar and to cross solid black lines only when absolutely necessary. Various problems involving these structures are presented and scores of I, E, or S are given on the basis of the subject's behavior in following the instructions. As a means of providing "opportunities for self-limitation as determined by internal need" dashed-lines and gapped-bars are included in the problems. In general, I scores are given when the subject "follows his impulses" and draws a line in the direction of the arrow even if he has to draw a line through a black bar or a solid line. An I score is given when the subject takes a longer route than necessary. An E score is given if the subject complies with all the directions and

draws the shortest line. According to the underlying rationale, AD reflects the manner in which a person actually behaves in his daily living.

The Photo-Analysis Test

The Photo-Analysis Test (PhA) consists of nine men's photographs under each of which there are two questions about the behavior and feelings of the man pictured. The subjects are asked to select one of the three answers to each of the questions, and their choices are scored I, E, or S on the basis of their selection. "The PhA Test is interpreted as revealing the desired self-gratifications around which the subject organizes his fantasies. It indicates by means of projection upon the photographs how the subject would like (consciously or unconsciously) to function if he were free to behave in a manner of his own choosing, as in the permissiveness of fantasy" (Dombrose and Slobin, 1958, Pp., 354-355). Thus, a high I score would indicate that the fantasy life of the subject is heavily weighted with material satisfying to the impulses. A high S score would indicate that the subject's fantasy life is laden with thoughts of morality, doing good, being a martyr, righteousness, etc. A high E score indicates a closeness between ideational activity and reality. Low scores would indicate the opposite of the above.

The Picture Story Completion Test

The Picture Story Completion Test (PSC) is comprised of 12 sets of cartoons. Either two or three of these cartoons are presented as a beginning of a story, and the subject is instructed to complete the story by selecting one of the three additional cartoons presented. Their choices are scored I, E, or S according to the picture chosen. "It is believed

that the PSC Test expresses the subject's conception of the outside world; it reveals his perception of reality in terms of the three test variables as they are projected or externalized in the environment" (Dombrose and Slobin, 1958, p. 353). Thus, a high I score indicates that the subject sees the external world as expressing impulses freely. A high S score reflects the degree to which the subject sees the outside world as abiding by superego ideals. A high E score indicates that the subject has a realistic conception of the external world.

The Picture Title Test

"The Picture Title Test (PT) consists of 12 drawings, each showing activities and objects which may be classified into impulse and superego categories Responses to the test pictures indicate the degree to which the subject can accept impulses and superego pressures as belonging to himself and the degree to which he can integrate these aspects with his more objective judgement" (Dombrose and Slobin, 1958, Pp. 349-350). An I score is given if the response cathects an impulse-laden area of the picture. A high I score indicates that the subject realizes that he possesses a considerable number of impulse needs. An S score is given if the subject cathects an area of the picture associated with superego attitudes and values, or, if his response otherwise indicates a conscience-dominated attitude toward the picture. The S score is indicative of the subject's awareness of his own conscience. An E score is given if the title fully integrates all aspects of the picture and "indicates the recognition and acceptance of objective judgement as a determinant in one's functioning" (p. 350).

The Group IES Test

The IES Test was originally designed to be administered individually. However, for the purpose of this study it was modified so that it could be presented to groups of 20 to 25 subjects at a time. This was done by projecting some of the materials onto a screen by means of an opaque projector. The original AD forms were used, but PhA, PSC, and PT materials were projected. Permission to make the necessary modifications was given by the authors. Johnston (1963) administered the individual test and the group test to the same subjects to see if both tests measured the same thing and found no significant differences.

Procedure

Four trips were made to the Federal Reformatory at El Reno, Oklahoma for the purpose of arranging for and administering the tests. The subjects had been previously selected by the staff of the reformatory, according to the criteria mentioned in a previous section. Participation in the investigation was on a voluntary basis, and several inmates were excused because they objected to serving as subjects. The test was administered to approximately 12 to 18 subjects at a time. Four administrations of the test were made. Data was gathered on a total of 57 inmates. In addition to the IES Data, Revised Beta scores and socio-economic information was gathered from the personal files of the subjects.

The data for the nondelinquents were gathered in three separate administrations of the test to volunteer male subjects from three different sections of the introductory psychology course offered at Oklahoma State University. The Revised Beta Examination was given to these same subjects at a later date.

The reformatory subjects and the college subjects were matched on the basis of IQ scores. Because of the differences in modal scores and score ranges it was possible to match only 38 subjects on this variable.

The differences between mean scores for each of the 12 parts of the CES Test were tested by t tests. A special formula of the t test was used for the matched groups (Peters and Voorhis, 1940).

K-R 20 Reliability

Reliability coefficients were computed for each of the 12 subtest parts for delinquents and nondelinquents and for matched and unmatched groups. The method used was the formula devised by Kuder and Richardson (Richardson, 1936 and Richardson and Kuder, 1939) called the K-R 20 reliability formula. This method utilizes item statistics and was designed to get away from the bias resulting from the method of dividing a test when split-half coefficients are computed. It gives lower coefficients than any of the split-half methods. According to Guilford (1954), it can be assumed that the reliability of a test will not be lower than that computed by the K-R formulas.

CHAPTER III

RESULTS

Unmatched Groups

The mean scores and standard deviations for the unmatched group are presented in Table I with the values of t for each of the 12 subtest parts. For Arrow Dot (AD) there was one significant difference. The mean I score for the college subjects was 1.54 and the standard deviation (SD) was 1.38. For the inmates the mean I score was 2.54 and the SD was 1.32. The value of t was 2.81 which was significant beyond the .01 level. The differences for AD E and AD S were not significant.

There were no significant differences for any of the subtest parts for either Photo-Analysis (PhA) or Picture Story Completion (PSC).

There were two significant differences for Picture Title (PT). The mean score for PT I was 4.16 for the college subjects and 5.45 for the inmates. The SDs were 1.59 and 1.84 respectively. The t value was 4.08, which was beyond the .01 level. The mean S score for college subjects was 4.68, and for the inmates it was 3.48. The SDs were 1.70 and 1.87. This resulted in a t value of 5.41, which was significant at the .01 level.

IQ Matched Groups

Table II shows the results for the groups matched on IQ scores. The same three subtests were significant for these groups that were

TABLE I
 COMPARISON OF COLLEGE SUBJECTS AND INMATES ON THE IES TEST
 (N = 64 COLLEGE SUBJECTS AND 57 INMATES)

test	College <u>Ss</u>		Inmates		<u>t</u>	P
	Mean	SD	Mean	SD		
D <u>I</u>	1.54	1.38	2.54	2.32	2.81	.01
<u>E</u>	20.07	2.64	19.11	2.99	1.81	
<u>S</u>	1.39	1.77	1.34	1.24	.27	
hA <u>I</u>	4.92	2.26	5.00	2.66	.17	
<u>E</u>	8.38	2.49	8.74	3.01	.72	
<u>S</u>	4.70	1.98	4.26	1.84	1.26	
SC <u>I</u>	1.75	1.72	2.44	2.48	1.74	
<u>E</u>	7.66	2.24	7.19	2.31	1.11	
<u>S</u>	3.60	1.66	3.37	1.40	.80	
T <u>I</u>	4.16	1.59	5.45	1.84	4.08	.01
<u>E</u>	3.16	1.66	3.07	1.70	.30	
<u>S</u>	4.68	1.70	3.48	1.87	5.41	.01

TABLE II
 COMPARISON OF COLLEGE SUBJECTS AND INMATES ON THE IES TEST
 (MATCHED GROUPS: N = 38)

Test	College Ss		Inmates		t	P
	Mean	SD	Mean	SD		
D <u>I</u>	1.41	1.11	2.32	2.07	2.21	.05
<u>E</u>	20.22	2.75	19.38	2.49	1.25	
<u>S</u>	1.37	1.93	1.30	1.25	.16	
hA <u>I</u>	4.90	2.28	5.05	2.64	.26	
<u>E</u>	8.45	2.53	8.66	3.05	.35	
<u>S</u>	4.66	1.91	4.29	1.52	.99	
SC <u>I</u>	1.58	1.60	2.26	2.48	1.41	
<u>E</u>	7.74	2.20	7.32	2.18	.79	
<u>S</u>	3.68	1.56	3.42	1.44	.81	
F <u>I</u>	4.11	1.69	5.74	1.65	4.68	.01
<u>E</u>	3.28	1.88	3.08	1.78	.43	
<u>S</u>	4.62	1.79	3.18	1.43	3.28	.01

significant for the unmatched groups. For AD the mean I scores were 1.41 for the college group and 2.32 for the inmates. The value of t was 2.21. While this factor was significant at the .01 level for the unmatched group, the difference for the matched groups was significant at the .05 level.

The mean scores for PT I were 4.11 and 5.74 for college subjects and inmates respectively. The SDs were 1.69 and 1.65. This difference was significant beyond the .01 level. For PT S the means were 4.62 for the college group and 3.18 for inmates. The SDs were 1.79 and 1.43. This difference was also significant at the .01 level.

Direction of Differences

An analysis of the means for AD I and PT I indicates that the delinquents gave significantly more impulsive answers for these two tests than did the nondelinquents. As indicated above, the mean AD I score for the unmatched college subjects was 1.54, which was significantly less than the mean of 2.54 for inmates. Similarly, the mean of 4.16 on PT I for college subjects was significantly less than the mean of 5.45 for the inmates. For the matched groups the direction was the same, with the college group giving significantly less responses for AD I and PT I than the inmates.

For PT S the college subjects gave significantly more superego responses than did the inmates. The mean score of 4.68 for unmatched college subjects is significantly more than the mean of 3.48 for inmates. For the matched groups the direction was the same as for the unmatched groups, i.e., the college subjects gave significantly more superego responses than did the inmates.

Effect of Intelligence

It was indicated in the Control section that correlation coefficients were computed for Revised Beta IQ scores versus IES scores for the reformatory sample. Pearson Product Moment correlation coefficients were computed using a special formula based upon the differences in the scores (Ferguson, 1959, p. 97). These values are presented in Table III.

The reformatory subjects were selected on the basis of a restricted range of intelligence (average or above with a mean of 108). This biased the computations and made it necessary to make a correction to offset the effect due to the restriction of range (Guilford, 1956, p. 320). The corrected values are given in Table III along with the uncorrected coefficients.

Two of the twelve coefficients computed were significant at the .01 level. These were PT I and PT S. There is a slight, but not significant, correlation for AD I, PhA I, and PhA S, which may be indicative of a trend toward correlation of IQ with the scores for these factors. The significance of the correlations was based upon r since the standard error of R (the corrected values) is not known (Guilford, 1956).

The effect of intelligence was controlled by matching as many subjects as possible on this variable. Even then, in order to maintain sample size, some discrepancy was unavoidable. The difference in IQ scores for matched subjects ranged from zero points difference for 18 subjects to four points difference for two subjects. The maximum difference was less than the amount of error in measurement associated with the intelligence test used. The resulting mean IQ score for the matched groups was 111 for the reformatory sample and 112 for the college sample. The standard deviations were 6.4 and 6.1 respectively.

TABLE III
 CORRELATION OF IQ SCORES WITH IES SCORES FOR
 REFORMATORY INMATES (N = 56)

Test	<u>r</u>	<u>R</u>
AD <u>I</u>	-.18	-.34
<u>E</u>	.15	.23
<u>S</u>	-.05	-.10
PhA <u>I</u>	.20	.38
<u>E</u>	-.09	-.18
<u>S</u>	.26	.47
PSO <u>I</u>	.05	.09
<u>E</u>	-.02	-.03
<u>S</u>	-.10	-.20
PT <u>I</u>	.38**	.63
<u>E</u>	-.01	-.03
<u>S</u>	-.35**	-.60

= correlations corrected for restricted range in IQ.

* = significance at .01 level

A comparison of Tables I and II reveals a marked shift in mean scores for several of the test parts. While the hypothesis was not directly tested and the evidence is not conclusive, it is suggested that the shifts may have been related to the correlation between IQ scores and IES scores.

Reliability Coefficients

Reliability coefficients were computed for each of the 12 subtest parts for each of the four groups used in this investigation. The K-R 20 formula discussed earlier was used. These coefficients are presented in Table IV. They range from $-.24$ to $.80$. Twenty-seven of the 48 coefficients computed were $.40$ or greater.

The most reliable test was AD. Eight of the 12 correlations computed for this test were above $.60$. Photo-Analysis and PSC each had two correlations above $.60$. There were no correlations this high for PT. The highest correlation for the latter test was $.48$.

The K-R 20 values obtained were transformed into Fisher's Z scores in order that an indication of average correlation might be computed. No significance was interpreted from these computations but the averages so obtained give an indication of the relative reliability of the different IES subtests. On the basis of Fisher's Z values, the order of reliability from highest to lowest is AD, PSC, PhA, and PT. There were large differences between PT reliability and the reliability of the other tests. This would indicate that the reliability for PT is quite low. There was little difference between PhA and PSC. The reliability for these tests was moderate. Reliability of AD seemed clearly to be higher than for the other tests and was relatively high for personality tests in general.

TABLE IV

-R 20 RELIABILITY OF IES SCORES FOR COLLEGE SUBJECTS AND INMATES (N = 38 FOR MATCHED GROUP. TOTAL N = 64 COLLEGE SUBJECTS AND 57 INMATES)

Test	Matched Groups		Unmatched Groups	
	College Ss	Inmates	College Ss	Inmates
D I	.21	.65	.41	.65
	.76	.63	.71	.72
	.72	.36	.65	.30
2A I	.49	.58	.46	.59
	.50	.62	.47	.61
	.26	-.24	.29	.16
3C I	.55	.80	.59	.78
	.55	.53	.53	.56
	.23	.13	.28	.02
F I	.18	.08	.07	.25
	.48	.48	.34	.40
	.20	-.06	.11	.37

Fisher's Z was also used to compare the results for college subjects and inmates. All of these correlations were within a range of .09 points and were not significantly different.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

Validity

In the statement of the purpose of this study, the writer indicated that the validity of the IES Test would be tested by the method of construct validation. Construct validation is the testing of predictions which are based upon a specific theoretical orientation. The method of testing these predictions is that of experimental research. In other words, hypotheses are derived from the theory, and these hypotheses are experimentally tested.

In interpreting the results of this type of investigation, three things must be considered: (1) the adequacy of the theory, (2) the adequacy of the test, and (3) the adequacy of the experimental procedure.

In the present investigation, three hypotheses were presented. These are:

1. Delinquents and nondelinquents differ in impulsivity as measured by the IES Test.
2. Delinquents and nondelinquents differ in superego strength as measured by the IES Test.
3. Delinquents and nondelinquents differ in ego-strength as measured by the IES Test.

Significant differences were reported for three of the 12 subtests. Two of these are related to hypothesis one, and one is related to

hypothesis two. There were no significant results which were related to hypothesis three. The statistical applications of these results were made to the null hypotheses.

Negative Results

It is obvious that on the basis of these results the null hypothesis of hypothesis three should be rejected. There are three possible explanations which may be presented for these negative results. The same explanations would apply to the negative results for all nine subtest parts for which there were no significant differences.

First, there may be a fallacy in the theory such that the predictions are not valid in themselves. At the present stage of development of personality theory it is impossible to say that the concepts of id, ego, and superego are either valid or invalid. The use of these concepts in the IES Test in no way implies rigid adherence to a Freudian position (or to any other specific psychoanalytic theory). Rather, these constructs are used to refer to various general aspects of personality which may have some usefulness apart from a particular theory. The authors of the test have defined these concepts operationally and have argued that they can be measured. In other words, before concluding that this study gives evidence for discarding the theory it will be better to look elsewhere for the reasons behind the negative results.

Second, there may be some error in the test itself. Assuming the theory to be correct, does this test actually measure impulsivity, ego-strength, and superego strength? The evidence seems to support the conclusion that these nine subparts do not, in their present form, measure these variables. However, for a different interpretation see the section

ntitled "Another Approach."

There is a third factor which may account for some of the negative results, viz., errors in experimental procedure. It was indicated earlier that the groups were chosen by a posteriori methods. This could result in differences which are due to selective factors rather than to experimental variation. However, since no differences were found, this weakness could not seem to be a valid explanation for negative results.

A second weakness of experimental procedure noted earlier was the failure to match the groups on socio-economic status. However, the evidence of the affect of this variable is not clear. There is some evidence that differences in socio-economic status are related to false positive results (Hinkleman, 1953).

Positive Results

The fact that three of the subtest parts measured significant differences in the right direction is encouragement for further study. The same three questions may be used to analyze the meaning of positive results that were used in analyzing the negative results. First, it might be concluded that these results support psychoanalytic theory. Again, the concepts of impulse, ego, and superego are not tied to any specific theory closely enough to make such a conclusion. An analogy may be made here to the concept of intelligence. While this concept has been proved useful, it is not clearly tied to any theoretical framework (cf. Dombrose and Slobin, 1958). Also, psychoanalytic theory encompasses a very broad area while the IES Test is circumscribed by very narrow limits.

Secondly, the positive results may be interpreted as supporting the IES Test. This conclusion assumes the adequacy of the predictions made

and is based upon the success of the test in measuring the predicted results. While this seems to be a valid conclusion, caution must be exercised because of the weaknesses in experimental procedure already mentioned.

The necessity of using a posteriori matching methods may have resulted in a confounding of results due to selective factors. One such factor might be incarceration. The experience of being in an institution probably does have an effect upon the individual personality, e.g., the inmates within the institution are playing a role, and this role has certain expected behaviors. Inmates are expected to be "sexy," masculine, etc. Also, the entirely different environment most certainly has an effect upon individual behavior.

The confusion relative to socio-economic status has already been discussed. This does not seem to be a serious weakness. Even if socio-economic status has a positive effect as a "cause" of personality differences, it does not change the fact that personality differences do exist.

Another Approach

Since the rationale underlying the four subtests of the IES Test are different, one might expect different results. For this reason, it seems advisable to look at the results from a different viewpoint, i.e., as they relate to the individual subtests.

The Arrow Dot Test

The Arrow Dot Test is said by the authors (Dombrose and Slobin, 1958) to reflect the way in which the subject actually responds to his

external environment. The fact that the reformatory subjects had been twice convicted of stealing automobiles is an indication that these persons actually do respond to their environment in an impulsive manner. It could be predicted, therefore, that these subjects would score high on AD I. The results confirm this prediction. This lends support to the validity of the IES Test as a measure of impulsivity. It could also be predicted that the reformatory sample would be significantly lower on AD S. The results indicate that there was not even a trend in this direction. It can also be predicted that the college subjects would have more ego-strength as measured by AD E. While the difference for this factor was not significant, there was a trend in the right direction.

the Photo-Analysis Test

The rationale underlying the Photo-Analysis Test is that this test reflects the way in which the subject would like to behave if he were free to do so. Persons the age of the subjects in this study are very often very much aware of their impulses and want to be free to express them. Being in a college situation may serve to enhance this desire. For this reason, it seems justifiable to predict that there would be no significant differences between delinquents and nondelinquents in PhA score. Other possible reasons for negative results have previously been presented, and the writer is not trying to invalidate these reasons. It is possible, however, that these negative results actually support the IES test. Further investigation designed to test this hypothesis is suggested.

the Picture Story Completion Test

The Picture Story Completion Test is believed to indicate the way

n which the subject perceives the external world. The scores on this test should be related to those of the other tests. Thus, if the subjects are aware of their impulses (PT) and want to express them (PhA), but do not do so (AD), they must see the external world as restrictive (PSC). It would be predicted, then, that the college subjects would see the world as restrictive, i.e., that they would score high on PSC S. Since the inmates were incarcerated for expressing their impulses, it would be expected that they would also see the external world as restrictive. No significant differences would be predicted between the scores of college subjects and inmates. The mean scores for PSC S were in fact higher than the scores for PSC I, and there was no significant difference between the two groups. Here again, negative results are not offered as conclusive evidence. It is suggested, however, that such results may be in line with expected results.

The Picture Title Test

The Picture Title Test supposedly reflects a person's awareness of impulses and superego pressures within himself. A high I score indicates that the person recognizes and accepts his impulses as a part of himself. Certainly, it is to be expected that delinquents would recognize and accept their impulses, and it could be predicted that they would score high on PT I. A high PT S score indicates that the subject is aware of superego forces and has feelings of guilt, of being bad, or of being unworthy. Even though college students want to express their impulses (PhA), and see the external world as restrictive (PSC), they are more likely to feel guilty about their desires than are delinquents. It could be predicted, then, that college students would score lower on PT I and higher on PT S.

an delinquents. The results reveal significant differences for both of these factors, and thus, lend support to the validity of the IES Test as a measure of impulse and superego forces.

This last approach to analyzing the results is fraught with theoretical speculation and caution is urged in making any conclusions from it. It is offered only as a possible explanation for the results and not as conclusive evidence. In order to unravel the questions relative to the effectiveness or validity of the IES Test, further investigations are recommended.

Reliability

Reliability coefficients for the various subtest parts were reported ranging from $-.24$ to $.80$. The lowest reliabilities, generally speaking, were found for PT I and PT S (see Table IV). For the three subtest parts which showed significant differences between the delinquents and non-delinquents, reliability was rather low. For AD I the nondelinquents had a reliability of $.41$ for the unmatched groups and $.21$ for the matched groups. The respective correlations for the delinquents were $.65$ and $.65$. For PT I they were $.07$ and $.18$ for nondelinquents and $.25$ and $.08$ for delinquents. Coefficients for PT S were $.11$ and $.20$ for nondelinquents and $.17$ and $-.06$ for delinquents.

Low reliability would, of course, affect validity, since, according to Cronbach (1960, p.132), "The correlation between a test and an independent criterion can never be higher than the square root of the correlation between two forms of the test."

There are several reasons why reliability might be so low. First, the subtests are relatively short. Arrow Dot has 23 items, PhA has 18

tems, PSC has 13, and PT has 12. Increasing the length of the tests would improve reliability. Second, and probably more important, each of the groups are quite homogeneous within themselves. The standard deviations of AD I were 1.11 and 1.38 for nondelinquents for matched and unmatched groups respectively. They were 2.07 and 2.32 for delinquents. Standard deviations for PT I and PT S were also small, ranging from 1.43 to 1.87. This would, of course, affect reliability. This is in line with the results reported by Smith (1956), which indicated that incarcerated individuals are quite homogeneous. Of course, this particular sample was chosen in such a way that it would be homogeneous.

The reader is referred back to the "Results" section where it was reported that reliability for the AD Test considered overall was high. Reliability for PhA and PSC was reported as moderate, and reliability for PT was reported as being low.

Finally, there was an effect due to intelligence reported. This was shown by correlations between IQ and IES scores for the reformatory sample (Table I). Both PT I and PT S were significantly correlated with IQ. This relationship was also evident in the change of means for matched and unmatched groups. The largest change was for AD I. Since the intelligence range of the subjects was restricted range (average or above), this means that the groups were homogeneous in this respect, and such a relationship would affect reliability.

Summary of Conclusions

On the basis of the above discussion, the writer very cautiously makes the following conclusions:

1. The results of this study lend support to the hypothesis

at there are differences between delinquents and nondelinquents in pulsiveness.

2. The data support the hypothesis that there are differences between linquents and nondelinquents in superego strength.

3. There is no support presented by this data for the hypothesis at there are differences between delinquents and nondelinquents in ego-length.

4. The data lend some support to the validity of at least three parts the IES Test. The strongest support is for the validity of AD I.

5. The reliability of the various subtest parts is quite variable. low reliability of a number of variables may be due to a joint function of homogeneity of subject groups and the shortness of the subtests.

6. There seems to be a significant relationship between intelligence IES scores for at least some of the subtest parts. It is recommended that this variable be controlled in future studies with this test.

7. While the test offers a new and interesting approach to the assessment of personality, a great deal more research and more revision needed before it can be of practical value.

One of this test's strong points is that it offers an objective approach to the measurement of personality dynamics. For this reason, further research is warranted. The test does seem to have some validity, since predictions based upon the test's rationale were verified. However, low reliability is very damaging to its effectiveness. This writer suggests that a careful analysis of each item be undertaken, and only the best items be retained. It might be possible to develop a weighted scoring system to increase the power of the test to make discriminations. It is further recommended that the length of the subtests be increased in

order to increase reliability. It might also be profitable to use the same general approach used in the IES Test with a different theoretical framework. The most promising of the subtests is the Arrow Dot Test. Since this is similar in nature to the Porteus Maze, it might be profitable to develop a new test combining these two instruments.

Relative to the use of the test in the study of delinquents, several recommendations might be made. The test could be applied to groups of different types of prisoners within the same institution. Selection might be based upon such differences as type of crime committed, deportment, etc. It is also suggested that the IES Test be used in longitudinal studies in which it is given to groups not yet detected as delinquent.

In this way it might be possible to determine potential delinquents. Of practical importance to officials who administer penal and corrective institutions is the value of the test to identify the inmates who can be successfully paroled as opposed to those who are most likely to violate their parole and be returned to the institution.

REFERENCES

- del-Meguid, S. G. M. Delinquency related to personality, intelligence, school achievement, and environmental factors. Dissertation Abstr., 1954, 14, 1616.
- lester, R. J. The self-concept and juvenile delinquency. Dissertation Abstr., 1956, 16 1169-1170.
- logh, J. K. Juvenile delinquency proneness: a study of predictive factors involved in delinquent phenomena. J. Crim Law Criminol., 1958, 48, 615-618.
- rber, B. Social stratification. New York: Harcourt, Brace, 1957.
- rnborg, R. E. An analysis of the responses of a male prison population to the Edwards Personal Preference Schedule. J. Gen. Psychol., 1960 (Apr.), 62, 319-324.
- ston, W. F. The Szondi Test and criminality. Dissertation Abstr., 1954, 14, 1096.
- ments, S. D. The predictive utility of three delinquency proneness measures. Dissertation Abstr., 1960, 20, 3827.
- mbach, L. J. Essentials of psychological testing (2nd ed.). New York: Harper, 1960.
- ltche, J. H. The performance of delinquent and nondelinquent boys on the Tennessee Department of Mental Health Self-Concept Scale. Dissertation Abstr., 1959, 20, 1437-1438.
- si, Susan. Introduction to the Szondi Test. New York: Grune and Stratton, 1949.
- stor, R. F. and Winder, C. L. Delinquent versus nondelinquent performance on the Porteus Qualitative Maze Test. J. consult. Psychol., 1954, 18, 71-73.
- brose, L. A. and Slobin, M. S. The IES Test. Percept. mot. Skills, 1958, 8, 347-389.
- guson, G. A. Statistical analysis in psychology and education. New York: McGraw-Hill, 1959.
- ter, A. L. The relationship between EEG abnormality, psychological factors and delinquent behavior. Dissertation Abstr., 1956, 16, 2210-2211.

- ox, V. The influence of personality on social non-conformity. J. crim. Law Criminol., 1952, 42, 746-754.
- Freud, S. Neurosis and psychosis. In Collected papers. Vol. II. London: Hogarth, 1924.
- Myer, F. D. A normative study of the reactions manifested by college students and by state prison inmates in response to the Minnesota Multiphasic Personality Inventory, The Rosenzweig Picture Frustration Study, and the Thematic Apperception Test. J. Psychol., 1952, 34, 27-30.
- Muller, R. H., Bates, S., Sellin, T., Hooten, E. A. Anderson, J. A., Winnet, N. S. Alexander, F., and Dession, G. H. "Unraveling juvenile delinquency." A symposium of reviews. J. crim. Law Criminol., 1951, 41, 732-759.
- Glueck, Eleanor T. Unraveling juvenile delinquency. New York: Commonwealth Fund, 1950.
- Glueck, Eleanor T. Predicting juvenile delinquency. Brit. J. Delinquency, 1952, 2, 275-286.
- Glueck, Eleanor T. Spotting juvenile delinquents: can it be done? Fed. Probation, 1956, 20 (3), 7-13.
- Glueck, Eleanor T. Status of Glueck prediction studies. J. crim. Law Criminol., 1956, 47, 18-32.
- Glueck, Eleanor T. Identifying juvenile delinquents and neurotics. Ment. Hyg., New York: 1956, 40, 24-43.
- Glueck, Eleanor T. Efforts to identify delinquents. Fed. Probation, 1960 24 (2), 49-56.
- Glueck, S. and Glueck, Eleanor T. Early detection of future delinquents. J. crim. Law Criminol., 1956, 47, 174-182.
- Strecher, I. I. More construct validation of the Ego-Strength Scale. J. consult. Psychol., 1959, 23, 342-346.
- Wright, H. G. and Peterson, D. R. The identification and measurement of predispositional factors in crime and delinquency. J. consult. Psychol., 1952, 16, 207-212.
- Thorndike, J. P. Psychometric methods (2nd ed.). New York: McGraw-Hill, 1954.
- Thorndike, J. P. Fundamental statistics in psychology and education (3rd ed.). New York: McGraw-Hill, 1956.
- Allport, S. C. and Lindzey, G. Theories of personality. New York: Wiley, 1957.

- haway, S. R. and Monachesi, E. D. The prediction of juvenile delinquency using the Minnesota Multiphasic Personality Inventory. Amer. J. Psychiat., 1951, 108, 469-473.
- haway, S. R. and Monachesi, E. D. The Minnesota Multiphasic Personality inventory in the study of juvenile delinquents. Amer. sociol. Rev., 1952, 17, 704-710.
- haway, S. R. and Monachesi, E. D. Analyzing and predicting juvenile delinquency with the Minnesota Multiphasic Personality Inventory. Minneapolis: Univer. of Minn. Press, 1953.
- kleman, E. A. A comparative investigation of differences in personality and adjustment of delinquents and nondelinquents. J. educ. Res., 1953, 46, 595-601.
- nson, O. G. and Stanley, J. C. Attitudes toward authority of delinquent and nondelinquent boys. J. abnorm. soc. Psychol., 1955, 51, 712-716.
- nston, J. O. A group form of the IES Test. Unpublished master's thesis. Oklahoma State Univer., 1963.
- un, Clara. Predicting delinquency from the Minnesota Multiphasic Personality Inventory using items instead of clinical scales. Dissertation Abstr., 1956, 16, 2547.
- pman, B. The sexual offender and his offenses. New York: Julian Press, 1954.
- logg, C. E. and Morton, N. W. Revised Beta Examination: Manual. New York: The Psychological Corp., 1957.
- gsley, L. A. A comparative study of certain personality characteristics of psychopathic and non-psychopathic offenders in a military disciplinary barracks: with reference to the personality characteristics of immaturity, impulsivity, hostility, avoidance, superficiality, shallowness, anxiety, guilt, egocentricity, and facility in performance tasks. Dissertation Abstr., 1956, 16, 2212.
- s, E. Nature of psychoanalytic propositions and their validation. In Hook, S. and Konvitz, M. R. (Eds.). Freedom and experience, essays presented to Horace M. Kallen. Ithaca: Cornell Univer. Press, 1947, Pp. 239-259.
- raceus, W. C. The delinquent. Rev. Educ. Res., 1959, 29, 545-552.
- raceus, W. C. and Miller, W. B. Delinquent behavior. Juvenile Delinquency Project. Washington, D. C.: National Education Association, 1959.
- man, S. J. Differences between objective and projective instruments of personality appraisal. Psychol. Newsltr., New York Univer., 1955, 6 (2), 48-51.

- nachesi, E. D. Personality characteristics of institutionalized and non-institutionalized male delinquents. J. crim. Law Criminol., 1950, 41, 167-179.
- bers, C. C. and Van Voorhis, W. R. Statistical procedures and their mathematical bases. New York: McGraw-Hill, 1940.
- erson, D. R., Quay, H. C., and Cameron, G. R. Personality and background factors in juvenile delinquency as inferred from questionnaire responses. J. consult. Psychol., 1959, 23, 395-399.
- ay, H. C. and Peterson, D. R. A brief scale for juvenile delinquency. J. clin. Psychol., 1958, 14, 139-142.
- lkin, R. J. and Johnston, J. O. Influence of age and sex on the IES Test. Percept. mot. Skills. 1962, 15, 775-778.
- ss, A. J., Jr. Social correlates of psychological types of delinquency. Amer. sociol. Rev., 1952, 17, 710-718.
- hardson, M. W. Notes on the rationale of item analysis. Psychometrika, 1936, 1, 69-76.
- hardson, M. W. and Kuder, G. F. Calculation of test reliability coefficients based on a method of rational equivalents. J. educ. Psychol., 1939, 30, 681-687.
- z, G. H., Jr. The relative strengths of impulse, ego, and superego in three groups of aged males. Unpublished doctoral dissertation, Western Reserve Univer., 1954. Cited by L. A. Dombrose and M. S. Slobin. The IES Test. Percept. mot. Skills, 1958, 8, 347-389.
- ahtel, E. G. Notes on Rorschach tests of 500 juvenile delinquents and a control group of 500 non-delinquent adolescents. J. proj. Tech., 1951, 15, 144-172.
- uessler, K. E. and Cressey, D. R. Personality characteristics of criminals. Amer. J. Sociol., 1950, 55, 476-484.
- th, R. E. Personality configurations of adult male penal populations as revealed by the Minnesota Multiphasic Personality Inventory. Dissertation Abstr., 1956, 16, 160-161.
- apson, R. E. Further Validation of the Glueck Social Prediction Table for identifying juvenile delinquents. J. crim. Law Criminol., 1957, 48, 175-184.
- kman, A. P. A matched group personality comparison of delinquent and non-delinquent juveniles. Soc. Probl., 1958-59, 6, 238-245.

VITA

Richard Lee Wikoff

Candidate for the Degree of

Master of Science

Thesis: PERFORMANCE OF DELINQUENTS AND NONDELINQUENTS ON THE IES TEST

Major Field: Psychology

Biographical:

Personal Data: Born in Wichita, Kansas, January 23, 1931, the son of Earnest L. and Mildred C. Wikoff.

Education: Attended grade school in Wichita, Great Bend, and Hays, Kansas; graduated from Palmer High School, Colorado Springs, Colorado in June, 1948; received the Bachelor of Arts degree from Bethany Nazarene College in May, 1960; attended Oklahoma University fall semester, 1960-61; completed the requirements for the Master of Science degree at the Oklahoma State University in May, 1963.

Professional Organizations: Member of Psi Chi, National Honorary Society in Psychology; student affiliate of the Oklahoma State Psychological Association; member of the Student Journal Group of the American Psychological Association.