

THE DEVELOPMENT AND ANALYSIS OF A
TEST OF THE ABILITY TO PREDICT
BEHAVIOR

Thesis for the Degree of M. A.

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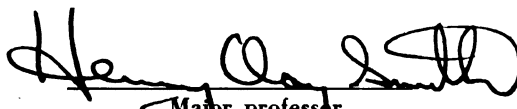
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THESIS

THE DEVELOPMENT AND ANALYSIS OF A TEST
OF THE ABILITY TO PREDICT BEHAVIOR

By
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The initial purpose of this study was to develop a test of the ability to predict behavior. Brief case sketches, derived from actual case study data, were first written. For each case, 15 true-false statements were selected from a larger pool of items on the basis of item analyses. These statements were taken directly from behavioral data reported in the case histories.

The preliminary form of the test consisted of six cases and a total of 90 items. The corrected odd-even coefficient of reliability was $r = .65$. In order to develop a more stable and comprehensive instrument, a second and final form of the test was constructed. This form incorporated four of the original sketches and four additional sketches developed in the same manner. The corrected odd-even reliability of these 120 items was $r = .77$, which compares very favorably with previous attempts in this area.

The second phase of this study consisted of an attempt to validate the test, and, concurrently, to gain some insights into the nature of the underlying ability. For this purpose, the relationships between 21 variables and Prediction Test performance were investigated. Approximately 450 students in psychology courses comprised four samples used in various phases of this analysis. A comparison was

made between mean Prediction Test scores of matched groups from the tails of the distribution for each variable. With this technique the effects of a single variable could be analyzed while other relevant factors were controlled.

Five of the 21 variables were significantly related to Prediction Test performance. Those subjects who were high achievers, expressed more anxiety, had better reading ability and greater intelligence, and who expressed lower political values were better judges of behavior than their opposites. Females were superior in performance to males.

These results, together with several suggestive but non-significant findings, provided a tentative description of the characteristics of the good judge of people: The best judge is a woman, who is genuinely interested in understanding rather than using people; whose judgments are quick and emotional rather than intellectual, and who has the ability, social initiative and acceptability to make her a leader in group activities.

This description was supported by but not proved in the present study. It suggested three hypotheses for further research:

(1) The good judge is more dependent on other people. Related to this hypothesis are the findings that the best judge was a woman who was more anxious, less power-oriented and materially-minded, and who was not more socially detached than the poor judge.

(2) The good judge is emotionally sensitive and empathic rather than logical and socially detached. The fact that the good judge was not more socially "aloof" and reacted quickly and without greater logic suggested this hypothesis.

(3) The successful leader is a good judge of people. The best judge had held more leadership positions, had greater ability and social initiative, and was more acceptable to group members than the poor judge.

The author wishes to express his sincere appreciation to Dr. Henry Clay Smith, whose generous guidance and insight made this study possible; to those members of the psychology staff who contributed many helpful suggestions, and to those students who served as subjects for the study. Special thanks goes to his wife who patiently typed the manuscript, and to whom this thesis is dedicated.

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INTRODUCTION

The general purpose of this study was to develop a reliable and valid objective test of the ability to predict human behavior. The term "behavior" was used to include overt responses to situations as well as expressed attitudes and values. It was assumed that such an ability does exist as a personality variable relatively independent of other variables, such as intelligence.

Some evidence for this assumption is to be found in the literature. Estes (13) found that the ability to judge individuals from appearance alone showed striking differences even with a homogeneous group of highly trained psychiatric social workers. Allport (2), after reviewing the slight relationships to other variables, concludes that a major prerequisite for accurate judgments of others is a "gifted" judge. Further evidence from the same and other studies (29) make it appear reasonable to assume that judging others is a relatively independent ability.

A measuring instrument of this nature would have several potential uses for both research workers and applied psychologists. Such a test might serve, for instance, as an additional device for clinical analysis. It seems logical that some knowledge of the client's ability to predict the behavior of others would be a valuable asset to the clini-

cian. It might even be suggested that a direct relationship exists between one's ability to predict the behavior of others and his ability to make an adequate adjustment. Such a test would have three potential uses in the training of psychologists: (a) as a measuring instrument for evaluating the effectiveness of training aimed at increasing this ability; (b) as an instrument for the selection of psychologists, interviewers, or leaders, and, (c) as a training device for classroom use with the purpose of developing this ability. Furthermore, some measure of the ability to predict behavior would be a valuable instrument for further research in such areas as leadership, group dynamics, personality, and education.

THE DEVELOPMENT OF THE TEST

The two primary objectives sought in the development of the test were reliability and validity. The evidence from previous attempts suggested that some difficult problems existed in attaining both of these goals. It also pointed out some weakness to be avoided in test construction in this area.

Methods Employed in Previous Tests

Taft (27) has recently made a rather extensive review of attempts to measure the ability to judge people. He suggests that these can be classified as (a) analytic, and (b) nonanalytic by the following definition:

In analytic judgments, the judge (J) is required to conceptualize, and often to quantify, specific characteristics of the subject (S) in terms of a given frame of reference. This mainly involves the process of inference, typical performances of J being rating traits, writing personality descriptions, and predicting the percentage of a group making a given response. In nonanalytic judgments, J responds in a global fashion, as in matching persons with personality descriptions and in making predictions of behavior. An empathic process is usually involved in nonanalytic judgments. (27, p. 1)

This distinction is not too clear-cut; some tests seem to be interpretable into either classification.

Taft further classifies attempts in this area into six categories.

(1) Perception of emotional expressions in photographs, drawings, models, and movies. The problem here is one of accuracy of perception of present stimulus patterns--specifically, emotional expressions--not the prediction of future behavior. Judgments are made on the basis of appearances, which are often rather stereotyped and not specific to particular individuals.

(2) Rating and ranking of traits. This technique qualifies as an analytic method. However, attempts in this area have met with the usual shortcomings of ratings plus a difficult problem of establishing adequate criteria. Peer judgments and external judgments have both been used with only modest success.

(3) Personality descriptions. This analytic technique requires the judge to write personality descriptions from a limited amount of data on the subject. Primary weaknesses here are in (a) the vagueness of the task and (b) lack of adequate criterion.

(4) Personality matchings. The Judge in this situation matches some data on the Subject with some other data. The task here seems to be the ability to judge behavior as to its consistency with given personality data at a specific point in time. It bears some of the characteristics of both analytic and nonanalytic measures and has an advantage over (2) and (3) since it has an objective criterion.

(5) Prediction of behavior or life history data. This classification is most closely related to judging ability in terms of predicting future behavior and will be discussed more thoroughly. Measuring devices which fit this category are primarily nonanalytic, although the distinction is not entirely clear.

The J has some acquaintance with the S or is given some data about him, and his task is to predict S's performance on various test items or his responses to personality and attitude inventories, or to predict specific aspects of his life history.
(27, p. 3)

The so-called "empathy" tests and "mass empathy" tests comprise the bulk of attempts in this area. The work of Dymond (11) is especially noteworthy here. Using small groups working together in a psychology class, she had each member make a self-rating and rate each other member. Ratings were on six personality traits with the self-rating used as the criteria. That is, the rater was to predict the subject's responses on his self-rating. This technique had the advantage of an objective criterion but has the disadvantage of measuring judging ability to a specific type of response on a limited number of personality traits. Noteutt and Silva (23), employing 64 married couples, found that prediction of the others responses on a self-rating scale were significantly better than chance. This study has the same limitations as Dymond's.

Using three personality scales (the Minnesota Inventory of Social Behavior, the A-S Reaction Study, and A Study of Motives), Bender and Hastorf (7) got 46 volunteers each to predict the responses of one classmate. Two predictions were made by 33 of these judges. An $r = .46$ was obtained between the forecasted and actual scores on the A-S Reaction Study. For the Study of Motives scale the correlation was only .07. The authors interpreted this as an indication of the limits of the empathic ability. Low reliability from scale to scale and rater to rater in this study suggests the possibility that judging may be in part a specific ability. The possibility of projection as a factor in prediction was also investigated. Correlation coefficients of .71 and .55 between the raters' own self-rating and his prediction scores indicate a high degree of projection. Furthermore, a correlation of .72 was found between first and second predictions of the 33 dual raters.

(6) Miscellaneous attempts. Taft's sixth category describes a few miscellaneous attempts at measuring the ability to judge specific aspects of behavior. These do not seem to be of particular relevance to this study.

Objectives in the Development of This Test

The foregoing review suggested several criteria to be met if a test which is both reliable and valid was to be constructed.

Apparently the test should contain a rather large number of items concerned with a wide variety of behavior. This would serve to insure higher reliability and to give the test greater face validity as a measure of general ability to judge people. Similarly, the test should provide the judge with a number of different subjects to further insure the measurement of general ability. This would also minimize the possibility of chance success as a result of projected or stereotyped responses.

For the widest application, the test should be non-analytic (see p. 3). This implies that it be non-technical in language and required responses. The items should be based on real responses of actual people so that they can be objectively scored. The evidence casts doubts on the ability of "experts" to judge the probable responses of hypothetical cases.

Finally, the test should be as simply worded as possible to avoid the possibility that it actually measures reading comprehension. This problem is common to any verbal ability test and can be solved only by keeping the vocabulary simple.

It was felt that a test which met these criteria would have a high degree of face validity and be comparatively reliable.

Methods in the Development of the Test

(1) General methods employed. The general method employed in the construction of the test was to develop case sketches of 50 to 100 words each. These sketches were based on actual case studies reported in the literature. A second source of case material was cases written by advanced undergraduate psychology students. These were based on acquaintances of the students.

Several criteria were employed in the selection of case materials. First, it was thought desirable that only relatively normal cases should be used. Second, case materials had to contain a rather wide variety of personal data, personality, social-environmental, physical and behavioral information to provide a variety of judging situations. Third, case materials had to be based on actual data and reported by reasonably reliable sources. Fourth, the materials must offer some variety of subjects to control for the possibility that judging may be in part a specific ability dependent to some extent on the subject being judged.

With the above criteria in mind, six cases were selected for the preliminary form.

(2) Method of writing the sketches. The writing of the case sketches involved a somewhat arbitrary selection from the case materials. Since the sketches were limited to approximately 100 words, this was a critical aspect of

the development. Several criteria were employed in selecting the materials and writing the sketches.

First, the materials were selected to provide a variety of information to meet the criteria outlined previously. Second, the sketches had to be comprehensive enough to allow reasonable cues for the judge, but not so complete as to make the answers to the statements obvious. Third, it was important that the materials be simply written to avoid the problem of reading comprehension. The sketches were edited and then re-edited by a second judge for simplicity and readability.

(3) Selection of the test items. True-false items were used for the test. This type of item made it possible to include a large number and wide variety of statements in a short testing period. The same standards of simplicity, readability and variety used in writing the sketches were applied in writing the statements.

For each case 25 to 40 preliminary items were prepared. These were all based on the actual responses of the subjects. Approximately equal numbers of true and false statements were prepared for each case. The cases were administered individually to 90 to 100 college students in two elementary psychology classes. The items were analyzed for consistency and item difficulty. The method was to use the proportions of responses in the tails of the distribution (28). This technique involves a comparison of the proportions of

correct responses for an item in the upper and lower 27% of the distribution. The result is an estimate of the Pearson product-moment coefficient between the item and the total test.

From these analyses fifteen items were chosen for each case. Median item consistency indexes for the six individual cases ranged from $r = .37$ to $r = .58$.

(4) The preliminary forms. These six cases with a total of 90 items were combined into Form A of the test (see Appendix A). Sketches and items for the first four cases ("Gene Jones," "Bill the Traffic Manager," "Bob Martin" and "The Johnson Dress Shop") were selected from case reports written by advanced undergraduate psychology students. Case five ("Karl Shultz") was based on a case reported by David C. McClelland in Personality (20). Case six ("John Sanders") was taken from Development in Adolescence by Harold E. Jones (19).

Form A was administered to a new group of 98 students in two elementary psychology classes. The items were again analyzed for consistency, this time with the total test score. The same method was employed as in the earlier analyses. The median internal consistency for the 90 items was $r = .24$.

Further analysis revealed that two of the cases ("Gene Jones" and "Bob Martin") had exceptionally poor consistency with the total test. The respective median indexes were

$r = .06$ and $r = .08$.

The conventional split-half odd-even reliability for the 90 items was $r = .47$. When correction was made for length (9, p. 61) the coefficient was found to be $.65$.

The mean score for Form A was $M = 52.27$. The standard deviation was $S.D. = 7.06$.

Because cases one and three ("Gene Jones" and "Bob Martin") were inconsistent with the total test, they were dropped and the remaining cases combined to constitute Form A2.

The median internal consistency of these 60 items was $r = .37$. The split-half odd-even coefficient of reliability for Form A2 was $r = .69$ when corrected for length. A re-test after three months revealed a test-retest reliability of $r = .50$. The mean score for this form was $M = 34.3 \pm .46$, with a standard deviation of $S.D. = 4.5$.

(5) The final form. The findings to this point were consistent with the evidence in the literature (27). Individual items tend to be unreliable. Similarly, individual cases whose items have been found fairly reliable may not prove consistent with the total score when combined with other cases. Both of these facts contribute to the difficulty of obtaining total test reliability. They also lend support to the possibility of a rather prominent specific element in the ability to judge people.

With the possibility of overcoming these problems and, consequently, developing a more reliable instrument, it was decided to construct a longer form of the test.

Form B (Appendix B), the final form of the test, consists of the four cases in Form A2 and four additional cases. The new case sketches were developed using the same criteria employed in the original cases. The material for "Johnny Rocco" was found in Jean Evans' Three Men (14). "Joe Figg" was developed from Lives in Progress by Robert White (31). "Christopher" was taken from W. H. Sheldon's The Varieties of Temperament (24) and "Chester" from Children of Bondage by A. Davis and J. Dollard (10).

These four cases and 133 preliminary items were combined for item analysis. They were administered to 98 members of two elementary psychology classes. As in the development of the original six cases, fifteen items were selected for each case. The procedure for analyzing items was identical to that employed with the original cases.

The median index of item consistency was $r = .35$ for the items which were retained. For individual cases the median indexes ranged from $r = .28$ to $r = .37$.

Form B was administered to 96 students in two elementary psychology classes. The split-half odd-even reliability coefficient was found to be $r = .63$, which, when, corrected for length, was $r = .77$. A second split-half reliability was estimated by comparing scores on first and

second halves of the test. This coefficient was $r = .43$ which was corrected to $r = .59$.

The mean score for this 120 item form was $72.7 \pm .84$. The standard deviation was found to be 9.8. The mean for the first 60 items was 34.30 with a standard deviation of S.D. = 4.50. For items 61 through 120 the mean was $M = 38.17$ and the standard deviation S.D. = 6.60.

Discussion and Summary of the Development of the Test

A comparison of the results found in the development of the test with the criteria set forth on page 7 is in order.

The 120 item final form meets the first criteria, namely that the test should contain a large number of items based on a variety of behavior. This objective was sought to serve as a check on the possibility that the ability is in part specific to certain types of behavioral judgments. Also, it was hoped that a large number of items would insure reasonable reliability. The eight cases used in the final form provide a rather wide variety of subjects. This is in keeping with the second criteria to serve to minimize similarity between judge and subject, projection by the judge, and chance success through stereotype responses as factors influencing the total score.

Since the statements are based on actual responses of the subjects, they can be objectively scored. This eliminates the problems inherent in subjectively evaluating

the judge's responses. The test can be considered primarily nonanalytic. It is conceivable, however, that the judgments can be made either from an analytic or a nonanalytic frame of reference. The significant point is that the test does not seem to require an analytic approach.

The relationship to reading comprehension will be discussed in the analysis of the test (see p. 28). However, care was taken to attempt to insure that the test would be only minimally related to reading ability.

Having met the foregoing objectives, the test appears to have a high degree of face validity. Basically, the test asks, "Given this information (the case sketch) would you predict these responses (the statements) from this subject?" This seems to be a straightforward situation in which the judge is asked to predict the responses of another.

The split-half odd-even coefficient of $r = .77$ compares very favorably with the reliabilities reported by Taft (27). The split-half reliability coefficient which compared first and second halves of the test ($r = .59$) is not as impressive. This can be interpreted, nonetheless, as evidence for specific ability dependent on the subject being judged. From this point of view the odd-even coefficient is the more indicative of test consistency.

The test-retest coefficient ($r = .50$) is of limited value in evaluating the final form since it is based only on 60 items. It does suggest, however, that scores obtained

at one testing can be used to predict future test performance. Furthermore, it provides additional evidence that individual scores cannot be attributed entirely to chance factors.

In general, the evidence thus far suggests that the test may be a useful and reliable device for measuring the ability to predict behavior. Further evidence for the validity of the test is necessary before definite conclusion can be drawn, however.

ANALYSIS OF THE TEST

The general purpose of the analysis presented in this section was to provide some evidence for the validity of the test. The problem of validity has been summarized in a recent review (4) which concluded that three approaches to the problem are available.

First, the face validity of the test has been discussed. The test overcomes most of the objections raised concerning previous tests. It also presents a straightforward judging situation. There is, however, at least one alternative explanation for the variance in test scores. As in any verbal paper and pencil test, the possibility exists that the test really measures the testee's reading comprehension. Further evidence is needed to rule out these possibilities if the test is to continue to have face validity.

Secondly, the empirical validity of the test might be examined. The test scores could be evaluated against (1) some independent criterion or, (2) compared with other devices which have been validated against such criteria. The first problem is to determine an independent criteria which could itself be valid and free of other factors such as intelligence or motivation. At best, such a measure would be based on some arbitrary evaluation; for example, the criterion of success as a practicing psychologist.

The second possibility is also limited. A survey of the literature has failed to show evidence for the empirical validation of other devices against which this test might be validated.

The third possibility is that some evidence might be found to support the logical validity of the test. This involves "construct validity" which essentially attempts to validate the theory underlying the test. Two steps are involved. First the investigator inquires of the theory as to:

...what predictions would be made regarding the variations of scores from person to person or occasion to occasion. Second, he gathers data to confirm these predictions (4, p. 14).

Apparently, construct validity provides the best alternative when no independent measure of the ability is readily available. This was the approach taken in the analysis of this test.

The second purpose of this analysis is to explore the possibility of some additional relationships between personal data, personality, temperament and other variables and the ability to judge people. This purpose seems justifiable as a step toward more complete knowledge of the test and of the correlates of the ability itself.

Subjects

At various stages in the development and analysis of the test four different samples were employed. Form A was

administered to 98 members of two introductory psychology classes. This sample was designated as The Original Introductory Sample ("A"). Form B was given to three different samples. Introductory Sample ("B") consisted of 96 members of two introductory psychology classes. The second sample to which Form B was administered consisted of 85 members of two classes in personnel psychology. This sample was designated as Industrial Sample ("C"). The final Introductory Sample ("D") consisted of 41 members of a class in introductory psychology.

All samples were drawn from students enrolled at Michigan State College. Sample "A" employed students enrolled during the Fall Term and the other samples were taken from classes during the Winter Term, 1954-55.

Variables Related to the Prediction Test

In line with the purposes of validation and exploration outlined above a number of variables were employed with the four samples. These are described below in the order in which they will later be discussed.

(1) Achievement. The term "achievement" was used to designate the academic achievement of the subjects in the psychology course of which they were members. Achievement scores represented total scores from all conventional objective examinations given during the term. For sample "A" these scores were based on derived T score values. Total

raw scores for the term were used for the other samples.

(2) Anxiety. "Anxiety" scores used in samples "B" and "C" represent scores obtained by the subjects on the Biographical Inventory (26).

(3) Sex. The sex of each subject in the four samples was recorded.

(4) Reading comprehension. The reading ability of each subject was estimated from the Michigan State College Test of Reading Ability (22) given at the time of registration to all new students. Since raw scores were not available, derived scores were used for all sections. These derived scores were not in standard score form.

(5) Political values. The relative strength of the political values of subjects in sample "B" was evaluated using the Political Scale of the Allport-Vernon Study of Values (3).

(6) Intelligence. An estimate of the intelligence of the subjects in all samples was obtained from Michigan State College derived scores (22). These scores were determined from an all-freshmen distribution of scores on the American Council Psychological Examination. Raw scores were unavailable.

(7) Religious values. The religious values of subjects in sample "B" were based on the Religious Scale of the Study of Values.

(8) Economic values. Economic values of subjects in sample "B" were computed from the Economic Scale of the Study of Values.

(9) Aesthetic values. Aesthetic values for sample "A" were estimated from the first ten items of A Study of Student Attitudes (Appendix C). These items were adapted from the first ten items with Aesthetic Value scores in the Study of Values. Aesthetic value scores for sample "B" represented scores on the total Aesthetic Scale of the Study of Values.

(10) Theoretical values. Scores on the Theoretical Scale of the Study of Values were used to estimate the theoretical values of subjects in sample "B".

(11) Social values. Social values for subjects in sample "A" were based on items nine through eighteen of A Study of Student Attitudes. These items were adapted from the first ten items in the Study of Values which had Social value scores.

For sample "B" Social value scores were derived from the total Social Scale of the Study of Values.

(12) Social detachment. Social detachment scores were obtained from items 19 through 32 of A Study of Student Attitudes. These items were designed to gain a knowledge of the subject's self-rating of the degree to which he felt himself "aloof" or socially detached. The median internal consistency index for the fourteen items was $r = .50$. These

items, plus one additional item, were used as a separate scale for evaluating the social detachment of subjects in sample "B".

(13) Leadership. Items 33 through 45 of A Study of Student Attitudes contributed a self-rating score of leadership. Items 40 through 45 were scored on an "0", "1", "2" basis, which gave a possible total score of 19.

(14) Age. The age of each subject in sample "A" was recorded.

(15) Speed of completion. The order in which subjects in sample "C" completed Form B of the test was recorded. Actual time for completion was not noted. Scores for speed represent the rank order in which subjects completed the test.

(16) Course satisfaction. An estimate of the subjects' satisfaction with the psychology course was obtained from a multiple-choice check list (Appendix C). These items were adapted from the Hoppock Job Satisfaction Scale (17). These five items have an odd-even reliability of $r = .88$.

(17) Human relations attitudes. Scores for the human relations attitudes of the subjects were obtained from the scale developed by Meyer (21). This scale has been shown to be related to success in work-group leadership.

(18) Participation attitudes. The Participation Scale constructed by H. C. Smith (25) provided an estimate of

the subjects' attitude toward classroom participation. The ten items, which are answered on a five-point scale, have a corrected odd-even reliability of $r = .86$.

(19) Sociometric choice. Conventional sociometric scores were obtained for a sub-sample of forty members of sample "C". The question employed in the unlimited choice sociometric test was, "With whom would you like to work as a member of a class discussion group?" This question was administered after all members of the class had given a five minute topic report.

(20) Discrimination of arguments. Scores were obtained for subjects in sample "A" on their ability to discriminate arguments from Part III of the Watson-Glaser Test of Critical Thinking (30).

(21) Ego-strength. Ego-strength scores, based on Barron's Es Scale (5), were computed for the subjects in sample "A".

General Procedures

The general method employed with the data from samples "A", "B", and "C" was a comparison of the mean prediction scores of upper and lower groups on each variable. These groups consisted of individually matched pairs.

For each sample, matching was based on a preliminary comparison of means for the upper and lower 25% of the distribution for each variable. This initial comparison was made without control measures to determine which vari-

ables showed the greatest differences and, therefore, ought to be controlled. In each sample, those variables for which the greatest differences were found were used as control variables in the matching procedure.

Approximately 50% of the subjects with scores on a variable were matched. The top 25% were matched with subjects drawn from the 30 to 40% at the lower end of the distribution. The "t" test for differences between correlated pairs of means was used to determine the significance of differences (16, p. 228).

Significant Results

Table I gives an overall summary of the significant results obtained from the various samples employed. Upper and lower groups from samples "B" and "C" were combined and the differences tested for significance. These results appear in the column headed "B" and "C".

For example, the table shows that achievement was used with each of the three samples. With sample "A" the difference was 3.40, which was significant beyond the 10% level (*). The difference of 4.12 found in sample "B" was not significant, but the 5.68 difference in sample "C" was significant beyond the 1% level (***). When "B" and "C" were combined the 4.90 difference was also significant beyond the 1% level of confidence.

Table I

SUMMARY OF VARIABLES WHICH WERE SIGNIFICANTLY
RELATED TO SCORES ON THE PREDICTION TEST

Variable	Sample (Mean Differences)			
	"A"	"B"	"C"	"B" and "C"
1. Achievement	3.40*	4.12	5.68***	4.90***
2. Anxiety		6.04**	2.68	4.38***
3. Sex	2.10	3.52**	3.89	3.64**
4. Reading	.84	4.10	2.94	3.63*
5. Political		-6.05*		
6. Intelligence	.56	3.00	2.90	2.97

(***) Significant beyond the 1% level.
 (**) Significant beyond the 5% level.
 (*) Significant beyond the 10% level. This system of designating significance is used throughout the tables.

Detailed Discussion of Results

The results for each significant variable are presented in detail below. The means and differences for the control as well as the independent and dependent variables are presented. This serves both to point out what control measures were used and to what extent it was possible to control them. The significance of the matched group technique is dependent on the accuracy with which control variables are matched.

(1) Achievement. From Table I it is apparent that high achievers in psychology courses got better scores on the Prediction Test than low achievers. These results are significant at the 1% level of confidence in sample "C" and

consistent throughout. Table II shows the detailed results from each sample with mean values for upper and lower groups on control (reading, A.C.E., anxiety and detachment), independent (achievement) and dependent (prediction) variables.

Table II

THE RELATIONSHIP BETWEEN ACHIEVEMENT
AND PERFORMANCE ON THE PREDICTION TEST

Variable	Sample								
	"A" (N = 25 pr.)			"B" (N = 25 pr.)			"C" (N = 25 pr.)		
	U	L	D	U	L	D	U	L	D
Reading	5.9	5.8	.1	6.4	5.0	1.4	6.5	6.1	.4
A.C.E.				5.8	5.3	.5	6.2	6.2	.0
Anxiety				25.3	24.9	.4	15.7	15.6	.1
Detachment	8.6	8.4	.2						
Achievement	59.3	44.7	14.6	220.	180.	40.	116.	96.	20.
Prediction!	55.7	52.3	3.4*	75.4	71.2	4.2	77.5	71.8	5.7***

(!) Prediction means for sample "A" based on 90 items (Form A).

From Table II it may be concluded that a positive and significant relationship exists between conventional achievement and ability to predict behavior as measured by the Prediction Test. Slight differences exist between upper and lower means for reading comprehension. Apparently, achievement is related to reading comprehension, as would be expected. These differences are not great, however, and do not account for the difference in Prediction scores. Subjects in sam-

ples "B" and "C" were matched on the sex factor.

(2) Anxiety. Table III summarizes the results of matching for high and low anxious subjects as determined by scores on the Biographical Inventory in samples "B" and "C". Subjects in sample "B" were matched on sex as were 22 of those in sample "C".

Table III
THE RELATIONSHIP BETWEEN ANXIETY
AND PERFORMANCE ON THE PREDICTION TEST

Variable	Sample					
	"B" (N = 25)			"C" (N = 25)		
	U	L	D	U	L	D
Reading	5.5	5.8	-.3	5.9	5.9	.0
A.C.E.	5.5	5.2	.3	6.0	5.9	.1
Achievement	199.	199.	0.	106.	106.	0.
Anxiety	34.7	13.8	20.9	24.6	9.9	14.7
Prediction	74.9	68.8	6.1**	78.3	75.6	2.7

The difference in Prediction scores between high and low anxious groups was significant for sample "B" and highly significant when "B" and "C" were combined. The difference between upper and lower means for anxiety in sample "B" was 20.9 points with a range of 41. For sample "C" the difference was 14.7 with a range of 36. No large differences existed between upper and lower group averages for the control variables.

The evidence suggests that ability as measured by the Prediction Test is related to anxiety. The more anxious subjects received the higher scores.

(3) Sex. Table IV presents the average scores for male and female subjects on the Prediction Test and controlled variables.

Table IV

THE RELATIONSHIP BETWEEN SEX AND PERFORMANCE
ON THE PREDICTION TEST

Variable	"A" (N = 33)			Sample "B" (N = 33)			"C" (N = 17)		
	F	M	D	F	M	D	F	M	D
Reading				5.7	5.7	.0	5.8	5.6	.2
A.C.E.				5.5	5.4	.1	6.0	5.6	.4
Achiev.	50.9	50.6	.3	202.	202.	0.	105.	105.	0.
Anxiety				22.8	23.0	-.2	19.2	19.0	.2
Detach.	8.0	8.2	.2						
Predict.	54.1	52.0	2.1	73.9	70.3	3.6**	75.9	72.0	3.9

The difference for sample "B" (3.52) was significant at the 5% level of confidence. The difference (3.89) for sample "C" was not significant. The N (17) for sample "C" was limited because of the paucity of females in the personnel course. This may account for the lack of significance for the rather large sex difference in this sample. When samples "B" and "C" were combined, the difference was 3.64 in

favor of the females. This difference was significant at the 5% level of confidence.

The results are consistent and indicate that females are superior to males in the ability to predict behavior.

(4) Reading comprehension. The relationship between reading comprehension and Prediction scores is summarized in Table V.

Table V

THE RELATIONSHIP BETWEEN READING COMPREHENSION
AND PERFORMANCE ON THE PREDICTION TEST

Variable	Sample "A" (N = 25)			Sample "B" (N = 25)			Sample "C" (N = 16)		
	U	L	D	U	L	D	U	L	D
Achiev.	51.7	51.2	.5	210.	195.	15.	109.	109.	0.
Anxiety				25.0	25.3	-.3	15.8	15.3	.5
A.C.E.				6.6	4.2	2.4	7.5	4.1	3.4
Detach.	8.6	8.4	.2						
Reading	7.3	3.8	3.5	7.4	3.8	3.6	7.7	4.7	3.0
Predict.	53.8	53.0	.8	75.8	71.7	4.1	80.1	77.2	2.9

The differences of 3.5, 3.6 and 3.0 in reading comprehension for sample "A", "B" and "C" respectively are each based on a range of 10. None of the differences in Prediction scores are significant. However, the combined "B" and "C" difference is significant beyond the 10% level of confidence and the trend is consistent throughout the samples.

It was impossible to adequately control either the A.C.E. or achievement scores in the matching since both of these variables are highly related to reading ability. The sex factor was controlled in samples "B" and "C". It may be concluded that a slight relationship exists between reading comprehension and performance on the Prediction Test. Subjects with greater reading ability tend to score slightly higher than those with poorer ability.

Table VI
THE RELATIONSHIP BETWEEN POLITICAL VALUES
AND PERFORMANCE ON THE PREDICTION TEST

Variable	Sample "B" (N = 20)		
	U	L	D
Achieve.	197.	201.	4.
Anxiety	24.0	25.3	1.3
A.C.E.	5.3	5.6	-.3
<u>Reading</u>	5.4	5.9	-.5
<u>Political</u>	49.2	32.1	17.1
<u>Prediction</u>	68.9	75.0	-6.1*

(5) Political values. Table VI indicates that subjects who gained high scores on the Political values scale tended to get lower prediction scores than those with low values in this area. The difference of 6.05 is significant at the 6% level of confidence. This was the largest mean difference found in the study. Since a slight in-

verse relationship exists between political values and intelligence, it was important that the derived A.C.E. scores be carefully matched. The slight difference of $-.3$ for the intelligence factor does not explain the large difference in mean Prediction scores. The difference in means for high and low groups on political values is approximately two standard deviations.

Since this variable was used without cross-validation it is less possible to state confident conclusions. The results suggest, nevertheless, that those subjects whose values lie in areas other than political tend to be better as predictors of behavior than those with high political values.

Table VII

THE RELATIONSHIP BETWEEN INTELLIGENCE
AND PERFORMANCE ON THE PREDICTION TEST

Variable	"A" (N = 25)			Sample "B" (N = 25)			"C" (N = 16)		
	U	L	D	U	L	D	U	L	D
Achieve.	52.2	51.8	.6	206.	200.	6.	109.	109.	0.
Anxiety				24.3	24.4	-.1	15.8	15.5	.3
Reading				6.9	4.5	2.4	7.6	4.7	2.9
Detach.	8.4	8.4	.0						
A.C.E.	7.4	4.1	3.3	7.3	3.4	3.9	7.5	4.0	3.5
Predict.	53.8	53.2	.6	75.0	72.0	3.0	80.1	77.2	2.9

(6) Intelligence. A.C.E. group intelligence scores were available for all samples. Their relationship to the Prediction Test is summarized in Table VII.

Of the control variables, reading comprehension was the only one not adequately controlled. Again, this is due to the correlation between these two measures. A slight difference in the achievement factor was found in sample "B", but this is relatively small when the range is considered ($R = .83$). The sex factor was controlled for each sample.

The difference attributable to intelligence is small but consistent, even within the rather homogeneous samples used. It may be concluded that intelligence is a positive but minimal factor in the ability measured by the Prediction Test--at least where the range of intelligence is rather limited.

Summary and Interpretation of Significant Results

It is evident that some common element is involved in high academic achievement in psychology and the ability to predict behavior. One interpretation might be that the underlying factor is reading ability, but the small differences in reading comprehension for the groups employed rule out this factor.

A more likely interpretation is in terms of interest or motivation. It appears logical that students who per-

form well in psychology courses do so because they are motivated to "learn about people." This same motivation could be a factor in one's ability to judge people, that is, to predict human behavior. Similarly, those who are well motivated in general toward their courses, are probably better motivated toward performance on a task such as the Prediction Test. This is consistent with the literature. Taft (27) found the ability to judge people to be related to academic ability. He also concluded that motivation was probably the underlying factor.

Anxious subjects in this study were better judges of people. For the most part, this is contrary to the evidence reviewed by Taft (27). He finds that the evidence supports a positive relationship between personal adjustment and analytic judgments. For non-analytic judgments, the evidence is contradictory. Adams (1) found his good raters of personality traits to be judged by peers as: touchy, lacking courage, and talkative. These factors are evidence of at least superficial maladjustment. Two other studies reported by Taft found negative relationships between some measure of adjustment and judging ability in non-analytic situations. Several other studies were reported as finding positive results.

One explanation of this relationship might be that the anxious subjects took more time to complete the test and achieved better scores as a result. However, when the

average rank order scores for completing the test were compared it was found that the high-anxious subjects actually completed the task faster. Mean rank for the high-anxious was 15.7 and for the low-anxious, 20.4.

It is possible that the anxious person is more sensitive to the minimal cues in the other person's behavior. Being aware of his own emotional difficulties, the anxious judge is more sensitive to similar difficulties in others.

Festinger and Hutte (15) support this interpretation in a recent study of group interaction. These authors found that those subjects who felt unstable about their personal relationships tended to make more accurate judgments of how other group members felt about them. They concluded that:

It is perhaps plausible to infer that those who are unstable about their personal relations watch more closely and are able to make better use of the available cues (15, p. 522).

Apparently, the good judge may be anxiously concerned about his relations to other people and therefore more acutely aware of minimal cues for understanding them.

Females were better judges than males. Since achievement, reading comprehension, intelligence and anxiety were controlled these alternative explanations were ruled out. The evidence in the literature tends to agree. Allport (2) concluded that the experimental studies favored the hypothesis of slight female superiority. Taft (27) found that

the evidence was in favor of female superiority, but not entirely conclusive. He reported only one study which found a slight superiority for males. Dymond (12) found that female subjects who showed no superiority on the initial judgments did significantly better than males on a second presentation of the same judging situation. This indicates that women may profit more than men from the same limited experience with a subject. Notcutt and Silva (23) found no evidence of female superiority where wives and husbands rated each others responses on a personality inventory. Allport (2) offers an explanation of this difference in terms of the greater social dependency of women. Since a woman gains attention in a man's world by subtle conquest rather than objective accomplishment, she must develop skill in understanding others. This interpretation in terms of greater concern with social relations is consistent with that given to explain the superiority of the more anxious subjects.

The significance of the relationship between reading comprehension and performance on the Prediction Test was confounded by the relative homogeneity of the samples employed and the impossibility of matching the groups on the intelligence factor. It seems reasonable to believe that a greater range of reading ability would have given greater differences in performance. The slight differences found for intelligence indicate that reading ability was probably the more relevant factor. Since the differences were

slight and insignificant for all samples, it may be concluded that performance on the Prediction Test was slightly influenced by reading ability, but, for the range of ability employed, reading is not an outstanding factor.

No direct evidence was found in the literature for the inverse relationship of political values to the ability to judge. Nevertheless, people with high political values are considered to be primarily interested in power. This suggests that they are self-centered rather than other-centered, which may account for their poor ability to judge others. Their interest in people is probably utilitarian rather than aesthetic. Conversely, the good judge apparently has a genuine interest in people per se and not as a means to power.

This interpretation is contrary to the theory that the good judge of people is egotistic, cold-blooded, and uninterested in them, except as means to an end (1). On the other hand, Dymond found her good judges to be "outgoing, optimistic, warm, emotional people who have a strong interest in others" (12, p. 349).

For the rather homogeneous subjects employed in this study, intelligence does not seem to be highly related to performance on the Prediction Test. This conclusion is confounded by both the limited range of intellectual ability in college class samples and the reading comprehension factor which could not be adequately controlled. This re-

lationship is consistent with the conclusions in the literature. Allport concluded that the relationship is slight but holds even for the high and narrow ranges of intelligence which characterize most studies. He traces the relationship to the fact that:

Understanding people is largely a matter of perceiving relations between past and present activities, between expressive behavior and inner traits, between cause and effect, and intelligence is the ability to perceive just such relations as these (2, p. 514).

The relationship is not very great, however. Taft found typical correlation coefficients to be from $r = .12$ to $r = .54$ with the higher coefficients from studies employing analytic devices. For nonanalytic judgments results are typically negative. The only study found which compared A.C.E. scores with judging ability reported no relationship. Taft concludes that nonanalytic ability may be more a function of:

good perceptual and judgmental attitudes than the use of abstract intelligence, providing the mode of making the judgments is clearly within the level of comprehension of J [the judge] (27, p. 10).

The results in this study support Taft's position. They are also indirect evidence for the assumption that the Prediction Test is primarily nonanalytic.

Non-Significant Results

A summary of the differences between means for upper and lower groups on fifteen variables is presented in Table VIII. None of these differences are significant, but some are related to the interpretation of the Prediction Test and the ability to judge people.

Table VIII

SUMMARY OF VARIABLES WHICH WERE NOT SIGNIFICANTLY
RELATED TO SCORES ON THE PREDICTION TEST

Variable	Sample (Mean Differences)		
	"A"	"B"	"C"
7. Religious Values		-1.70	
8. Economic Values		-2.16	
9. Aesthetic Values	.20	1.04	
10. Theoretical Values		.96	
11. Social Values	-.32	.32	
12. Social Detachment	2.68	-.84	
13. Leadership	2.02		
14. Age	-1.00		
15. Speed of Completion			4.10
16. Course Satisfaction			-2.64
17. Human Relations			1.48
18. Participation Attitudes			1.15
19. Sociometric Choice			3.60
20. Discrimination of Arguments	-.72		
21. Ego-strength	.44		

Detailed Analysis of the
Non-Significant Results

(7) Religious values. Table IX shows a slight inverse relationship between religious values and performance on the Prediction Test. The results are limited by the small sample (N = 14) due to sex differences--females score higher on the Religious Scale than males. When sex was not controlled for 25 pairs the difference was ± 2.7 .

Table IX

THE RELATIONSHIP BETWEEN RELIGIOUS VALUES
AND PREDICTION TEST PERFORMANCE

Variable	Sample "B" (N = 14)		
	U	L	D
Achieve.	197.	193.	4.
Anxiety	24.8	24.4	.4
A.C.E.	4.9	5.9	-1.0
<u>Reading</u>	<u>5.0</u>	<u>5.7</u>	<u>-.7</u>
<u>Religious</u>	<u>52.2</u>	<u>30.9</u>	<u>21.3</u>
<u>Prediction</u>	<u>71.9</u>	<u>73.6</u>	<u>-1.7</u>

(8) Economic values. Of the 25 pairs used in Table X, twenty were matched on the sex factor. The inverse relation is consistent with that for Political values (see p.29). This would be expected since these scales are slightly correlated. Small differences in A.C.E. and Reading Comprehension scores favor the lower group and may account

for the difference in Prediction Test scores.

Table X
THE RELATIONSHIP BETWEEN ECONOMIC
VALUES AND PREDICTION TEST PERFORMANCE

Variable	Sample "B" (N = 25)		
	U	L	D
Achievement	196.	196.	0.
Anxiety	22.6	23.	-.4
A.C.E.	5.2	5.7	-.5
Reading	5.2	5.9	-.7
Economic	49.8	34.8	15.0
Prediction	70.3	72.5	-2.2

(9) Aesthetic values. The difference between upper and lower means on aesthetic values may be attributable to the sex factor. In sample "A", sex was not controlled, and five of the 25 pairs in sample "B" were not controlled for the sex factor. The differences are not large enough to suggest a relationship.

(10) Theoretical values. The results of the comparison of upper and lower groups on theoretical values (Table XII) are confounded by the sex factor. Since males tended to score higher on this scale, the sex factor favors the low-theoretical group. When a sub-sample of 13 pairs matched for sex were compared, the difference increased to 3.0. Therefore, the difference (.9) in Table XIII may be suggest-

ive of a relationship between theoretical values and judging ability--which is nullified by the sex factor.

Table XI

THE RELATIONSHIP BETWEEN AESTHETIC VALUES
AND PREDICTION TEST PERFORMANCE

Variable	Sample					
	"A" (N = 25)			"B" (N = 25)		
	U	L	D	U	L	D
Achieve.	51.6	52.4	.8	197.	199.	2.
Anxiety				24.2	23.8	.4
A.C.E.				5.4	4.7	.7
Reading				5.3	5.1	.2
Detachment	8.3	8.3	.0			
Aesthetic	6.6*	2.4*	4.2	46.8	29.3	17.5
Prediction	54.2	54.0	.2	72.1	71.1	1.0

*based on 10 selected items used in A Study of Student Attitudes

(11) Social values. Conflicting results were obtained from samples "A" and "B" for the relationship of social values to performance on the Prediction Test (Table XIII). This may have resulted from the fact that the sex factor was not controlled in sample "A". With 21 of the 25 pairs in sample "B" controlled for sex, the difference is only .32, which does not suggest that a real relationship would be found with a larger sample.

Table XII

THE RELATIONSHIP BETWEEN THEORETICAL VALUES
AND PERFORMANCE ON THE PREDICTION TEST

Variable	Sample "B" (N = 25)		
	U	L	D
Achievement	201.	203.	0.
Anxiety	20.5	23.4	-2.9
A.C.E.	5.4	5.3	.1
Reading	5.7	5.7	.0
Theoretical	46.4	30.6	15.8
Prediction	73.5	72.6	.9

Table XIII

THE RELATIONSHIP BETWEEN SOCIAL VALUES
AND PREDICTION TEST PERFORMANCES

Variable	Sample "A" (N = 25)			Sample "B" (N = 25)		
	U	L	D	U	L	D
Achieve.	49.4	49.9	-.5	200.	201.	1.
Anxiety				21.8	20.8	1.
A.C.E.				5.8	5.5	.3
Reading				5.8	5.5	.3
Detachment	7.4	7.5	-.1			
Social	7.1*	3.5*	3.6	44.2	29.2	15.0
Prediction	51.5	51.8	-.3	71.4	71.1	.3

*based on 10 items used in A Study of Student Attitudes

(12) Social detachment. Table XIV shows the results of matching high and low scores on the social detachment items. The difference found with sample "A" was not upheld in sample "B" when the sex factor was controlled. The difference (-.8) in sample "B" may be accounted for by the slight difference in mean A.C.E. and reading scores which favor the lower group.

Table XIV
THE RELATIONSHIP OF SOCIAL DETACHMENT
AND PREDICTION TEST PERFORMANCE

Variable	Sample					
	"A" (N = 25)		D	"B" (N = 25)		D
	U	L		U	L	
Achieve.	53.6	53.2	.4	200.	195.	5.
Anxiety				24.1	22.6	1.5
A.C.E.				4.8	5.4	-.6
Reading	6.1	5.9	.2	5.1	5.4	-.3
Detachment	10.5	4.2	6.3	11.7	4.7	7.
Prediction	55.8	53.2	2.6	72.1	72.9	-.8

(13) Leadership. The results failed to show a relationship between self-rated leadership and Prediction Test performance. Table XV shows a difference of 2.0 in favor of those subjects who rated themselves high on leadership. Since no cross-validation was made and sex was not controlled in sample "A", it must be concluded that the results only suggest a relationship between scores on the leadership

items and judging ability as measured by the Prediction Test.

Table XV

THE RELATIONSHIP BETWEEN LEADERSHIP
AND PREDICTION TEST PERFORMANCE

Variable	Sample "A" (N = 25)		
	U	L	D
Achieve.	52.3	52.1	.2
Detachment	7.6	7.5	.1
Leadership	15.3	7.8	7.5
Prediction	53.7	51.7	2.0

Table XVI

THE RELATIONSHIP BETWEEN AGE
AND PREDICTION TEST PERFORMANCE

Variable	Sample "A" (N = 25)		
	U	L	D
Achieve.	52.0	51.9	.1
Detachment	8.6	8.6	.0
Age	24.0	19.0	5.0
Prediction	53.3	54.3	-1.0

(14) Age. Table XVI shows a slight inverse relationship between age and Prediction Test scores. These results are limited both by the lack of further controls in sample "A" and the homogeneity of the group. The difference in mean age between upper and lower groups was only five years. Although the sex factor was not controlled, a re-check of

the data indicated that the sex factor favored the younger group. There were no females in the older group and 19 in the younger group. This may account for the slight difference in favor of the younger judges.

(15) Speed of completion. The results suggest that those subjects who complete the Prediction Test first tend to do better than those who require more time. Though the difference was not significant, it is comparatively large (4.1), as shown in Table XVII. Since the sample was limited to 20 pairs, it suggests that a larger sample would have yielded significant results. However, the differences of 1.0 and 1.2 for A.C.E. and Reading favor those who finish fast. The sex factor was held constant. On the other hand, it is safe to conclude that better performance on the Prediction Test is not a function of the amount of time spent in taking the test.

Table XVII

THE RELATIONSHIP BETWEEN SPEED AND
PREDICTION TEST PERFORMANCE

Variable	Sample "C" (N = 20)		
	F	S	D
Achieve.	105.	107.	-2.
Anxiety	16.0	15.0	1.0
A.C.E.	6.0	5.0	1.0
Reading	6.2	5.0	1.2
Speed (rank)	36.6	5.6	31.0
Prediction	77.9	73.8	4.1

(16) Course satisfaction. Table XVIII indicates that no significant relationship was found between the subjects' satisfaction scores and their ability as measured by the Prediction Test. Furthermore, the difference favors the unsatisfied group. The suggestiveness of this finding is limited by the small sample (15) employed. It may be concluded that this study was unable to show a significant relationship between satisfaction with the psychology class of which the subjects were members and their performance on the Prediction Test.

Table XVIII

THE RELATIONSHIP BETWEEN SATISFACTION
AND PREDICTION TEST PERFORMANCE

Variable	Sample "C" (N = 15)		
	U	L	D
Achieve.	104.	104.	0.
Anxiety	17.3	18.1	-.8
A.C.E.	5.8	5.7	.1
<u>Reading</u>	<u>5.8</u>	<u>6.0</u>	<u>-.2</u>
<u>Satisfaction</u>	<u>20.4</u>	<u>11.3</u>	<u>9.1</u>
<u>Prediction</u>	<u>73.4</u>	<u>76.1</u>	<u>-2.7</u>

(17) Human relations attitudes. A slight difference in performance favoring those subjects who scored high on the Meyer's Human Relations Test is indicated in Table XIX.

Table XIX
THE RELATIONSHIP BETWEEN HUMAN RELATIONS
AND PREDICTION TEST PERFORMANCE

Variable	Sample "C" (N = 25)		
	U	L	D
Achieve.	105.	107.	-2.
Anxiety	13.8	14.	- .2
A.C.E.	5.8	5.7	.1
Reading	5.9	5.7	.2
Human Rela.	27.1	17.4	9.7
Prediction	77.0	75.5	1.5

(18) Participation attitudes. No significant difference was found for the groups with high and low scores in participation attitudes in sample "C". Table XX shows a difference of 1.1 favoring the high-participation group. The sex factor was controlled for fifteen of the twenty pairs. For this sub-group with sex controlled the difference was -2.2 favoring the low-participation group. It may be concluded that this study failed to show performance on the Prediction Test to be a function of the subjects' attitude toward classroom participation.

(19) Sociometric choice. Sociometric choices were available for a sub-sample of 41 members of sample "C". When performance on the Prediction Test for those subjects receiving two or more choices was compared with those receiving no

choices the difference was found to be 3.6 favoring the highly chosen group. Since there were only eleven subjects in each of these categories, it was impossible to control other variables. The difference suggests, nevertheless, that the highly chosen may be better judges of people than those who are not chosen for group activities.

Table XX

THE RELATIONSHIP BETWEEN PARTICIPATION
ATTITUDES AND PREDICTION TEST PERFORMANCE

Variable	Sample "C" (N = 20)		
	U	L	D
Achieve.	105.	107.	-2.
Anxiety	15.4	16.3	-.9
A.C.E.	5.7	5.6	.1
Reading	5.4	5.6	-.2
Participation	40.1	24.4	15.7
Prediction	76.6	75.4	1.2

(20) Discrimination of arguments. Table XXI summarizes the finding for the relationship between the ability to discriminate arguments and the ability to judge people as measured by the Prediction Test. Since sex and intelligence and reading comprehension were not controlled, the difference of .7 cannot be interpreted as suggestive of a possible relationship.

Table XXI

THE RELATIONSHIP BETWEEN DISCRIMINATION OF
ARGUMENTS AND PREDICTION TEST PERFORMANCE

Variable	Sample "A" (N = 25)		
	U	L	D
Achieve.	52.2	51.8	.4
Detachment	7.9	8.0	-.1
Discrim. of Argument	81.0	64.8	15.2
Prediction	52.7	53.4	.7

Table XXII

THE RELATIONSHIP BETWEEN EGO-STRENGTH
AND PREDICTION TEST PERFORMANCE

Variable	Sample "A" (N = 25)		
	U	L	D
Achieve.	50.8	50.3	.5
Detachment	8.3	8.2	.1
Ego-Strength	54.2	43.7	10.5
Prediction	54.2	53.7	.5

(21) Ego-strength. The results for the comparison of high and low scores on the ego-strength scale suffer from the same limited controls. Table XXII shows a slight (.5) difference in favor of the high ego-strength group. A re-check of the data revealed six females in the high and nineteen in the low group which tends to favor the possibility of a difference.

Interpretation of the Non-Significant Results

Three hypotheses concerning the good judge are consistent with but not proved by this study. These are in part derived from the evidence and interpretations of previous studies in this area.

(1) The good judge has a quick and emotional grasp of others rather than a cautious and intellectual one. This hypothesis is supported by the results found with the speed and discrimination of argument variables. The good judge reacted more quickly than the poor judge and apparently without using superior logical ability. This is contrary to the contention that good judgments are made in a "cold-blooded" objective manner (1). Further support for this assumption comes from the lack of relationship between superior judging and theoretical values, which would be expected if the judgments were of a logical nature.

The failure to find a consistent relation between social detachment and judging ability casts doubts on the social "aloofness" of the good judge, which Allport (2) and Taft (27) contend is an important factor. Lack of satisfaction with the course by the better judge suggests that they are interested in people per se rather than in a logical analysis of behavior or the subject-matter of psychology courses. This is consistent with the interpretation made earlier that "wanting to find out about people" may be the underlying

motivational factor in good judgment.

These results suggest the need for further research bearing on the detachment (2) (27) versus empathy (12) question. The findings in this study tend to support an empathic type factor in line with Dymond's (12) interpretation. The good judge appears to have a high empathic ability, and responds emotionally and spontaneously rather than logically to the subject.

(2) The good judge is interested in understanding rather than using people. The evidence sighted for hypothesis (1) also supports this contention. Judgment for the purpose of using people implies a logical, objective procedure which contradicts the present evidence. Furthermore, the power-oriented individual does not make the best judgments as evidenced by the political value results. This finding is further supported by the results with the economic scale, which is correlated with the political scale. This negative relation also implies that the good judge is not oriented toward a utilitarian viewpoint. These results suggest that the good judge is genuinely interested in people and perhaps more socially dependent than the poor judge. Consequently, he develops an ability to react to people individually and is sensitive to limited cues. This interpretation is consistent with that made earlier in which the superiority of females was attributed to greater social dependency.

Barron (6) found the Ego-strength scale to be related to "...spontaneity [and] ...ability to share emotional experiences..." which would suggest a greater relationship to judging ability than was found. The results do not support this interpretation. However, they are limited by the small differences between high and low ego-strength groups and the lack of controls in sample "A".

(3) The good judge makes a good leader. Several of the variables employed in this study were designed to test the assumption that the Prediction Test measures a significant aspect of leadership success. The most direct test of this assumption was the relation of scores to actual leadership positions held (the leadership scale). Several other results bear on the position of Borgatta, Bales and Couch (8). These authors hypothesize that the superior leader is one who has the most ability in the area of group activity, the most social initiative, and the most social acceptance by the group led. Table XXIII summarizes the differences found in each of these areas.

It is evident from this table that the test results are consistently related to all of these aspects of leadership, although not significantly with any. Taken together, they indicate that the test is sufficiently promising to be worth testing as a leadership selection device: it taps a new facet of leadership success which is related to other aspects. These findings are consistent with those reviewed

by Taft (27) which showed judging ability to be related to various measures of leadership and popularity.

Table XXIII
SUMMARY OF THE RESULTS OF THREE VARIABLES
RELATED TO LEADERSHIP SUCCESS

Leadership Quality	Measure Employed	Difference Found
Ability	Intelligence	2.9
Initiative	Participation Attitudes	1.2
Acceptability	Sociometric Choice	3.6
Result	Leadership Scale	2.0

Cross-Validation of Significant Results

Form B of the test was administered to sample "D". The Biographical Inventory scores and the derived A.C.E. and reading comprehension scores were obtained. Achievement scores based on total points from objective tests were recorded.

The procedure with sample "D" was different from that used with the previous samples. The purpose in using this sample was to cross-validate the findings derived from combining samples "B" and "C".

The objective was to combine the four most important variables as determined in the composite "B" and "C" sample

into a multiple-predictor score. These scores could then be compared with scores on Form B. If the previous analysis was valid, a substantial relationship should exist between the multiple-predictor scores and scores on Form B.

Steps in deriving the multiple-predictor scores were:

(1) Standard T scores were determined for Biographical Inventory, Reading Comprehension and Achievement Scores.

(2) A standard score was determined to equal the sex difference found in the combined "B" and "C" samples. The mean sex difference was 3.64 (see Table IV). This difference was equal to .38 S.D. That is, it was found that females averaged .38 S.D. better than the males. Therefore, they should receive a "bonus" of .38 S.D. or a T score of 53.8. In determining the multiple-predictor score, males were given a T score equal to 50 and females a T score equal to 53.8 for the sex factor.

(3) The mean differences obtained in the combined samples "B" and "C" were used as a basis for weighting these four variables. The weights were proportional to the mean differences. Table XXIV shows the relative weights given to each of the four variables.

(4) The four T scores for each individual were weighted. The weighted scores were combined into the multiple-predictor score. These scores had a range of 23 points from 40 to 62.

Table XXIV
PROPORTIONAL WEIGHTS ASSIGNED TO FOUR FACTORS
RELATED TO PREDICTION TEST PERFORMANCE

Variable	Difference ("B" plus "C")	Proportional Weights
Achievement	4.90	.30
Anxiety	4.38	.26
Reading	3.63	.22
<u>Sex</u>	3.64	.22
<u>Total</u>	16.55	1.00

(5) The final step was to determine the relationship between these derived scores and scores on Form B of the test.

The product-moment coefficient of correlation between multiple-predictor and Form B scores was found to be $r = .52$. The hypothetical true value when correction is made for attenuation in the criterion only (16, p. 530) is $r = .60$.

This finding was significant in that it indicated the stability of the previous significant results. Evidently, the four factors, which were combined into the multiple-predictor score, account for 27 to 36% of the variance in Prediction Test performance. Had it been possible to correct for the other attenuating factors it is conceivable that these variables would have accounted for as much as 50% of the variance. The significance of this result is

more impressive when one considers that this was an entirely new class with different measures of achievement and under a different instructor.

THE EFFECTS OF TRAINING ON PREDICTION TEST PERFORMANCE

The purpose of the analysis presented in this section was to determine the effects of conventional training in psychology on the ability to predict behavior. Implicit throughout this study is the assumption that this ability is important, especially for the psychologist. The basis of this assumption seems self-evident. The question is, "What are the effects of training on judging ability?"

The evidence in the literature is, in general, negative. The studies reviewed by Taft (27) for the most part fail to show that either training in psychology or experience as a professional psychologist improves one's ability to judge people. Furthermore, physical scientists and other non-psychologists appear to be equal to or slightly superior to psychologists. There is some evidence that experimental psychologists are slightly superior to clinical psychologists.

Table XXV presents a summary of the evidence found in this study for three levels of undergraduate training, with mean scores for both Form A2 and Form B together with the average amount of training each group had received. The groups were matched on A.C.E. and reading comprehension scores.

Table XXV

MEAN PREDICTION TEST SCORES FOR SUBJECTS AT
THREE LEVELS OF UNDERGRADUATE TRAINING

Class	N	Mean Hrs. of Psyc.	Prediction Form A2	Prediction Form B
Intro.	44	4.0	35.32	73.84
Personnel	44	7.2	36.52	76.34
Abnormal	44	15.0	36.12	

None of the differences in Table XXV are significant, nor are they large enough to suggest a trend toward improvement with increased training. This result may be a function of the nature of the training in psychology. These courses are not primarily concerned with developing this type of ability. The emphasis is on subject matter, methodology and general principles rather than understanding the behavior of individuals. It appears that judging ability is not developed by these conventional instructional procedures.

Further evidence for the effects of training is presented in Table XXVI. Individual gain scores in achievement were available for sample "C" from a pre-and post-test of achievement. The results fail to show any significant difference between subjects with large and those with small gains in the course when total achievement and other factors were held constant. Large gains in achievement do

not appear to reflect a superior ability to judge people. Moreover, pre-and post-Prediction Test scores for 109 subjects from samples "C" and "D" showed an average gain of only .78.

Table XXVI
THE RELATIONSHIP BETWEEN GAINS IN ACHIEVEMENT
AND PREDICTION TEST PERFORMANCE

Variable	Sample "C"		
	U	L	D
Achieve.	105.	102.	3.
Anxiety	16.0	15.4	.6
A.C.E.	5.0	5.3	-.3
Reading	5.1	5.3	-.2
Gains	44.0	24.1	19.9
Prediction	74.5	74.2	.3

A comparison between undergraduate and graduate students provided results in contrast to the negative findings reported above. The 23 subjects who had the highest A.C.E. and reading scores in all the undergraduate samples were compared with a sample of twelve graduates. The results, presented in Table XXVII show a difference of 9.58 favoring the graduate students. This difference is significant beyond the 1% level of confidence.

Table XXVII

A COMPARISON OF MEANS FOR GRADUATE AND
UNDERGRADUATE PSYCHOLOGY STUDENTS

Classification	N	A.C.E. Reading		Prediction
Undergraduate	23	7.8	7.8	77.78
Graduate	12			87.36
Difference				9.58***

Although no data were available for estimating the intelligence of the graduate sample, this factor does not seem to explain the large difference in Prediction scores.

One explanation could be made in terms of additional selective factors operating, for example, to make the graduate group more highly motivated and "ego-involved" in the task. This is in line with the interpretation made earlier regarding the relationship of achievement to Prediction Test performance.

A second interpretation is that judging ability is not noticeably improved by the accumulation of facts and principles from early training, but shows a positive acceleration as the result of the integration of this knowledge in more advanced courses.

Perhaps more emphasis on the application of general principles to the individual personality would result in more improvement at earlier stages of training. Two sources of

material for the instructor are the motion picture and the case study. A promising technique has recently been suggested by the Johnson Motion Picture Test (18). This device requires the application of general principle to the behavior illustrated in a brief motion picture episode. The cases in the Prediction Test might also be used as a basis for the analysis of and application of general principles to the individual personality.

Norms

Table XXVIII contains the normative data for Form A2 and Form B of the Prediction Test. These norms are based on the samples used in this study. There is no reason to believe that they are not representative of the class populations from which they were drawn, since assignments to the various sections are made randomly. These norms are prepared from Michigan State College students and are not applicable to college students in general.

Table XXVIII

NORMS FOR FORMS A2 AND B FOR THREE LEVELS OF UNDERGRADUATE TRAINING

Class	Mean Hrs. Training	Form A2			Form B		
		N.	M.	S.D.	N.	M.	S.D.
Intro.	4.	238	34.54	5.54	139	72.69	9.08
Personnel	7.2	82	36.40	5.14	82	75.82	9.82
Abnormal	15.	57	37.33	5.64			

SUMMARY AND CONCLUSIONS

The initial purpose of this study was to develop a test of the ability to predict behavior. Brief case sketches, derived from actual case study data, were first written. For each case, 15 true-false statements were selected from a larger pool of items on the basis of item analyses. These statements were taken directly from behavioral data reported in the case histories.

The preliminary form of the test consisted of six cases and a total of 90 items. The corrected odd-even coefficient of reliability was $r = .65$. In order to develop a more stable and comprehensive instrument, a second and final form of the test was constructed. This form incorporated four of the original sketches and four additional sketches developed in the same manner. The corrected odd-even reliability of these 120 items was $r = .77$, which compares very favorably with previous attempts in this area.

The second phase of this study consisted of an attempt to validate the test, and, concurrently, to gain some insights into the nature of the underlying ability. For this purpose, the relationships between 21 variables and Prediction Test performance were investigated. Approximately 450 students in psychology courses comprised four samples used in various phases of this analysis. A comparison was

made between mean Prediction Test scores of matched groups from the tails of the distribution for each variable. With this technique the effects of a single variable could be analyzed while other relevant factors were controlled.

Five of the 21 variables were significantly related to Prediction Test performance. Those subjects who were high achievers, expressed more anxiety, had better reading ability and greater intelligence, and who expressed lower political values were better judges of behavior than their opposites. Females were superior in performance to males.

These results, together with several suggestive but non-significant findings, provided a tentative description of the characteristics of the good judge of people: The best judge is a woman, who is genuinely interested in understanding rather than using people; whose judgments are quick and emotional rather than intellectual, and who has the ability, social initiative and acceptability to make her a leader in group activities.

This description was supported by but not proved in the present study. It suggested three hypotheses for further research:

(1) The good judge is more dependent on other people.

Related to this hypothesis are the findings that the best judge was a woman who was more anxious, less power-oriented and materially-minded, and who was not more socially detached than the poor judge.

(2) The good judge is emotionally sensitive and empathic rather than logical and socially detached. The fact that the good judge was not more socially "aloof" and reacted quickly and without greater logic suggested this hypothesis.

(3) The successful leader is a good judge of people. The best judge had held more leadership positions, had greater ability and social initiative, and was more acceptable to group members than the poor judge.

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APPENDIX

Test of Ability to
Predict BehaviorDecember 1, 1954
H. Smith

Directions: In the following cases, some information is given about each of the individuals involved. On the basis of this information you are to answer the 15 numbered statements relevant to the case as "True" or "False".

Mark "1" on the separate answer sheet if you think the statement about the individual is true. Mark "2" if you think the statement is false. Since the score is the total number right, answer all questions.

The Case of Gene Jones

Gene is a well-built boy of 15. He has working class parents. He is always neatly dressed. Although he has average intelligence, he is failing in his school work. He is chronically tense, anxious, and excitable. He says that he gets dizzy easily, has headaches, and is always tired. His principle wish is to "be somebody so people will like me."

1. Gene is closely attached to his mother.
2. His parents are divorced.
3. He was seldom disciplined as a child.
4. Gene's mother is an extremely puritanical woman.
5. He tends to rebel against any kind of authority.
6. He is generally listless in his activities.
7. He often wishes he were dead.
8. Gene would like spending a summer on a farm.
9. Gene likes to fight with other children.
10. He blames himself for many of his difficulties.
11. He is eager to engage in school activities.
12. He is very interested in sports.
13. He reads many romantic stories.
14. He was much happier when he was put in a class where no emphasis was placed on grades.
15. At the age of 18, he was a successful shoe clerk.

* * * * *

The Case of Bill The Traffic Manager

Bill is a \$10,000 a year traffic manager for a Chicago Brewery. He was promoted from the driver ranks and possesses a fourth grade educational background. Bill is very loyal to the company and has high moral standards. When working in the ranks, he gained the reputation of being the hardest working driver. He is a big man and maintains that, "Hard work never hurt anyone."

16. He will accept drivers' excuses as to how they lose time during the day.
17. He believes in the union idea of all workers being equal.
18. He feels that "trouble-making" shop stewards should be undermined in the eyes of their fellow workers.
19. He works 10 to 12 hours a day and 6 to 7 days a week.
20. He, like other members of management, drinks scotch when out with his friends.
21. He wants his sons to go to college.
22. He knows that he has proven himself, so he has no fear of losing his job.
23. He tries to promote his product at all times, even to the point of losing friends.
24. He feels that the union's seniority rule is as good a basis as any for promoting helpers to drivers.

25. He believes that his employees should be paid on a commission basis.
26. He thinks that good workers will gladly work on Saturdays or Sundays to make extra money.
27. He loves to play golf.
28. He requires his employees to be dressed neatly and always look presentable in public contacts.
29. He associates socially with other members of the company management.
30. He will pay any worker overtime if he puts his time in, even though his sales or stops do not merit it.

* * * * *

The Case of Bob Martin

Bob is a twenty-one year old boy with an IQ of 95 and of average height and weight. He lives in the town of Trenton, New Jersey. He appears like an earnest, sincere person. Occasionally he has spells of nervousness consisting of "the jitters", shakiness, and a nauseous stomach. This is sometimes accompanied by a feeling of fright and a desire to cry.

He has been in military service for a little over a month. He has seen to it that money allotments will be sent home to his mother. Bob has partial blindness in his left eye as a result of childhood accident. He quit school in the eighth grade, then attending a vocational school for three years. He worked for several years before attempting to enlist in the Navy. Failing in this action he was later drafted and placed in training with the army medical service.

31. This boy is very sensitive about his injured eye.
32. Bob and his father had frequent arguments over spending money.
33. Bob had never been away from home before he entered the Army.
34. His mother is very protective and benevolent.
35. Before coming into service Bob used to drink heavily, often to excess.
36. Bob was a conscientious student doing rather well in his subjects.
37. Bob expressed openly a great hatred and dislike for the Army.
38. Bob was well-motivated toward school work.
39. He got along well with fellow-employees at his places of work.
40. Job-holding has been characterized by frequent changes and short-tenure.
41. This boy is able to gain relief from his nervousness by the use of barbitold.
42. He never quit a job on his own accord.
43. In the service, assistance for his condition was voluntarily sought by Bob.
44. Bob could generally point to the specific factors bringing about his nervousness.
45. He was rejected by the Navy because of his "psychoneurotic tendencies" rather than because of his poor eyesight.

* * * * *

The Case of the Margaret Harrison Dress Shop

Margaret Harrison is the owner and manager of an independent woman's ready-to-wear shop in a suburb of Chicago. She also does all the buying, which means leaving the shop in charge of a saleswoman twice a year while she is in New York.

She is married to a man who is deaf. Because of this, he has refused to work for quite some time. He does odd jobs around the store and gives orders to the employees. He drinks heavily.

Mrs. Harrison is about 55 years old. She is large, sturdy, and extremely intelligent and has had a great deal of experience in the retail field. She is in the upper social class, although she is not in the Northshore social register. She is industrious and ambitious, but has a quick temper and never admits a mistake.

There are five saleswomen, two maids, and ten alteration women working for her. They receive excellent pay and work from 9:00 a.m. to 5:30 p.m., with an hour off for lunch. The merchandise in the shop is extremely high-priced and consequently the customers are very wealthy, high-society people.

18. When a saleswoman makes a mistake, Mrs. Johnson waits until the customer leaves before she corrects her.
19. She has little trouble keeping her employees.
20. She has the reputation of being a hard person to work for.
21. She is constantly enlarging her shop.
22. Mr. and Mrs. Johnson quarrel constantly in the shop in front of employees.
23. The employees are very loyal to their employer.
24. She will not allow the saleswomen to sit down during the day.
25. She will lecture her customers if she disagrees with their taste in clothes.
26. She fires her employees if they buy clothes in a shop other than her own.
27. She plays favorites among the saleswomen.
28. She knows how to get the maximum amount of work out of her employees.
29. She lets her employees take a ten minute break in the afternoon.
30. She asks her employees to run errands and do special favors for her.

The Case of Karl Schultz

Karl was 24 at the time he entered a private New England College. He was of average height and weight, but had a powerful physique. He was energetic, competitive, physically courageous, and loved to be with people. His College Entrance Board Examinations were highest in social studies and science, lowest in languages. His overall score was above the average of other freshmen.

He was raised in a small country town by his parents who were of German and Swiss origins. He has two brothers--one 3 years older and one 2 years younger. His father, a skilled mechanic, is conscientious, but somewhat suspicious and anxious. Karl said his mother is "an industrious but worrisome woman." He also said that he "would like to see the world remodeled on the Christian ethical standard with the law of love pervading the hearts of men."

31. He thinks that his father was strict, but friendly and helpful.
32. Karl graduated near the middle of his high school class.

At the age of 17 he completed the Strong Vocational Interest Test. Which of the following occupations did he say he liked?

33. Hotel Manager
34. Artist
35. Printer
36. Chemist

Which of the following statements did he answer "yes?"

37. I usually start activities in my group.
38. I win friends easily.
39. I have more than my share of new ideas.
40. I am always on time with my work.

Which of the actions and attitudes expressed during his college career are true?

41. He engaged in a lot of drinking.
42. He reported that his "philosophy of life" primarily was concerned with religion.
43. He felt that the Bible could be accepted as literal truth.
44. In his senior year he was interviewed by a psychiatrist who reported that Karl had good insight into his problems.
45. Karl married two years after he graduated.

The Case of John Sanders

John, at 15, was 5'4" tall and weighed 105 pounds. He had a childhood record of ill health. Emotionally, John was rather reserved, but sometimes expressed himself vigorously. He was not at home in social gatherings, though he often attended but he enjoyed talking about books, art, politics and movie stars. He was in the upper $\frac{1}{4}$ in

intelligence and got good marks in Literature and Language, but low in Math. John reported that if he had one wish he would like to be (1) movie star, (2) detective, (3) king.

John grew up in a middle class suburban area. His father provides a modest but erratic income as a plumber. He is patient and "comradely" with John. John's mother, the dominant figure in the household, was often apprehensive about his safety and demanded much of his time.

At 15 John filled out a personal-social inventory. With which of the following items did he indicate that he agreed?

- 46. "I wish my father agreed more with modern children's ideas".
- 47. "I wish my mother could be happier."
- 48. "I wish I did not quarrel with my parents."

At the same time, John filled out a self-rating form. Which of the items show how John saw himself?

- 49. A weakling
- 50. As seldom worrying about "things which he had done but never told to anyone."
- 51. As usually feeling the "things he was doing were important."

Which of these best describe John's interests and attitudes at age 17?

- 52. John was more interested in practical than imaginary things.
- 53. He reported that he would like to improve the beauty of a machine.
- 54. His attitude regarding free speech and academic freedom was conservative.
- 55. He found irreligious people most interesting.

Various personality tests showed that John:

- 56. Did not have a strong drive to be independent.
- 57. Had little drive to accomplish things.
- 58. Did not strive for close social ties.
- 59. Was a "mamma's boy, gone sour."
- 60. Was afraid of his own emotions.

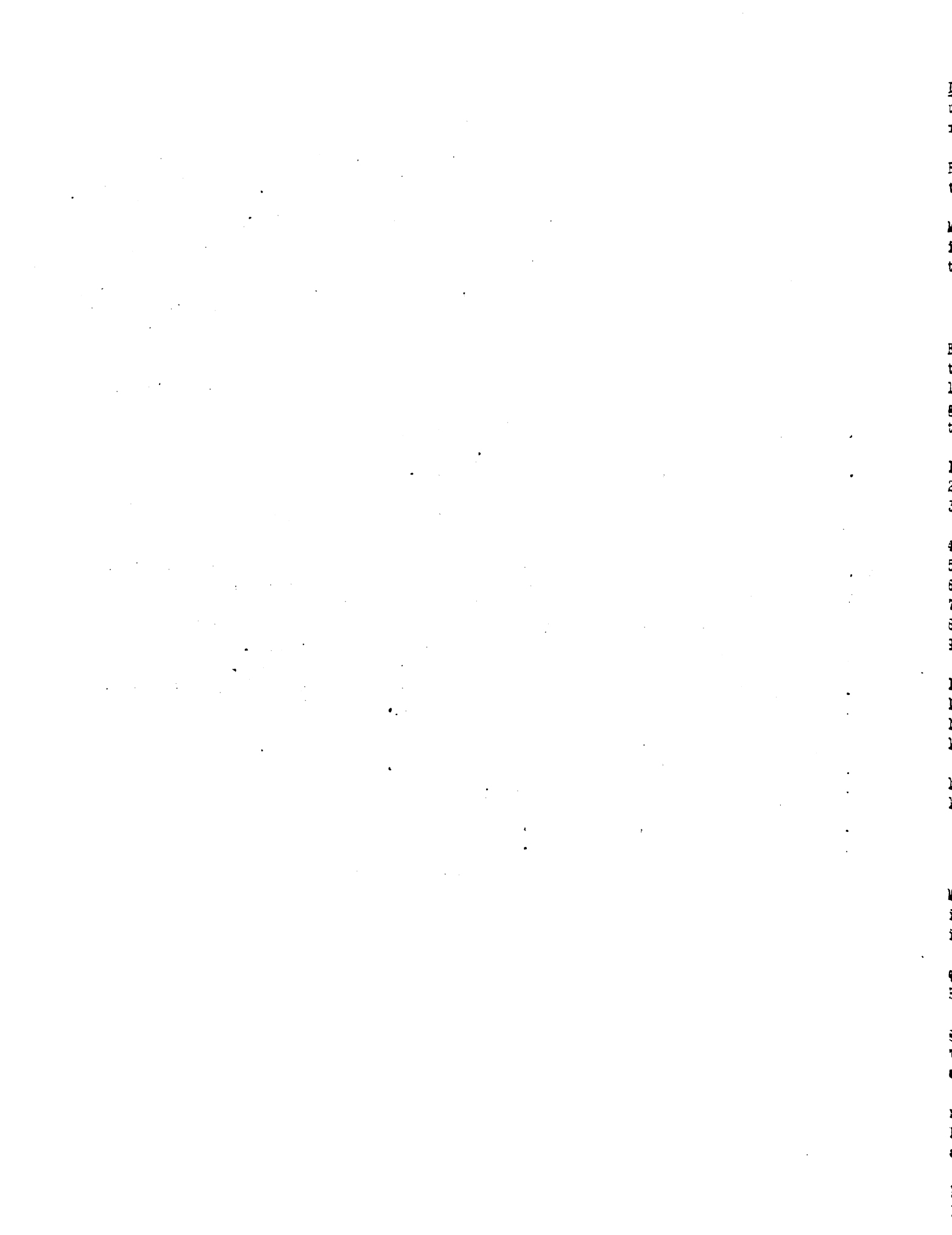
The Case of Johnny Rocco

Johnny was one of eleven children. His parents were Italian immigrants who lived in the slums of a midwestern city. His father worked irregularly, gambled, and died in a drunken brawl when John was four years old. His mother was constantly overworked and chronically ill. John was deeply attached to his mother but her favorite was David, the youngest son, who died of anemia when John was 14.

The Roccas moved frequently but never out of the slums. John's older brothers were frequently in trouble with the law. Georgie, at 16, was the oldest at home when his father died. He tried to keep order in the family by the use of severe physical punishment.

John's I.Q. was 92--below average, but not dull. He had no outstanding physical characteristics. His only friend during adolescence was a male social worker who worked with the family.

- 61. John got along well with some of his teachers.
- 62. John was a "show-off" in school.
- 63. He was rather retiring toward other children.
- 64. He often reported "feeling bad."
- 65. At times he tried to make friends with other kids.
- 66. He was often accused of leading other kids astray.
- 67. John finished the 8th grade.
- 68. He could not keep a steady job.
- 69. At 17 John made a good adjustment in the Navy.



Test of Ability to Predict Behavior

Directions: In the following cases, some information is given about each of the individuals involved. On the basis of this information you are to answer the numbered statements relevant to the case as "True" or "False".

Read each case carefully until you feel you know all the facts. You may refer back to the case whenever you feel it's necessary.

Mark "True" on the separate answer sheet if you think the statement about the individual is true. Mark "False" if you think the statement is false. Since the score is the total number right, answer all questions.

The Case of Bill the Traffic Manager

Bill is a \$10,000 a year traffic manager for a Milwaukee Brewery. He was promoted from the driver ranks and possesses a fourth grade educational background. Bill is very loyal to the company and has high moral standards. When working in the ranks, he gained the reputation of being the hardest working driver. He is a big man and maintains that, "Hard work never hurt anyone."

1. He will accept drivers' excuses as to how they lose time during the day.
2. He believes in the union idea of all workers being equal.
3. He feels that "trouble-making" shop stewards should be undermined in the eyes of their fellow workers.
4. He works 10 to 12 hours a day and 6 to 7 days a week.
5. He, like other members of management, drinks scotch when out with his friends.
6. He wants his sons to go to college.
7. He knows that he has proven himself, so he has no fear of losing his job.
8. He tries to promote his product at all times, even to the point of losing friends.
9. He feels that the union's seniority rule is as good a basis as any for promoting helpers to drivers.
10. He believes that his employees should be paid on a commission basis.
11. He thinks that workers should be glad to work overtime for extra money.
12. He loves to play golf.
13. He requires his drivers to be dressed neatly and always looks presentable in public contacts.
14. He associates socially with other members of the company management.
15. He will pay any worker overtime if he puts his time in, even though his sales or stops do not merit it.

The Case of the Johnson Dress Shop

Margaret Johnson is the owner and manager of an independent woman's ready-to-wear shop in a suburb of Cleveland. She also does all the buying, which means leaving the shop in charge of a saleswoman twice a year while she is in New York.

She is married to a man who is lame. Because of this, he has refused to work for quite some time. He does odd jobs around the store and gives orders to the employees. He drinks heavily.

Mrs. Johnson is about 55 years old. She is large, sturdy, and extremely intelligent and has had a great deal of experience in the retail field. She is in the upper middle class. She is industrious and ambitious, but has a quick temper and never admits a mistake.

There are 5 saleswomen, two maids, and ten alteration women working for her. They receive excellent pay and work from 9:00 a.m. to 5:30 p.m. with an hour off for lunch. The merchandise in the shop is extremely high-priced and consequently the customers are very wealthy, high-society people.

16. Mrs. Johnson is liked by her employees.
17. She is happily married.

Five years after his marriage:

70. He is unable to understand the friendship shown him earlier by the social worker.
71. He is puzzled about problems of child care.
72. John is very faithful to his wife.
73. He wouldn't mind living next door to a colored person.
74. He seldom quarrels with his wife.
75. Sometimes he reacts violently and cannot explain his actions.

The Case of Joe Figg

Joe was the second son of Irish immigrant parents who had grade school educations. His father's earnings were meager at first, but improved when, encouraged by his wife, he invested a small inheritance in a flower shop. With Joe's mother, education was less important than religion but still essential for getting ahead socially. His mother was very affectionate, but dominating. The parents decided that Joe should be a doctor. His father was rather passive but capable of outbursts. Punishment of the children was severe. It included shaming, denying of affection, spanking and denying of pleasure.

As a child, Joe was his parents' favorite. He was good looking, intelligent (I.Q. of 118) and very often the center of attention. Later, he lost favor when his brothers seemed to make more social progress.

76. He was a "show off" in kindergarten.
77. He found it easier to become accepted by boys than by girls.
78. He acted childish in high school.
79. He bragged about being so young in high school.
80. He had very strong guilt feelings about masturbation.
81. He was changeable and disorganized.
82. He was not very concerned about losing high school friends.
83. He was quite independent.
84. He bragged about his sexual conquests.
85. He was quite jealous of "his girl" as a high school senior.
86. He was quite studious.
87. He found it difficult to make decisions.
88. He felt "appearance makes the man."
89. He enjoyed a position of leadership given him in the Army.
90. For the most part, he disliked Army life.

The Case of Christopher

Christopher's parents live in a small western town where his father teaches school and his mother is librarian. Both parents are shy and quiet, fond of reading and natural history. His brother, 5 years older, is now a lawyer.

Christopher has always been thin and frail but seldom ill. He began to talk early, but did not walk equally early. He seldom cried and required little discipline as a child. His I.Q. is about 130.

91. He enjoyed his school gang.
92. He day dreamed a great deal.
93. He liked to take part in school plays.
94. He got into his share of fights.
95. He spent most of his spare time at home.
96. He creates imaginary friends.
97. He does well in oral classwork.
98. He likes to direct school activities.
99. He is aggressive toward other children.
100. Occasionally, when excited, he loses his voice.
101. His marks were below his ability.

- 102. He enjoyed high school activities.
- 103. He enjoys tinkering with mechanical things.
- 104. He feels that he is not a true participant in life.
- 105. While in college he went to many movies.

The Case of Chester

Chester is 16 years old. He is a bit slight for his age. He is a medium-brown negro boy, the oldest of 4 children in a middle-class New Orleans family. His mother is a physically powerful woman, religious, dominant and thrifty. She has been the head of the family since the father deserted 7 years ago. She insists on well-mannered and obedient children. Chester's father was a semi-skilled worker. Before he deserted the family the mother had decided that Chester would be a doctor. Now she works to keep up appearances and to keep the children in school. Chester was not to bring "lower class" children home or to play with them. He had to stay in the yard after 4 P.M. His mother frequently employed physical punishment in disciplining her children.

In spite of the financial difficulties his mother arranged for Chester to attend a private negro prep school. He had good athletic and academic records throughout school. His I.Q. is 113.

- 106. He feels "clothes make the difference."
- 107. He says the majority of negroes are of the worse kind.
- 108. He is proud of his mother.
- 109. He invites his friends to his home.
- 110. He is boastful.
- 111. He was severely punished by his mother when he exhibited curiosity about sex.
- 112. He wanted to take the interviewer to his home.
- 113. He is rather aggressive, verbally.
- 114. He feels lower class negroes are persecuted.
- 115. He says "I'm as good as anybody in the world."
- 116. He shows few signs of anxiety.
- 117. He does not care to be well known.
- 118. He is hesitant to talk about his father.
- 119. He usually followed an older gang in grade school.
- 120. He saves his money to buy clothes.

Appendix C

A Study of Student Attitudes

12/1/54
H.S./D.T.

The following 32 questions ask you to express your opinion on controversial questions. Although you may not feel that all 18 call for an unqualified "yes" or "no" or "a" or "b" answer please. Choose that answer which most closely approximates your opinion. If you choose answer 1) mark column 1. on the answer sheet; if you choose answer 2) mark column 2.

1. Taking the Bible as a whole, one should regard it from the point of view of its beautiful mythology and literary style rather than a spiritual revelation. 1) yes; 2) no.
2. When witnessing a gorgeous ceremony (ecclesiastical or academic, induction into office, etc.) are you more impressed by: 1) the color and pagentry; 2) the influence and strength of the group?
3. If you were a university professor and had the necessary ability; would you prefer to teach: 1) poetry; 2) chemistry or physics?
4. When you visit a cathedral are you more impressed by a pervading sense of reverence and worship than by the architectural features and stained glass? 1) yes; 2) no.
5. If you had the opportunity, and if nothing of the kind existed in your community, would you prefer to found: 1) a debating society; 2) a classical orchestra?
6. If you had some time to spend in a waiting room and there were only two magazines, would you choose 1) Scientific Ace; 2) Arts and Decorations?
7. Are our modern industrial and scientific developments signs of a greater degree of civilization than those attained by any previous society, the Greeks, for example? 1) yes; 2) no.
8. In a newspaper are you more likely to read: 1) real estate and stock market sections; 2) section on picture galleries and exhibitions?
9. Do you believe it is justifiable for great artists such as Beethoven, Wagner, and Byron to be selfish and negligent of the feelings of others? 1) yes; 2) no.
10. Would you prefer to hear a series of popular lectures on 1) progress of Social Service work in your community; 2) contemporary painters?
11. Which of the following men do you think should be judged as contributing more to the progress of mankind? 1) Aristotle; 2) Abraham Lincoln.
12. Which would you consider the more important function of modern leaders? 1) to bring about the accomplishment of practical goals; 2) to encourage followers to take a greater interest in the rights of others.
13. Which of these character traits do you consider the more desirable? 1) high ideals and reverence; 2) unselfishness and sympathy.
14. Assuming that you have sufficient leisure time, would you prefer to use it: 1) developing your mastery of a favorite skill; 2) doing volunteer social or public service work?

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15. The aim of the church at the present time should be: 1) to bring out altruistic and charitable tendencies; 2) to encourage spiritual worship and a sense of communion with the highest.
16. Which of the following would you consider the more important function of education? 1) its preparation for practical achievement and financial reward; 2) its preparation for participation in community activities and aiding less fortunate persons.
17. If you were engaged in an industrial organization (and assuming equal salaries) would you prefer to work: 1) as a counselor for employees; 2) in an administrative position?
18. Would modern society benefit more from 1) more concern for the rights and welfare of citizens; 2) greater knowledge of the fundamental laws of human behavior?
19. Would you rather: 1) do a job yourself or; 2) delegate the job to another?
20. Would you rather: 1) work for yourself or; 2) carry out a program of a superior whom you respect?
21. Do you feel that you have: 1) many close friends and acquaintances; 2) few close friends and acquaintances?
22. Do you feel that you are inclined to keep silent in confidential and semi-confidential matters? 1) yes; 2) no.
23. Would you prefer: 1) doing research work; 2) interviewing people for jobs?
24. Would you prefer: 1) writing personal letters; 2) writing reports on a favorite topic?
25. Would you prefer: 1) playing Bridge; 2) collecting postage stamps?
26. Would you prefer being: 1) a draftsman or; 2) a dentist?
27. Would you prefer being: 1) an astronomer; 2) an auto salesman?
28. Which is more important to you: 1) freedom in working out your own methods of doing the work; 2) opportunity to ask questions and to consult about difficulties?
29. Which is more important: 1) opportunity to make use of all one's knowledge and experience; 2) courteous treatment from superiors?
30. Which would you enjoy more: 1) developing the theory of operation of a new machine; 2) supervising the manufacture of the machine?
31. Do you feel you accomplish more when: 1) working alone; 2) working with a group?
32. Do you feel that you are: 1) rather aloof or "distant" with others; 2) sometimes too emotionally involved in the problems of others?

Some of the following 15 items call for a "yes" or "no" answer. Answer them as you have above. Others call for a choice among 3 answers. Answer them by marking in column (1) if you choose answer 1) column (2) if you choose answer 2) and column (3) if you choose answer number 3).

33. Do people seem naturally to turn to you when decisions have to be made? 1) yes; 2) no.
34. In a group do you usually take responsibility for getting people introduced? 1) yes; 2) no.
35. Do you feel you are usually a leader in your group? 1) yes; 2) no.
36. Would you feel very self-conscious if you had to volunteer an idea to start a discussion among a group of people? 1) yes; 2) no.
37. Do you usually start activities within a group? 1) yes; 2) no.
38. Do you feel that you usually get other people to do what you want done? 1) yes; 2) no.
39. Are you sometimes the leader at a social affair? 1) yes; 2) no.
40. If you were with a group of people in the woods and probably knew as much as anyone present about the path out (although uncertain), would you: 1) take the full responsibility of guiding the group; 2) make suggestions or agree to share the responsibility; 3) let another take the lead according to his own judgment.
41. Have you had experience in making plans for and directing the activities of other people: 1) very often; 2) occasionally; 3) seldom or never.
42. When an accident occurs where many people are present besides yourself do you usually: 1) take an active part in assisting; 2) take the part of a spectator; 3) leave the scene at once.
43. Have you, largely on your own initiative, in the past 5 years, organized teams, clubs, or other such groups? 1) more than 3; 2) 1 to 3; 3) none.
44. Have you in the past 5 years been recognized as a leader (president, captain, chairman) of groups? 1) more than 6; 2) one to six; 3) none.
45. Besides organized groups many informal groups exist which meet occasionally "for coffee", conversation, etc. In how many of this type of group do you feel you hold a position of leadership? 1) more than 3; 2) one to three; 3) none.

Appendix C
(Course Satisfaction Scale)

1. Choose the one of the following statements which best tells how well you like this course.
 1. I hate it.
 2. I dislike it.
 3. I am indifferent to it.
 4. I like it.
 5. I am enthusiastic about it.
2. Choose the one of the following to show how you think your attitude toward the course compares with that of other students in the class.
 1. No one dislikes this course more than I do.
 2. I dislike this course more than most of the students.
 3. I like this course about as well as most students.
 4. I like this course more than most students do.
 5. No one likes this course better than I do.
3. Check one of the following to show how much of the time you feel satisfied with this course.
 1. Never.
 2. Occasionally.
 3. About half of the time.
 4. Most of the time.
 5. All of the time.
4. Suppose you had a good friend who was considering taking the course. Would you strongly:
 1. Discourage him from taking the course.
 2. Mildly discourage him.
 3. Neither encourage or discourage him.
 4. Mildly encourage him.
 5. Strongly encourage him.
5. Check the statement below which best describes your feelings toward the course.
 1. Completely dissatisfied.
 2. More dissatisfied than satisfied.
 3. About half and half.
 4. More satisfied than dissatisfied.
 5. Completely satisfied.

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~~NOV 12 1967~~ 8
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